Abstract

Title of dissertation:	Early Urban Field Experiences for Prospective Teachers: A Case Study of Multicultural Field Placements Through a University-based Preservice STEM Teacher Program
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Educational and political leaders have expressed concern about racial and ethnic disparities in students' readiness for postsecondary study and careers in science, technology, engineering, and mathematics (STEM). A lack of preparedness of STEM teachers in high-need urban districts, which serve predominantly low-income minority students, is often associated with poor student outcomes. Programs emphasizing multicultural or culturally responsive teacher education are among the initiatives that have been developed to address inequalities. In particular, early field experiences for prospective teachers in high-need districts merit closer study.

This research used a multiple case study approach to examine two field placements facilitated by a privately endowed STEM teacher education program for prospective teachers at a public mid-Atlantic university through partnerships with educational groups. It explored how two placements—at a public charter school serving grades 5 through 8 (PCS) and a college preparatory program for high school students (Summer College)—reflected nine principles of good practice put forth by Multicultural Preservice Teacher Education Project (MPTEP). Data consisted of interviews,

observations at PCS, and document review, and were analyzed using matrices derived from the MPTEP principles.

These nine principles, five related to preservice teacher preparation activities and three related to desired outcomes, were reflected to varying degrees in placements at PCS. One principle was not evident; participants did not appear to examine identities as part of the placements. There was also countervailing evidence of several elements. For example, placements did not appear to extend into the community or involve community-based teacher educators. Three principles regarding activities and two related to desired outcomes were reflected in placements at Summer College, but the four others were not and the data collected were weak in some areas.

This research can help us better understand early urban field placements and how they may affect participants' readiness and interest in teaching at high-need urban schools. The study offers information to practitioners seeking to use urban field experiences to help prepare teachers for urban schools as part of efforts to improve student outcomes in STEM subjects. The study also suggests use of the MPTEP principles for future research.

EARLY URBAN FIELD EXPERIENCES FOR PROSPECTIVE TEACHERS:
A CASE STUDY OF MULTICULTURAL FIELD PLACEMENTS THROUGH A
UNIVERSITY-BASED PRESERVICE STEM TEACHER PROGRAM

By

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Preface

This study is a manifestation of my persistent interest in understanding and addressing educational inequality. I began my formal schooling by integrating a Black elementary school. The federal court had ordered busing countywide to remedy *de jure* segregation patterns that *Brown v. Board* had not changed. My naïve, but prescient, observations about those few years have stayed with me. I have conducted legal research on the Prince George's County case, taught constitutional law to high school students at the School Without Walls in the District of Columbia, and evaluated educational programs targeted at redressing inequities. Hundreds of students and dozens of teachers, including those interviewed and observed for this study, have trusted me with their views about to teaching, learning, and urban policy. I hope that I have done them justice.

My position at Westat gave me the means and opportunity to conduct this particular study and my committee saw me through it with knowledge both broad and deep. Joy Frechtling and Rehana Shafi provided inspiration and the access and flexibility to do this research. My advisor, Steven Selden, helped me to me think creatively about situating it in the context of stark and growing inequalities outside school walls. I thank Jo Paoletti for being an extraordinary colleague and friend with a stalwart belief in me, Linda Valli for sharing wisdom about multicultural education and collecting data in schools, Andrew Brantlinger for expert insights about mathematics education and capturing qualitative classroom data, and Debra Rog for committing to my growth as an evaluator and providing key analytic guidance.

A teacher often does not know the extent of her impact. Diana Donahoe taught me to write competently and confidently for an audience, skill that has served me in

excellent stead. Francine Hultgren offered supportive practice in finding meaning through the writing process. Cynthia Robins made me laugh while I worked and provided an invaluable first set of comments on the draft. Joseph Hawkins reminded me of the real injustices of urban life, one child at a time. Kimberlee Staking, Priscilla Carver, Charlotte Tubman, Kimberley Raue, John Wells, and Frances Carter each offered a sympathetic ear at a turning point. A few close friends listened to me whine a lot—they know who they are.

My greatest gratitude goes to my family, including those we have lost since I started the long course toward a PhD.   During this process, I often remembered the lessons of my grandmother Daisy Segal, a career urban schoolteacher. Our first puppy, Scout, gave me boundless entertainment in his short life—he really did eat my students' homework—and provided the best lead for the pack to come. Susan Ruck and Colin Parker provided a superior location and sustenance during working summer weekends. My husband, Bradford Booth, and my parents, Mady and David Segal, endured through it all. There are many families who encourage and support. There may be other families who accede to continuing demands to refrain from using the D-word (dissertation, shh). It's possible there are other partners who walk the dogs in the rain and then make a meal for a busy writer, yet again. But few families can make one aspire to be a great teacher and also offer a substantive contribution to finishing a doctoral dissertation. We did it.

Dedication

For the growing number of urban children nationwide

whose ill-met needs I can only begin to understand.

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Chapter 1: Introduction to this Study

Background

Many leaders in education and policy have expressed concern about racial and ethnic disparities in students' preparedness for postsecondary study and careers in science, technology, engineering, and mathematics (*STEM*) (e.g., Business Roundtable, 2005, 2008; College Board, 1999; Obama, 2009). Recently, the U.S. Commission on Civil Rights (2010) found that although there were similar levels of interest in STEM careers among college freshman from different racial and ethnic backgrounds, Black and Hispanic students were less likely to major in or obtain doctoral degrees in STEM fields than were Whites and Asians. The data also showed that higher attrition from STEM programs of study among *minority*[1] students could be attributed to measurable academic skills deficits upon entering college (U.S. Commission on Civil Rights, 2010).

Jobs in STEM fields are critical not only to the nation, driving innovation and economic competitiveness, but are also important to the financial well-being of individuals with education and training for STEM employment at all levels (see, e.g., Business Roundtable, 2005, 2008; Langdon, McKittrick, Beede, Khan, & Doms, 2011). Langdon and colleagues in the Office of the U.S. Chief Economist (2011) found that during the period from 2000 to 2010, job growth in STEM fields was three times as fast as in non-STEM jobs, STEM degree holders enjoyed higher earnings, regardless of their occupations, and workers in STEM fields earned an average of 26 percent more than non-STEM workers. Moreover, the wage disparities were the greatest for those with the

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[1] Words in italics show the first use of terms addressed in the section on definitions and use of terms.

lowest levels of education. For individuals with a high school diploma or less, workers in

STEM jobs earned 59.6 percent more than those in other jobs. The 2010 Census showed

that 26.7 percent of Americans without a high school diploma were living in poverty,

Scholars have connected racial and ethnic disparities in these important jobs to

shortages in the numbers and quality of STEM teachers, which are acute in *urban schools*

with large *minority* and *low-income* student populations (see Darling-Hammond, 2007;

Hill, Rowan, & Ball, 2005; Marx & Harris, 2006). If teachers were better prepared to

address the needs of urban students, there might be an improvement in students'

preparation for jobs that could hold promise for improving their economic chances, as

well as the financial viability of their communities and the nation's ability to meet the

growing demand for a skilled STEM workforce.

One aspect of a privately endowed preservice STEM teacher education program

(Program) that supports prospective teachers pursuing STEM and education coursework

at a public mid-Atlantic university (University)[2] was the subject of this study.[3]

Specifically, the Program requires several *early field placements* of each participant

before the *teaching internship*. These are facilitated through a variety of organizations

and schools in the City and neighboring communities. Scholars in teacher education

assert that such field experiences may help prepare prospective teachers and address

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[2] To protect respondents' confidentiality, general terms are used for individuals, entities, and locations to the maximum extent possible and reference citations that would reveal the identities of entities or locations in the study were excluded.

[3] The University does not offer a major in education at the undergraduate level. All Program participants are seeking or have earned a bachelor's degree in a STEM field. They may complete their education coursework as an undergraduate minor or master's degree.

critical teaching shortage areas, but insufficient research exists to support these assertions.

This case study explored and analyzed Program early field placements at an open enrollment, college-preparatory public charter school serving grades 5 through 8 (PCS), and also placements with a federally funded college preparatory summer program for low-income high school students (Summer College). It examined how participants' experiences reflected the nine curriculum and instruction principles of good practice articulated by the Multicultural Preservice Teacher Education Project (MPTEP) (Zeichner, Grant, Gay, Gillette, Valli, & Villegas, 1998).[4]

Preservice STEM Teacher Program

The university-based STEM teacher education Program was created to address the critical need for science and mathematics educators in the City and neighboring region.[5] The merit-based Program was established in September 2006 with a $5 million endowment[6] as one of many targeted efforts, both locally and nationwide, to attract teachers in high-demand fields to urban schools (see, e.g., Cicchelli & Cho, 2007; McConney, Ayers, Hansen, & Cuthbertson, 2003). Beginning with eight undergraduates

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[4] The following nine MPTEP principles will be addressed later in this chapter and detailed in Chapter 2: multicultural field experiences; multicultural perspectives; learning assumptions and expectations; multiple types and sources of knowledge; exploration of multiple identities and cultures; university programs as multicultural laboratories; understanding *sociocultural* context of schooling; cultural competence, relevance, and responsiveness; and commitment to social change through educational equity.

[5] Chemistry, earth/space science, physical science, physics, and mathematics have been identified among the critical content shortage areas in the State. This expertise was also limited among elementary teachers. City, nearby County B, and several other surrounding counties were declared geographic areas of projected continued shortage of certified teachers.

[6] Given by a local married couple, the foundation they established, and other donors, annual awards range from $5,000 for freshman Scholars to $30,000 for graduate Fellows .

and three graduate students selected in spring 2007, the Program has provided annual scholarships, experiential learning opportunities, and other support to cohorts of 10 to 12 students pursuing STEM and education coursework. It is hoped that Program participants will increase their ability to address the needs of urban students and their confidence and commitment to teach in *high-need* schools. In the longer term, proponents plan to increase the number of University graduates who move into STEM teaching careers in high-need City schools, enhance the teaching force in those schools, increase STEM interest and outcomes among K–12 students, and diminish the STEM achievement gap in the State. [7]

Among the key activities provided by the Program are experiential learning opportunities during which Program participants provide educational enrichment to local children and youth, often referred to as early field experiences, internships, or applied learning placements. Each Program participant must engage in at least one placement per year. Two early field placements were the focus of this study: PCS, an open-enrollment, college-preparatory public charter school on the City's west side serving grades 5 through 8; and Summer College, a federally funded college-preparatory program for low-income high school students on the University campus. Program participants are also provided with peer learning experiences, including monthly meetings, referred to by the Program as "family" meetings, and some live on the University's residence hall living-learning floor for aspiring teachers, for which a Program staff members serves in an advisory capacity.

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[7] Appendix A represents the Program Logic Model following the work of the W.K. Kellogg Foundation (2004) and based on evaluation of the program (Segal & Frechtling, 2009), modified to highlight the possible relationship to the MPTEP principles.

City's Need for STEM Teachers

Inequities between predominantly low-income, minority urban public schools[8] and those serving more affluent communities remain visible years after they were powerfully brought to public attention (see, e.g., Kozol, 1992; Rose, 1995). Disparities are great in math and science, subjects that not only provide excellent individual career opportunities , but also support national and international technological advancement (Darling-Hammond, 2007; Hill, Rowan, & Ball, 2005; Marx & Harris, 2006). Behind the evidence of poor student performance is a complex story that includes issues that are essential to understanding early urban field placements for preservice teachers, namely: teacher quality, recruitment, and retention; and multicultural or culturally responsive curricula and instruction. It also includes important topics that are less integral to this study, like school infrastructure and organization, funding, and early preparation for school (see Allen, 2003; Cochran-Smith & Zeichner, 2005; Guarino, Santibañez, & Daley, 2006; Ingersoll, 2001; Lee & Luykx, 2007; Lippman, Burns, & McArthur, 1996; Marx & Harris, 2006; Sleeter, 2001).

Issues of urban teacher quality, recruitment, and retention are central to this study of Program early field placements at PCS and Summer College. What some authors see as a national teacher shortage driven by high turnover,[9] changing enrollments, and a

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[8] The Urban Teacher Collaborative (2000) found that 77 percent of students in the 54 most populous districts were minorities and 60 percent were eligible for federal lunch and low-income Title I benefits (see Improving the Academic Achievement of the Disadvantaged. § 6301, et seq. 20 U.S.C. (1965)).

[9] While data are unreliable and estimates vary, approximately one third of teachers leave the profession in the first three years, half in the first five. More change schools or districts, moving from low-income schools to affluent ones (Ingersoll, 2001; Lankford et al., 2002; NCTAF, 2003). McConney et al., (2003, p. 93) wrote that 44 percent of new City Public Schools teachers left between August 1999 and April 2001, reporting job dissatisfaction.

retiring workforce (e.g., National Commission on Teaching and America's Future

(NCTAF), 2003; U.S. Department of Education, 2001), others view more explicitly as a

lack of teachers with particular expertise in a subset of communities (e.g., Darling-

Hammond, 2007; Ingersoll, 2001; Liu, Ronenstein, Swan, & Khalil, 2008). In addition to

fewer teachers in core subjects deemed *"highly qualified" (HQT),*[10] schools with higher

proportions of minority, low-income, and low-performing students have higher teacher

attrition rates and more novice teachers, particularly in math and science (Cochran-Smith

& Zeichner, 2005; Ingersoll, 2001; Lankford, Loeb, & Wyckoff, 2002). The distribution

of HQT in the State, illustrated in Figure 1-1, is the most uneven in the nation.[11]

Figure 1-1 Percent of Teachers Not HQT in Selected State School Jurisdictions (2006 to 2007)

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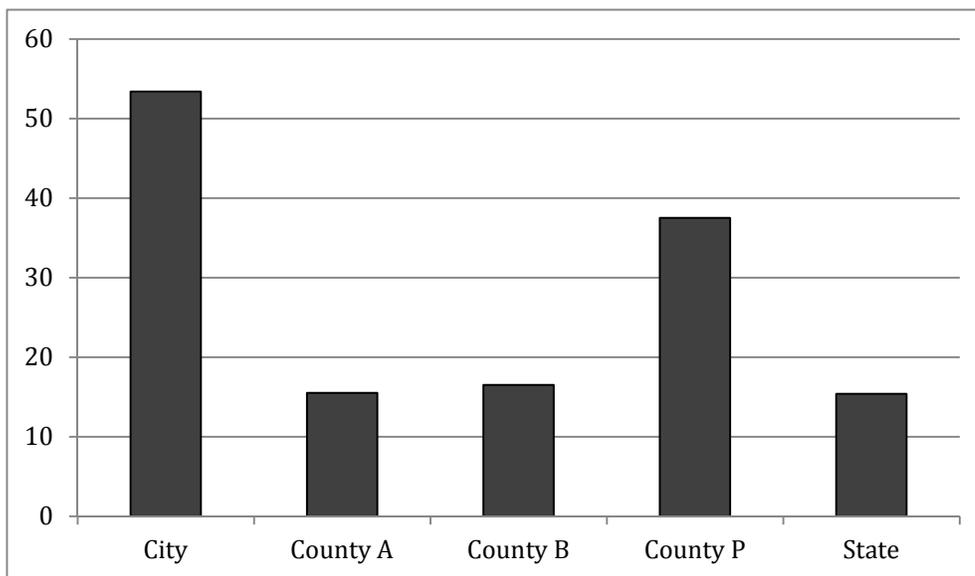
[10] Core subjects are English, reading or language arts, mathematics, science, foreign languages, civics and government, economics, arts, history, and geography. The factors to gain HQT status include teachers' academic specialization, subject- and grade-specific certification, and clinical experiences.

[11] Sixty-four percent of core classes in low-income Title I elementary schools in State were taught by HQT in 2007–08, compared with 94 percent of classes in more affluent schools, and secondary school data were similar, particularly in STEM subjects (Honawar, 2008; U.S. Department of Education, 2008).

It is these inequalities that the Program was created to help address. Understanding field placements at PCS and Summer College offers insights into the Program's continued efforts to prepare teachers for the City schools, as well as guidance for others interested in preparing novice teachers for districts with similar student demographics.

The City's pressing need to recruit and retain well-prepared STEM educators is reflected in data on students and teachers provided in both City and State publications that are publicly available, as well as 2010 Census survey data. The City has demonstrated the extremes on numerous measures related to student demographics, student performance, and teacher recruitment and retention including the following:

- Nearly 80 percent of students were eligible for the national school lunch program and 66.1 percent of the City's students received Federal Title I benefits, intended to improve the academic achievement of disadvantaged populations. This is more than three times the number of students statewide who receive Title I benefits (17.9 percent).
- City schools had the second largest percentage of non-White students in the State, 92.4 percent, after County P, another local area with a significant low-income population. Almost 88 percent of City students were Black.
- The City had the lowest pass rate in the State on key STEM subject High School Assessments (HSAs) required for graduation—70.3 in algebra and 62.8 in biology—compared with 87.2 percent and 84.5 percent statewide. Pass rates in more affluent County A nearby were 90.3 percent for algebra and 94.5 percent for biology.
- City students had the highest reported high school dropout rate in the State—7.9 percent—compared with 3.4 percent statewide.
- In the City, 53.4 percent of teachers of core subjects were not HQT. The

City and County P's non-HQT faculty comprised almost half the State total of more than nine thousand teachers.

- Teacher attrition was 10.4 percent in the City and 16.5 percent of teachers were new hires, compared with a 7.8 percent average statewide and 12 percent new hires.

Effective preparation of prospective teachers is critical to recruiting qualified City teachers and retaining them (see, e.g., McConney et al., 2003). Departure for other districts or different careers is more likely when teachers are not given the tools to succeed, including structured clinical experiences working with children and youth in educational environments and the guidance of mentor teachers who illustrate effective multicultural or culturally relevant practice in urban classrooms. Experts also generally agree that a preparation and support system that spans pre- and in-service periods is imperative but diverge about what it should include (see, e.g., Cochran-Smith & Zeichner, 2005; Darling-Hammond, 2007; NCTAF, 2003). This study explored the early field experiences coordinated by the Program through PCS and Summer College as one element of teacher preparation for high-need schools, using the nine MPTEP principles listed below and detailed in Chapter 2.

MPTEP Principles of Good Practice for Preservice Teacher Education

In designing this study on early urban field placements, I sought a theoretical framework that would not only guide this research, but might also help build tools to support a research foundation for the field. The search for a practically-oriented framework that considered and integrated the large body of relevant literature revealed the design principles of good practice in preservice teacher education, developed by the Multicultural Preservice Teacher Education Project (MPTEP) (Zeichner et al., 1998), a

panel of leading scholars in the field. One aim of this study was to arrive at a judgment about whether the set of matrices based on the MPTEP principles and the related literature may be a useful research tool for future studies.

The MPTEP principles were based on review of the extant literature, panelist experience and knowledge, and participant comment at a meeting of the American Association of Colleges for Teacher Education. Of 14 principles in three sets— institutional and programmatic reform, criteria for selecting students and staff, and curriculum and instruction—the final set of nine can be applied to a specialized program like the one facilitating the early field placements in this study. Although they have not been applied collectively in a research context, the nine curriculum and instruction principles reflect the major themes in the literature explored in Chapter 2 (see, e.g., Cochran-Smith & Zeichner, 2005; Guarino et al., 2006; Sleeter, 2001; Villegas & Lucas, 2002). Moreover, because these nine principles appear to comport with Program activities and goals, they offered valuable guidance for exploring Program early field placements.[12] They are as follows:

1. **Field Experiences Explore Sociocultural Diversity:** "The program provides carefully planned and varied field experiences that explore sociocultural diversity in schools and communities." (Zeichner et al., 1998, p. 168).

2. **Multicultural Perspectives:** "Multicultural perspectives permeate the

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[12] The MPTEP panel did not indicate a rationale for the order in which they presented the principles. They are presented herein as they appear to be most closely related to Program early field placements. The numbers herein are not hierarchical. These principles were added to the Program logic model (Segal & Frechtling, 2009) in Appendix A during study design to reflect how they appeared to be connected to Program early field placements, other activities, and desired outcomes. As used in this study, the MPTEP language is interpreted to apply to a small Program's early field placements, rather than a larger University context.

entire teacher education curriculum, including general education courses and those in academic subject matter areas" (Zeichner et al., 1998, p. 165).

3. **Learning Assumptions and Expectations:** "The program is based on the assumption that all students in elementary and secondary schools bring knowledge, skills, and experiences that should be used as resources in teaching and learning, and that high expectations for learning are held for all students" (Zeichner et al., 1998, p. 166).

4. **Multiple Types and Sources of Knowledge:** "The program draws upon and validates multiple types and sources of knowledge" (Zeichner et al., 1998, p. 169).

5. **Exploration of Identities and Cultures:** "The program helps prospective teachers reexamine their own and others' multiple and interrelated identities" (Zeichner et al., 1998, p. 168).

6. **University Programs as Multicultural Laboratories:** "The program teaches prospective teachers how to change power and privilege in multicultural classrooms" (Zeichner et al., 1998, p. 169).

7. **Understanding Sociocultural Context of Schooling:** "The program fosters the understanding that teaching and learning occur in socio-political contexts that are not neutral but are based on relationships of power and privilege" (Zeichner et al., 1998, p. 168).[13]

8. **Cultural Competence, Relevance, and Responsiveness**[14]: "The program teaches prospective teachers how to learn about students, families, and communities, and how to use knowledge of culturally diverse students' backgrounds in planning, delivering, and evaluating instruction" (Zeichner et al., 1998, p. 167).

9. **Commitment to Educational Equity:** "The program helps prospective

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[13] Use of the term *sociocultural* is driven by an apparent sociocultural (more than socio-political) emphasis in the Program and is consistent with the MPTEP panel's other principles.

[14] Though the constructs of cultural competence, cultural relevance, and cultural responsiveness may be conceived of somewhat differently, they rest on similar principles and goals (see Chapter 2) and were used interchangeably in this study.

teachers develop the commitment to be change agents who work to promote greater equity and social justice in schooling and society" (Zeichner et al., 1998, p. 168).

Overview of Methodology and Research Questions

This study explored the applicability of the nine principles put forth by the MPTEP panel that appeared to be applicable to Program early field placements. Specifically, the study explored the following research questions:

Research Question 1. In what ways do the Program's early field placements reflect six multicultural education principles related to preservice teacher preparation activities?

Research Question 2. In what ways do the Program's early field placements reflect three multicultural education principles related to desired outcomes in terms of participants' readiness and commitment to teach in high-need urban schools?

The methodology followed Yin's (2003, 2009) case study approach, triangulating multiple sources of evidence and seeking convergence of data when possible, in this case comprised of the following: Program participant interviews before and after fall 2010 PCS placements, interviews of fall 2010 PCS placement supervisors, observation of placements at PCS, interviews of past PCS and Summer College participants, a Program staff interview, and review of public documents related to the Program, PCS, and Summer College. A logic model, following the work of the W. K. Kellogg Foundation (2004) (see Appendix A) (Segal & Frechtling, 2009), and a set of study matrices

including example indicators drawn from the extant literature on preparing teacher for urban schools (see Appendix B) guided study development.

The research yielded several conclusions about the applicability of the MPTEP principles of good practice (Zeichner et al., 1998) to early urban field experiences. Principally, most of the MPTEP principles related to preservice teacher support activities and desired outcomes were reflected in Program applied learning placements, more so at PCS than Summer College, perhaps based on the more extensive data collected. The findings provide new and in-depth information about early field experiences, a tool that scholars and practitioners believe to be essential for preparing prospective teachers for high-need urban schools. They also suggest ways that theoretical principles put forth by scholars who helped build the field of multicultural and culturally relevant education, and the matrices used in this study as a tool, can be further developed and used to guide research.

Definition and Use of Terms

Early field experiences or *early field placements:* School- and community-based placements for preservice teachers prior to the *teaching internship* or *student-teaching* placement. Although the teaching internship typically takes place during one or more final semesters in a preservice teacher preparation program, early field experiences are sometimes also referred to as internships. The Program often refers to these placements as *applied learning experiences* or *Fellowship* placements.

High-need: Under the No Child Left Behind Act (NCLB), districts or schools that 1) serve a high proportion of students from low-income families and 2) have a high

proportion of teachers who are not fully certified in their subject or grade level are

referred to as *high-need*. Given what the data show about student demographics in high-

need schools in the City and neighboring communities, [15] the terms *urban*, *low-income*,

high-poverty, *Title I*, and *minority* are also used to describe these schools.

     Highly qualified teachers (HQT): What follows reflects the State's official

position on the NCLB HQT requirement:

> All teachers teaching in any core academic subject area
> (including early childhood and elementary) must:
>
> Hold at least a bachelor's degree from a regionally accredited
> institution of higher education (IHE);
> Hold a valid Standard Professional Certificate or Advanced
> Professional Certificate or Resident Teacher Certificate in the
> subject area they are teaching; and
> Satisfy the requirements associated with specific teaching levels
> and experience listed below.
> Early Childhood/Elementary teacher hired after January 8, 2002
> (New Teacher): In addition to the above general "highly
> qualified" requirements, the teacher must demonstrate content
> knowledge and pedagogy competency by passing state tests that
> assess subject knowledge and teaching skills in reading, writing,
> math, and other areas of basic early childhood or elementary
> school curriculum.
>
> Middle or Secondary teacher hired after January 8, 2002 (New
> Teacher): In addition to the above general "highly qualified"
> requirements, the teacher must demonstrate a high level of
> competency in each of the core academic subjects in which
> he/she is teaching by:
>
> Passing the applicable state content test in each of the core
> academic subjects in which the teacher is teaching, OR
> Completing an academic major or course work equivalent to a
> major (30 credit hours from a regionally accredited institution
> with 50% of the course work at the upper division level), a
> graduate degree, or an advanced certification (issued by the

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[15] For example, in 2003, the poverty rate for Black children was 33 percent compared to 9.8 percent for
White children (Ford, 2004).

National Board for Professional Teaching Standards and/or an
Advanced Professional Certificate issued by [the State]) in each
of the core academic subject areas in which the teacher is
teaching.

It must be noted that while scholars disagree about the effectiveness of the HQT

label and the factors it requires as a proxy for teacher quality in predicting students'

success (see, e.g., Guarino et al., 2006; Hill et al., 2005; Wilson, Floden, & Ferrini-

Mundy, 2002) the often-used HQT designation is sufficient for this discussion. In fact,

the definition of a high-need district or school, which is central to the stated Program

mission, is driven exclusively by the significant relationship between low percentages of

HQT and high percentages of students in poverty.

Multicultural education and (inter)cultural competence, relevance, and

responsiveness: The quest to incorporate education for multicultural competence into the

curriculum is one element that education leaders have recognized as necessary for

prospective teachers to serve in diverse schools in an interdependent global society. All

school systems in the State are required by regulation to infuse education that is

multicultural into the curriculum, instruction, and staff development. [16] What follows is

the State's definition:

Education that is multicultural is a continuous, integrated,
multiethnic, multidisciplinary process for educating all students
about diversity and commonality. Diversity factors include but
are not limited to race, ethnicity, region, religion, gender,
language, socioeconomic status, age, and individuals with
disabilities. It encompasses curricular infusion and instructional
strategies in all subject areas. Education that is multicultural
prepares students to live, learn, interact, and work creatively in an
interdependent global society by fostering mutual appreciation

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[16] This regulation addresses both teacher preparation and multicultural curriculum and instruction in school
classrooms.

and respect. It is a process which is complemented by community
and parent involvement in support of multicultural initiatives.

However, scholars nationwide agree less on the form it should take. For example, looking at the history of multicultural education and reviews of the literature taken from a critical perspective, Kincheloe and Steinberg (1997, p. 2) wrote the following: "Suffice it to say that as they focused on different issues, adopted competing values, operated from different social models or employed conflicting theoretical models, analysts classified forms of multicultural education in very different ways." Moreover, terms like *culturally competent, relevant, and responsive* may be more apt in predominantly minority settings. The approach suggested by the MPTEP panel, and that provided by the Program through early field experiences at PCS and Summer College, were of greatest interest here.

Prospective teacher and *preservice teacher*: these terms will be used interchangeably herein, although they are interpreted differently in some extant literature on the subject.

STEM: science, technology, engineering, and mathematics.

Sociocultural: of or relating to a combination of social and cultural factors. Also relevant to this study are socio-political contexts that are based on the unequal distribution of social and political power and privilege among and between individuals and groups.

Urban schools or districts: although the term *urban* can be used as a code word or euphemism that evokes implicit views about race and poverty, sometimes reflecting a "cultural deficit" orientation, it will be used herein to address issues directly related to staffing City schools and to Program early field placements.

Summary

As Darling-Hammond (e.g., 2007) and numerous other scholars have indicated, the widely discussed national teacher shortage rests primarily in a few schooling subject areas and for particular student populations. The City is among the many urban districts nationwide where schools with high concentrations of students from minority, low-income families struggle to recruit and retain teachers, with STEM fields among the most critical shortage areas. Regional data and research on preparing urban teachers nationally substantiate the need to better prepare prospective teachers for urban schools. For example, almost half of all State teachers of core subjects in 2009 who were not HQT taught in the two predominantly minority jurisdictions.

In the last few decades, scholars have identified well-planned and varied early field experiences as part of good practice in preparing teachers for high-need schools and have begun to research what such opportunities have to offer. The activities associated with early urban field placements have potential to increase interest in STEM among the children who are engaged in activities in which prospective teachers participate.

This study provides in-depth information about two urban early field placements and suggests avenues and potential obstacles to those designing and implementing such experiences to help prepare prospective teachers for high-need urban schools. Moreover, by using the nine MPTEP design principles as theoretical propositions, the study demonstrates how a unifying body of work developed by key scholars in field can guide research. The discussion now turns to the research literature related to early field experiences for prospective teachers, with a focus on the MPTEP design principles.

Chapter 2: Urban Schooling and Preservice Teacher Education

This chapter will explore the issues most salient to understanding the early urban field placements that are geared to preparing Program participants to teach STEM subjects in the City and metropolitan area classrooms. It will describe research regarding disparities in STEM achievement and teacher staffing challenges, particularly those associated with predominantly low-income and minority urban communities. It will then introduce the literature on multicultural education, describing the reform agendas for recruiting, preparing, and retaining the best teachers for all students described by Zeichner (2003)—professionalization, deregulation, and social justice—suggesting where the State's approach and that of the Program appear to correspond. It will then suggest the nine MPTEP design principles of good practice (Zeichner et al., 1998) as an approach to understanding preservice teacher preparation and explore each in the context of the related research literature. The relatedness of these ideas to the Program, and its early field placements in particular, is of interest in this study.

Disparities in Student Achievement

Leaders have expressed considerable alarm about students' poor overall preparedness for postsecondary STEM study and careers, communicating heightened concern about the effects of underachievement on minority and low-income communities (e.g., Business Roundtable, 2005, 2008; College Board, 1999; Obama, 2009). Outcomes in City schools, which serve predominantly low-income minority communities, are no exception. For example, the City had the lowest pass rate in the State on the High School Assessments (HSAs) in both algebra (70.3 percent) and biology (62.8 percent) in 2009,

compared with higher pass rates of 87.2 percent and 84.5 percent statewide. Moreover,

pass rates in more affluent nearby County A were higher still, 90.3 percent for algebra

and 94.5 percent for biology, as shown in Figure 2-1. Passing the HSAs is required for

high school graduation.

Figure 2-1 Percent of Students Passing Selected State High School Assessments
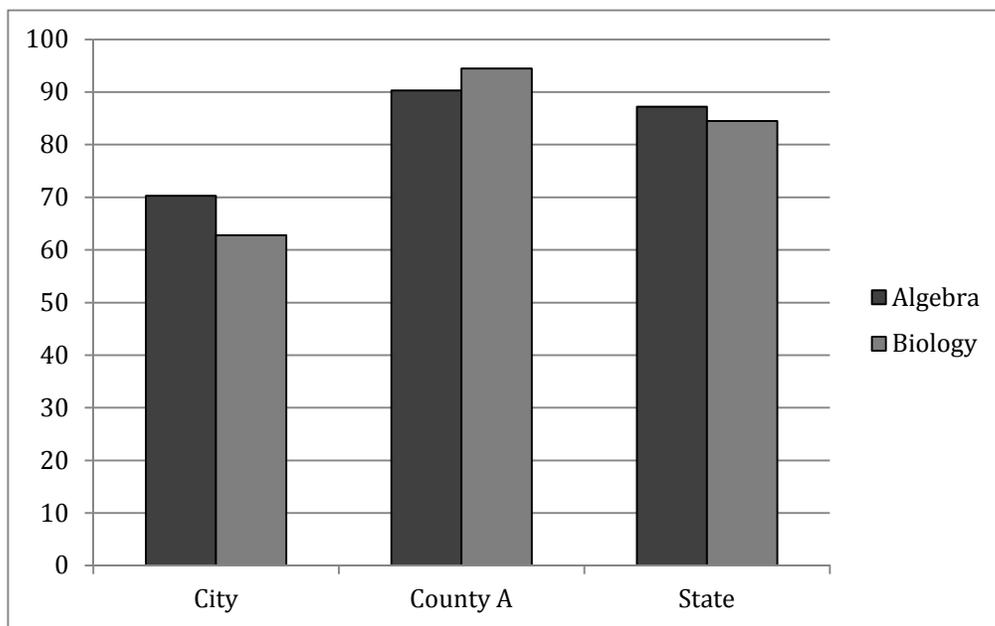
Although outcomes have improved for some gifted students since the 1999

College Board Task Force on Minority High Achievement recommended ways to

eliminate academic underachievement among minority students (see, e.g., Maton,

Hrabowski, & Schmitt, 2000), data show that a racial/ethnic achievement gap remains.

For example, only 53 percent of Black eighth graders in the State scored basic or better

on a recent National Assessment of Educational Progress (NAEP) math test, compared

with 88 percent of White students, reflecting an average score among Black students that

was 36 points lower than White students' (U.S. Department of Education, 2007).

Research has shown that similar disparities appear in student attitudes, interest, and

motivation in learning STEM subjects in elementary grades and in secondary course

enrollment (see, e.g., Lee & Luykx, 2007).

Disparities in Teacher Recruitment and Retention

> Without improved teacher recruitment and development
> practices, this nation will fail to build the qualified, diverse, and
> culturally sensitive teacher workforce that today's and
> tomorrow's classrooms demand (Urban Teacher Collaborative,
> 2000, p. 7, quoting 1996 *Urban Teacher Challenge* report).

What some see as a looming national teacher shortage driven by high turnover,[17]

increasing enrollments, and a retiring workforce (e.g., NCTAF, 1996; U.S. Department of

Education, 2001), others view more explicitly as insufficient numbers of credentialed

teachers with particular expertise in a subset of communities (Darling-Hammond, 2007;

Darling-Hammond & Sykes, 2003; Haycock 2000, Ingersoll, 2001). For example,

Haycock (2000) reported nationwide patterns of teachers who lacked certification

working in schools with predominantly low-income and minority populations.

> Students attending high poverty secondary schools (> 75 percent
> poverty) are more than twice as likely as students in low poverty
> schools (< 10 percent poverty) to be taught by teachers not
> certified in their fields. Youngsters attending predominately
> minority schools are also more likely to be taught by teachers
> uncertified in their subjects. In fact, students attending schools in

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[17] As noted in Chapter 1, estimates vary, but approximately one third of teachers leave the profession
during their first three years in the classroom and almost half leave in the first five. As described below,
slightly more teachers change schools or districts during that time than leave the profession, often
moving from schools that serve low-income communities to more affluent ones (Ingersoll, 2001;
Lankford et al., 2002; NCTAF, 2003). McConney and colleagues (2003, p. 93) reported that 44 percent
of first and second year City public schools teachers left the city between August 1999 and April 2001
for reasons related to job satisfaction. In addition, the National Commission on Teaching and America's
Future (NCTAF)(1996) describes an attrition rate of 75 percent from the beginning of an undergraduate
teacher education program through the third year of teaching.

which African American and Latino students comprise 90 percent or more of the student population are more than twice as likely to be taught by teachers without certification to teach their subjects (Haycock, 2000, p. 2).

Consistent evidence shows that schools with higher proportions of minority, low-income, and low-performing students also have higher teacher attrition in critical shortage areas, with STEM subjects often among them (Ingersoll, 2001; Lankford et al., 2002; Zeichner, 2003). State staffing data and related research show teacher experience is a related issue. In addition to high rates of new teacher turnover across the city, Prince (2002) found that although City schools experienced relatively little variability in low-income and minority student enrollment, inexperienced teachers were concentrated in schools with the lowest levels of achievement.

Many authors specifically emphasize the dire need for science and math teachers in schools that serve the children of the least well off (e.g., Darling-Hammond & Sykes, 2003; Ingersoll, 2003; Urban Teacher Collaborative, 2000). When the Urban Teacher Collaborative surveyed the nation's largest urban school systems in 2000, 39 of 40 responding districts identified immediate demand for science teachers and 38 also noted a need for math teachers. The City, which Program was created to serve, was among the districts indicating a need for math and science teachers at the middle and high school levels (Urban Teacher Collaborative, 2000).[18] Studies have shown that secondary teachers, particularly those in math and science fields, are more likely than elementary teachers to leave the profession (Guarino et al., 2006; Ingersoll, 2001; Lankford et al., 2002).

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[18] The State *Teacher Staffing Report* did not include levels of need in content areas by district.

Districts' failure to fill vacancies in urban communities was once associated largely with lower pay (e.g., Henke, Zahn, & Carroll, 2001). Although urban districts have better aligned salaries with surrounding school systems and organizations offer incentives for new teachers, attracting fully certified teachers to a high-need urban area in a competitive market remains a challenge (McConney et al., 2003). Labor economists explain that individuals choose to teach in urban schools only if the attractiveness of their overall compensation—including concepts like working conditions and personal satisfaction, which are difficult to capture—exceeds not only that of other districts, but also of all available career paths requiring similar levels of education and skill (see Guarino et al., 2006). STEM majors and degrees may provide students and graduates who are interested in teaching with more remunerative choices than other fields might yield (Marx & Harris, 2006). Many authors also have addressed the unmet need for teachers in the elementary grades who can effectively engage students in science and mathematics topics using inquiry-based and other experiential teaching methods, again with heightened concerns about how well schools serve urban youth (e.g., Lee & Luykx, 2007; Marx & Harris, 2006). According to Linda Darling-Hammond (2007, p. B20), "Especially in predominantly minority schools, many math and science courses are now taught by teachers who were trained in other fields, by emergency hires, or by teachers with background in the content but inadequate teaching skills. For many new instructors, the lack of training in content and pedagogy contribute to both high attrition rates and lower effectiveness."

More than half of teacher turnover consists of staffing transitions between schools or districts, many of which move teachers from schools in low-income urban

communities to more affluent suburban ones (Ingersoll, 2001; Lankford et al., 2002).

Lankford and co-authors (2002) found that teachers in New York left schools in which

the proportion of non-White, low-income students was 75 to 100 percent greater than the

schools to which they transferred. As shown in Figure 2-2, the City teacher attrition

rate[19] was 10.4 percent from October 2006 to October 2007 (second in the state),

followed by predominantly minority County P at 10.1 percent and 9.3 percent in nearby

County B, compared with 7.8 percent statewide and 6.5 percent in nearby county A.

Figure 2-2 Percent Teacher Attrition in Selected State School Jurisdictions (2006 to 2007)

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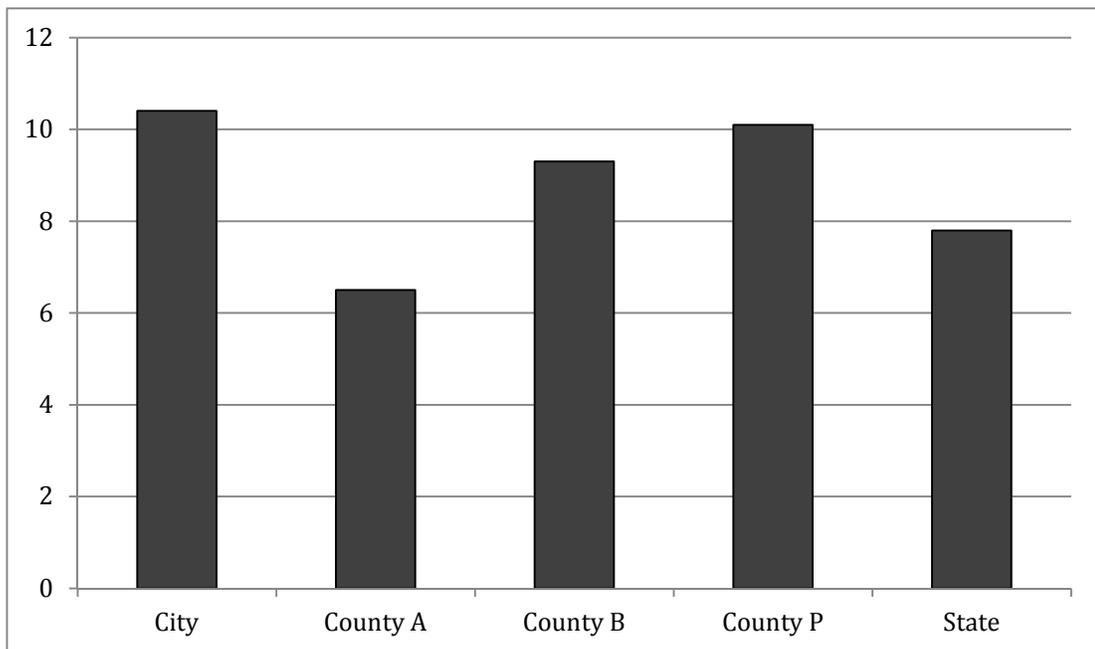
[19] The State indicated that attrition data excluded the 720 teachers statewide who moved from one district to another that year, and cautioned that "looking at the attrition rate of teachers is useful; however, attrition data are complex, and it is difficult to separate those who leave the profession from those who move from one employer to another. It also is difficult to differentiate those who leave permanently from those who leave and return. Additionally, the causes cited for separation present a challenge in interpretation. Many individuals are not willing to cite specific reasons for leaving a job; therefore, the reasons collected through separation documents and exit conferences may be vague or inaccurate."

More than half of the 681 teachers who left City public schools during that period had five years of experience or less. The State reported that the school systems with the greatest number of teachers leaving to accept employment elsewhere in the State were Counties B and P, with the City listed third. Approximately twice as many teachers left the City to teach in other State jurisdictions (94) than left other systems to teach in the City (46). As a result of these patterns, urban districts often continue to fill vacancies with individuals who lack credentials and require significant early professional development (Darling-Hammond, 2007; McConney et al., 2003; Urban Teacher Collaborative, 2000).

Preparing Teachers for Low-Income Minority Urban Schools

There is no question but that teacher quality[20] is a necessary, although not always sufficient, driver of students' academic success. Yet, while research suggests generally that teachers do influence student achievement, sources vary considerably on the degree to which student outcomes can be attributed to teachers' academic knowledge, subject and grade-specific certification, cultural knowledge, and other factors (see, e.g., Guarino et al., 2006). A few authors have shown a direct link between student outcomes and one or more facets of teacher quality (see Goldhaber & Brewer, 1996; Haycock, 1998; Hill et al., 2005; Monk, 1994). For example, consonant with past findings, Hill, Rowan, and Ball (2005) found a significant correlation between first and third graders' math achievement gains and their teachers' mathematical knowledge. However, many authors

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[20] As noted previously, this discussion uses the admittedly imperfect approach that NCLB applies to the question—the HQT designation and the preparatory academic specialization, and subject- and grade-specific certification that HQT are required to have.

have also identified a weakness in the literature resulting from the limited availability of comprehensive longitudinal data that would permit complex analyses of relationships among teachers' educational and professional development experiences, placement and retention, and measurable student outcomes (e.g., Boyd, Grossman, Lankford, Loeb, & Wyckoff, 2008; Guarino et al., 2006; Wilson et al., 2002).

Little research clearly links teacher preparation and induction support activities to student outcomes. Most studies of new teacher professional development programs report on preservice teachers' perceptions (e.g., Anderson & Szabo, 2007, Merseth, Sommer, & Dickstein, 2008; Ng, 2004, Weisman & Garza, 2002), novice teachers' perceptions (e.g., McConney, et al., 2003), or retention of new teachers (e.g., Eberhard, Reinhardt-Mondragon, & Stottlemyer, 2000; Weiss, E.M., 1999), but do not follow prospective teachers into the classroom (see Wong & Glass, 2005). In one study, Liu, Johnson, and Peske (2004) suggested that monetary incentives might do less to help new teacher recruitment and retention than would resources and mentoring at the school level in the early years of teaching. In addition, recent studies on in-service policies using data from the national Schools and Staffing Surveys found that mentoring and induction programs, particularly those offering collegial support, were associated with lower rates of turnover among beginning teachers (Guarino et al., 2006; Smith & Ingersoll, 2004).

In the context of this gap in educational quality and uncertainty regarding the effectiveness of various approaches to preservice teacher education, many scholars, including the MPTEP panel (Zeichner et al., 1998) and its individual members (e.g., Gay, 2000; Grant & Secada, 1990; Hill & Gillette, 2005; Valli, 1996; Villegas & Lucas, 2002; Zeichner, 2005), have advocated multicultural, culturally responsive, and social justice

education in various forms (see also Cochran-Smith, 2000; Delpit, 1996; Kincheloe & Steinberg, 1997; King & Ladson-Billings, 1990; Ladson-Billings, 1994, 1999). The MPTEP coordinators, Zeichner and Grant, and other members of the panel have written extensively on these subjects, both before and since the Design Principles of Good Practice were published 1998. For example, Zeichner (2003, p. 507–508) explains that the social justice agenda in multicultural education places schooling and prospective teacher education, including "carefully monitored and analyzed field experiences in diverse communities," at the center of creating a more just society (see also Grant & Sleeter, 2008; Sleeter & Grant, 2007).[21] This multicultural social justice approach to preparing prospective urban teachers appears to be closely related to the goals and activities associated with the Program (see Appendix A). For example, in describing professional development activities, Program literature states, "Scholars will analytically reflect upon these experiences from various perspectives, such as discussing the political ideologies driving American education, the influence of the home and community on student learning, and the changing demographics that bring forward the potentials inherent in diversity."

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[21] In addition to the social justice agenda, Zeichner (2003) identified the professionalization or regulatory agenda, and the deregulation agenda, all of which connect to long-standing traditions of reform in U.S. teacher education. Zeichner (2003, p. 498) portrays professionalization as "the quest to establish a profession of teaching through the articulation of a knowledge base of teaching based on educational research and professional judgment" (see Liston & Zeichner, 1991). He describes the deregulation, or reformist or "common sense" agenda, as that which relies on the argument that "there is no reliable link between pedagogical training and classroom success," meaning that subject matter knowledge alone would be sufficient to successfully instruct diverse learners in that subject (Zeicher 2003, p. 503; see also Fordham Foundation, 1999, p. 6; Walsh, 2001).

MPTEP Design Principles for Preservice Teacher Preparation

The Multicultural Preservice Teacher Education Project (Zeichner et al., 1998) articulated 14 design principles of good practice in multicultural teacher education for prospective teachers. The principles described by the expert panel were identified through multiple scholarly reviews of the relevant literature, including panelists' varied experience and research, external comment from professional conference participants, and agreement among leaders in the field (Zeichner et al., 1998, p. 163). This study was designed to explore in depth a subset of Program activities using a relevant group of nine MPTEP principles. It will address the nine MPTEP principles most relevant to that focused exploration. The design principles are organized into three categories, only the third of which could be appropriately applied to activities within a specialized preservice teacher support program: 1) institutional and programmatic reform; 2) criteria for admitting students and selecting and developing personnel; and 3) curriculum and instruction. The others would be less suitable. For example, while principles related to institutional mission and staff development undoubtedly affect Program activities, their investigation would be fitting only in a more comprehensive University-wide study.

These nine MPTEP principles provided the comprehensive theoretical framework for this study, which Yin (2003, p. 28) maintains is a valuable and important guide to case study research (see Chapter 3). They provided the very kind of "multilayered interpretive/analytical approach" that Jenks, Lee, and Kanpol (2001) argue is needed to explore multicultural and culturally responsive approaches in research, but is not easy to find in the literature. While the principles do not appear to have been examined in this form, they provided a unified approach in a field in which numerous scholars have

emphasized a pressing need for research (e.g., Cochran-Smith & Zeichner, 2005; Grant & Millar, 1992; Zeichner, 2005).[22]

The MPTEP panel suggested that programs that incorporate their elements fully into design and implementation will produce teachers who can effectively meet the needs of all students, including those in high-need schooling contexts.[23] These nine MPTEP design principles offered valuable guidance for exploring and understanding the experiences of university students in a preservice teacher support program targeted at preparing STEM teachers for City schools. Six of the design principles appeared to relate more closely to Program activities and three could be better understood as desired Program outcomes. With the principles themselves at the center of the discussion of the scholarly literature most closely related to each, those principles more noticeably related to activities will precede those addressing outcome goals.

Principles Guiding Activities

In the views of the panel, multicultural preservice teacher education activities should 1) include carefully planned and varied multicultural field experiences that explore sociocultural diversity; 2) include multicultural perspectives such that they permeate the curriculum, 3) articulate positive assumptions about classroom students' prior knowledge and expectations that all children can excel academically, 4) draw upon and validate multiple types and sources of knowledge, 5) require prospective teachers to

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[22] As elucidated in Chapter 3, the MPTEP panel (Zeichner et al., 1998) did not indicate how researchers might assess the presence of the design principles in an institution, program, or activity, or their outcomes in teachers who had completed an effective program.

[23] The panel stated, "the principles represent one view of good practice" and recognized that other valid perspectives may reflect different emphasizes and priorities (Zeichner et al., 1998, 163).

explore individual identities and cultures, and 6) use university programs as multicultural laboratories (Zeichner et al., 1998). Each of these principles, beginning with the MPTEP principle most significant to this study, will be stated in the panel's language and discussed in the context of the related literature. When describing the possible applicability to Program early field experiences, "program" and other references used by the MPTEP panel will refer to early field experiences associated with the Program, rather than all programming in the University's Department of Education.

Principle 1: Field Experiences Explore Sociocultural Diversity

> The program provides carefully planned and varied field experiences that explore sociocultural diversity in schools and communities (Zeichner et al., 1998, p. 168).

Scholars have indicated that for prospective urban teachers to succeed and stay in the profession, they need extended clinical experiences and the guidance of mentor teachers who illustrate effective practice in urban classrooms. (Burns, Grande, & Marabale, 2008; Darling-Hammond, 2006, 2007; Henke et al., 2001; McConney et al., 2003; McKinney, Haberman, Stafford-Johnson & Robinson, 2008). This emphasis on careful planning in developing experiences for in-service and preservice teachers can be seen in two relevant regional studies. In an evaluation of a comprehensive reform effort in City public schools, McConney and colleagues (2003) found that new teachers and school administrators valued mentoring as a strategy to improve instruction and retain teachers. They found that mentoring was perceived as effective, but teacher-participants wanted more support from mentors than they had been provided (McConney, 2003, p. 95). Similarly, in evaluating a graduate-level professional development school in an

increasingly urban and diverse school district near the City, Masci and Stotko (2006) found high satisfaction, as well as higher pedagogy test scores among participants in a teacher preparation program that provides intensive field experiences and supervisory support than among other State teacher candidates.

Numerous authors have emphasized the importance of the regularity with which educational practices focused on cultural competence are incorporated into schooling environments, including urban schools in which low-income minority students' backgrounds are different from most prospective teachers' (e.g., Bondy & Davis, 2000; Burant & Kirby, 2002; Foote, & Cook-Cottone, 2004; Gallego, 2001; Hopkins-Gillespie, 2008; Jenks et al., 2001; Mason, 1999; Stachowski & Mahan, 1998; Valli, 1996; Wiggins, Follow, & Eberly, 2007; Zeichner & Melnick, 1996; cf Haberman & Post, 1992). For example, Mason (1999) asserts that a properly supervised urban field experience can provide preservice teachers with a deeper understanding of children's educational needs and support prospective teachers' feelings of self-efficacy.

Darling-Hammond (2006) argues that the most effective urban teacher preparation programs require students to spend extensive time in the field throughout the program, examining and applying concepts and strategies alongside teachers who demonstrate responsive pedagogies. Similarly, Wilson and colleagues (2002, p. 195) agree that "study after study shows that experienced and newly certified teachers alike see structured clinical experiences working with children and youth in educational environments as a powerful—sometimes the single most powerful—component of teacher preparation." They also assert that poorly conceptualized or administered teacher preparation pathways may exacerbate extant inequities if new teachers are lacking in

either content knowledge or the pedagogical skills to respond to the needs of diverse learners. Furthermore, scholars have systematically emphasized that subject matter knowledge alone is insufficient to raise the quality of math and science instruction in urban schools, in part because those teachers who have not completed field experiences in similar environments are more likely to leave high-need schools or the profession (e.g., Darling-Hammond, 2006, 2007; Lee & Luykx, 2007; Marx & Harris, 2006; Ng, 2003, 2004).

Drawing broadly from the scholarly literature and professional experience, the MPTEP panel emphasized that school and community field experiences should take place in a variety of cultural settings to provide prospective teachers with opportunities to develop greater intercultural teaching competence. They highlighted that field experiences that build positive multicultural teaching competence share key elements: careful planning and monitoring; careful preparation of students; placement contexts focused on culturally responsive teaching; regular reflection guided by multicultural educators; and such placements incorporate the community, including the extension of placements into the community and the role of community-based teacher educators.

Leaders in higher education have undoubtedly shaped the development of the Program, and their articulated vision likely guided selection of partnerships for field placements. For example, Hrabowski, Lee, and Martello (1999) advocated experiential learning, of which early field placements are one form, as an avenue to develop "enlightened teachers." One might expect this belief to be implicit in Program documents and the creation and implementation of Program early field experiences.

The following elements of this principle were drawn from the research literature and applied to two Program early urban field experiences:

1.1. Careful placement planning and monitoring;

1.2. Careful preparation for placement;

1.3. Placement site focused on culturally responsive teaching;

1.4. Reflection guided by culturally competent, relevant, and responsive educators; and

1.5. Placements incorporate the community.

Given the essential role that both scholars and practitioners believe that field experiences play in the development of prospective teachers, such exploration of Program early field placements was timely and important.

Principle 2: Multicultural Perspectives

> Multicultural perspectives permeate the entire teacher education curriculum, including general education courses and those in academic subject matter areas (Zeichner et al., 1998, p. 165).

Within the broad construction of this principle, the study focused on the degree to which two early field experiences and the Program's approach overall incorporated multicultural perspectives.[24] That is, it sought to discover how Program early field placements appear to "take into account the backgrounds, abilities, learning styles, and communicative modes of teacher education students" (Zeichner et al., 1998, p. 166). Experts in teacher preparation have consistently advocated use of a breadth of multicultural education principles, including a focus on equity and culturally responsive

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[24]Program participants' teacher education includes University STEM field and education coursework, which is intended to educate prospective teachers about diversity, including race, ethnicity, socioeconomic status, and region (see Hrabowski et al., 1999; Md. Regs. Code tit. 13A, § .04.05.01(B)(1995, 2005). However, the nature of those activities was beyond the reach of this research.

teaching, in the curricula used to prepare prospective teachers (e.g., Nieto, 2000; Sleeter, 2001; Zeichner, 2003). Such themes will therefore be explored in this study.

The MPTEP panel (Zeichner, et al. 1998) collectively, as well as its contributors and colleagues (e.g., Grant & Gilette, 2006; Sleeter & Grant, 2007; Zeichner, 2003), have routinely emphasized the importance of ongoing exploration of multicultural perspectives throughout prospective teachers' learning experiences. Grant and Gillette (2006, p. 295) wrote, "Without an educational platform that is developed from the beginning of a program and examined in terms of ongoing field placements, candidates continue to search for the 'bag of tricks' that will make them successful in the classroom on a daily basis." Understanding the degree to which participants and Program staff shared an understanding of such a philosophy for the Program, and its similarity to those of early field placement sites, was therefore seen as important to this study. In this respect, the study also explored the degree to which a "coherent philosophy of multicultural education is presented" (see Zeichner et al., 1998, p. 166), both within early field experiences and thematically in other Program activities.

The MPTEP panel's language and the related literature described above suggested the following elements within this principle to be investigated in this study, related to the presence and regularity of the following:

2.1. Coherent program philosophy of education;
2.2. Themes of culture, instruction, learning, and equity in other program components; and
2.3. Participants' backgrounds, abilities, and learning styles considered.

Principle 3: Learning Assumptions and Expectations

> The program is based on the assumption that all students in elementary and secondary schools bring knowledge, skills, and experiences that should be used as resources in teaching and learning, and that high expectations for learning are held for all students (Zeichner et al., 1998, p. 166).

Zeichner and his colleagues (1998) emphasized the importance of activities targeted at instilling and reinforcing in preservice teachers positive attitudes and beliefs in the knowledge and potential of all students. Preparation and support programs must identify and enhance the degree to which preservice teachers respect and appreciate individual and cultural differences, believe that all children can learn, and encourage them to excel academically.   The panel asserted that prospective teachers must be taught to "believe that all students are capable of learning, and hold high expectations for each pupil, regardless of background" (Zeichner et al., 1998, p. 167),

Prospective teachers' views about urban students are presented with common emphasis in the literature on multicultural and culturally responsive education, most often voiced with concern. It has been shown that many prospective teachers feel that students from low-income minority backgrounds are less academically capable or interested in school than more affluent, often White, suburban students (e.g., Avery & Walker, 1993; Burns, et al., 2008; Darling-Hammond & Prince, 2007; Delpit, 1996; Groulx, 2001; Haberman, 1995; Ladson-Billings, 1999; Mason, 1999; Ng, 2003, 2004; Szabo & Anderson, 2009; Tran, Young, & DiLella, 1994). Lisa Delpit (1996) used this observation, gained from her research in a variety of schooling contexts, to address complexities of cultural differences in schools and illustrate ways that teachers who recognize the capabilities of low-income children of color can build on students' home

cultures to improve their academic success. Moreover, assumptions about urban children affect the choices that preservice teachers make about where to teach and, for those who choose high-need schools, their effectiveness and retention. For example, Ng (2004) found that prospective teachers at a Midwestern university perceived the student bodies in urban schools to be more challenging to teach and the schools themselves less favorable working environments than suburban or rural schools (Ng., 2004, p. 132). More recently, Burns and colleagues (2008) found that preservice teachers who elected to participate in a paid two-month intensive early urban field experience had previously spent more hours in urban school placements than those who did not participate.

Research also shows that effective teachers in urban environments view cultural diversity as an asset, deem their responsibilities to include addressing cultural issues in curriculum planning and the learning process, and have high expectations for all children, including those in high-need schooling environments. They posit that programming that exposes prospective teachers to environments based on positive learning assumptions and high learning expectations for all children may affect their views about students, career choices, and effectiveness as urban teachers, but more research is needed (see, e.g., Pohan & Aguilar, 2001; Sleeter, 2001). This research on Program early field placements contributes to this line of scholarly inquiry.

The MPTEP panel's language and the related literature described above suggested the following elements within this principle to be investigated in this study:

    3.1. Assumptions about students; and
    3.2. High academic expectations.

Principle 4: Multiple Types and Sources of Knowledge

> The program draws upon and validates multiple types and
> sources of knowledge (Zeichner et al., 1998, p. 169).

In the design principles in multicultural preservice teacher education, the MPTEP panelists emphasized inclusivity of knowledge and expertise about schools and communities from a range of stakeholders. Curriculum and instruction activities should include "the knowledge of expert teachers, other school staff members, members of the local community and business sector" in an integrated fashion (Zeichner et. al., 1998, p. 168). This study focused on exploring three such elements:

    4.1. Academic knowledge;

    4.2. Faculty/staff knowledge; and

    4.3. Family/community knowledge.

The importance of academic content, implicit in this MPTEP principle, was addressed more clearly in institutional and programmatic design principles that were not the subject of this study. In addition, emphasis on subject matter expertise is emphasized in both the State's definition of HQT, and also regulations requiring that multicultural education encompass a diversity of curricular and instructional strategies in all subject areas. Similarly, integrating the knowledge of placement site personnel, as mentioned by the MPTEP panel, has been emphasized throughout the teacher preparation literature (e.g., Grant & Gillette, 2006). Finally, scholars have strongly questioned the ability of predominantly White, middle-class, teacher education faculties, many of whom lack urban teaching experience, to make use of the breadth of knowledge necessary to prepare teachers for high-need schools. Some advocate that an effective approach is to establish closer connections to diverse communities and employ community members as teacher

educators (see Mahan, Fortney, & Garcia, 1983; Zeichner, 2003; Zeichner & Melnick, 1996). These elements were explored in two Program early field placements.

Principle 5: Exploration of Identities and Cultures

> The program helps prospective teachers reexamine their own and others' multiple and interrelated identities (Zeichner et al., 1998, p. 168).

The MPTEP panel suggested "the use of life history, autobiography, and narrative methods as well as cultural immersion experiences," as ways that teacher education programs can foster examination and evolution of college students' attitudes and beliefs about themselves and others (Zeichner et al., 1998, p. 168). Zeichner and his colleagues (1998) explained that prospective teachers must critically explore first their own identities, including race, ethnicity, class, language, and gender as a precursor to participating in activities designed to address the variability and commonalities among and between groups. This is a common theme in both scholarship and policy on multicultural education for all prospective teachers, but most particularly for White preservice teachers who intend to teach in predominantly Black and/or Latino communities (see, e.g., Banks, 1997; Delpit, 1996; Gay, 2000; Howard, 2006; Ladson-Billings, 1994, 1999; McIntosh, 1989; Nieto, 2000; Sleeter, 1993, 2001).

Ladson-Billings (1994) work includes an implicit emphasis on self-exploration. It offers a scholarly exploration of the pedagogical practice of eight exemplary teachers in a predominantly low-income Black school district to offer models for improving practice and developing grounded theory regarding successful teaching of Black children. Her interwoven reflective and empirical approach includes rich descriptions of teachers and

their classrooms, including teachers' socioeconomic and racial characterizations, as compared with their students'.

Sleeter (2001) reviewed 80 data-driven research studies on the preparation of teachers who serve traditionally underserved, largely minority communities and wrote that most research focused on addressing the attitudes and lack of cultural knowledge among White preservice students. Very few of the studies examined those strategies that prepare strong teachers.

Finally, McIntosh's 1989 short essay, "White Privilege: Unpacking the Invisible Knapsack," appears to be a classic among educators and workshop leaders seeking to support exploration of individual identity and, in particular, expose unearned racial privileges. The essay, based on McIntosh's work with the Wellesley Centers for Women, includes 26 statements to prompt thought and discussion about the inclusivity of curricula, for example, "I can remain oblivious of the language and customs of persons of color who constitute the world's majority without feeling in my culture any penalty for such oblivion." Its self-described influence on their cultural understanding was on her mind as she investigated Program participants' engagement with identity exploration associated with early field experiences in predominantly low-income Black communities.

This study focused on two elements of this principle:

5.1. Participants explore own identities and cultures; and
5.2. Participants explore others' identities and cultures.

Principle 6: University Programs as Multicultural Laboratories

> The program teaches prospective teachers how to change power
> and privilege in multicultural classrooms (Zeichner et al., 1998,
> p. 169).

The MPTEP panel highlighted the importance of modeling approaches to power

and privilege that may disrupt the dominant paradigm, activities that are seen as central to

social justice education (see, e.g., Sleeter & Grant, 2007; Villegas & Lucas, 2002;

Zeichner, 2005). The panel advocated implementing examples that redistribute power

and privilege while providing guidelines to empower learners, rather than frustrate their

efforts. The authors explained that in programs that demonstrate the design principles,

"Authority is redistributed by granting students the rights and responsibilities to help

make decisions about what kinds of projects they may do, how they will demonstrate

their mastery of information and skills taught, and participating as equally empowered

partners in determining what their assessment will be" (Zeichner et al., 1998, p. 169).

While this study did not focus on the role of power and privilege in teacher preparation

activities outside the Program, it did explore the role that participants have in selecting

and performing their early field experiences and the guidance they are provided.

This study focused on two elements of this principle:

> 6.1. Choice in placements; and
> 6.2. Choice in assessments.

Principles Guiding Desired Outcomes

The MPTEP panel suggested three design principles that are useful to guide

exploration of the outcomes sought from novice teachers completing multicultural

preservice teacher education programs: 7) understanding sociocultural contexts of schooling; 8) demonstrating cultural competence, relevance, and responsiveness; and 9) showing a commitment to work for social change through educational equity (Zeichner et al., 1998). Similar to the way that the principles most related to activities were addressed, each of these principles that may be related to Program outcomes will be stated in the panel's language and discussed in the context of Program early field experiences and the relevant literature.

Principle 7: Understanding Sociocultural Context of Schooling

> The program fosters the understanding that teaching and learning occur in socio-political contexts that are not neutral but are based on relationships of power and privilege (Zeichner et al., 1998, p. 168).

The design principles emphasize familiarity with the distributions of power and privilege in classrooms, schools, and communities that are closely tied to race, ethnicity, gender, and social class, paired with the importance of teachers who are knowledgeable about these issues. The authors explained that "an understanding of unequal power relations can help teachers overcome a 'blame the victim' and a 'cultural deficit' orientation toward students and their families so that they can restructure schooling and classroom processes to be more responsive to a culturally diverse student population" (Zeichner et al., 1998, p. 166). This appears to be closely connected to activities geared to several other MPTEP principles, particularly activities intended to generate and reinforce positive assumptions and high expectations for academic achievement for all children. Developing an understanding of the sociocultural context of schooling may help preservice teachers develop the comfort and confidence to work effectively within

the urban multicultural context (see, e.g., Cochran-Smith, 2000; Pang & Sablan, 1998; Zeichner, 1992, 2003).

Two specific elements of this principle were explored in this study, namely the degree to which the evidence supports that:

> 7.1. Participants understand power/privilege associated with race, ethnicity, gender, and class; and
>
> 7.2. Participants understand the sociocultural context of high-need schools.

Principle 8: Cultural Competence, Relevance, and Responsiveness

> The program teaches prospective teachers how to learn about students, families, and communities, and how to use knowledge of culturally diverse students' backgrounds in planning, delivering, and evaluating instruction (Zeichner et al., 1998, p. 167).

The panelists emphasized ensuring that prospective teachers should know a variety of ways to discover each student's school, family, and community contexts in order to select relevant materials, design appropriate activities, use pertinent examples, manage classrooms featuring a variety of interaction styles, and maximize students' opportunities to show what they know. They explained that this repertoire of instructional approaches should include skills in direct instruction, inquiry methods, and cooperative learning (e.g., group projects, peer centers, reciprocal teaching) (Zeichner et al., 1998, p. 168). The importance of developing teachers with the facility to meet students' learning needs through culturally relevant content and responsive approaches is coupled closely in the literature with descriptions of the pitfalls of preparing them to teach in urban cultures with which they may be unfamiliar (e.g., Cochran-Smith, 2000; Delpit, 1996; Grant & Secada, 1990; Irvine, 2003; Ladson-Billings, 1994, 1999; Tran et

al., 1994; Villegas & Lucas, 2002).[25] Many scholars argue that the majority of

prospective and new teachers lack sufficient preparatory experiences to overcome any

lack of familiarity and, for some, to alter negative attitudes about urban children and

families (e.g., Gallego, 2001; Shultz, Neyhart, Reck, & Easter, 1996; Zeichner, 1992,

2003; Zeichner & Gore, 1990). For example, Gallego (2001) found that concurrent

placements in contrasting field sites—a conventional classroom and community-based

after school program—were instrumental to preservice teachers' developing

understanding of the complex relationships that support teaching and learning. The

Program emphasizes the intention to prepare culturally responsive educators for local

City schools, appearing to comport with this MPTEP principle.

    Furthermore, in addition to the regional and demographic cultures at issue in this

study, forms of knowledge, including individual disciplines and fields, are situated in a

domain or cultural context (see e.g., Nasir, Hand, & Taylor, 2008). Tillman (2002, p. 4),

defines culture as "a group's individual and collective ways of thinking, believing, and

knowing, which includes their shared experiences, consciousness, skulls, values, forms of

expression, social institutions, and behaviors." An understanding of the domains

representing the culture of each STEM field (i.e., mathematics, life sciences, physical

sciences, and engineering) and schooling level (i.e., elementary, middle grades, and high

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[25] This discussion merely touches on a complex body of scholarship regarding what constitutes cultural competence, relevance, responsiveness, and/or congruence. Strong arguments exist for other approaches to increase ethnic/racial responsiveness among the teaching workforce, including efforts to meet the needs of prospective teachers of color who attend primarily White institutions (Delpit, 1996) and recruitment from among low-income minority communities (Clewell & Villegas, 2001). This discussion also does not address the particular learning needs of students with limited English proficiency or those in need of special educational services, both of which are relevant to providing all students with effective teachers (Villegas & Lucas, 2002; Zeichner, 2003). According to City public schools, English language learners comprise only 1.9 percent of City students, compared with 21 percent in urban schools nationwide (Urban Teacher Collaborative, 2000).

school) is certainly important to understanding culturally relevant teaching. Although deep analysis is beyond the scope of this study, the discussion that follows highlights the most important issues.

An example of the complex texture of effective STEM teaching and learning in classrooms can be seen in Ladson-Billings' brief description of math in a culturally relevant classroom in *Dreamkeepers* (1994, pp. 181–121). The author describes an algebra lesson using the pseudonym Margaret Rossi for the teacher, in a context with student demographics similar to those in this study. While short, the rich description is part of a central text in the field and was influential in developing this study. In particular, the following examples from the text contributed to the development of possible indicators of cultural competence, relevance, and responsiveness:

- Setting the context with a cultural connection, the origins of algebra;
- The time the children were on task, using algebraic functions to solve problems in a "hum of activity" for almost an hour and a half;
- Real life problems posed by Ms. Rossi and by students;
- Assurances to students that they were mastering difficult problems;
- Probing questions—"How do you know?"—used to push students' thinking;
- Helping students understand their knowledge and ability by encouraging them to assist each other;
- Working individually with students who seemed confused;
- Meeting students' confidence with reaffirmations of their intelligence and capability;
- Involving every student in the lesson;
- Students' mutual encouragement and celebration of success;
- No one student or group dominates the lesson; and
- No reprimands or discipline.

Many of the key details used in this illustration are notable by the absence of their reference to culture or context, highlighting some of the issues that scholars have identified as challenges specific to culturally relevant mathematics teaching. (e.g., Enyedy & Mukhopadhyay, 2007; Gutstein, Lipman, Hernandez, & de los Reyes, 1997; Leonard, Brooks, Barnes-Johnson, & Berry, 2010) Although Ladson-Billings conveys Ms. Rossi's emphasis on "setting of the context"— the Egyptian origins of algebra—as important for motivating her students, the majority of the description is focused on other details regarding culturally relevant practices. That is, Ms. Rossi seems to tap into the former without needing to tap into the latter.

Enyedy and Mukhopadhyay (2007) found the norms that foster mathematical knowledge to be in tension with those that highlight students' personal and social relevancy. The authors studied a five-week interdisciplinary summer seminar for high school students designed to help students recognize how mathematics is relevant to their lives and their communities, using a computerized Geographic Information System (GIS) mapping tool. They found conceptual, but limited, growth in student knowledge around statistical ideas and noted an unexpected tension: Students accepted visually compelling GIS maps, combined with their personal knowledge of community issues, as adequate evidence and used them almost exclusively to confirm their preexisting beliefs.

In this context, it is interesting that Ladson-Billings' (1994) portrayal of Ms. Rossi's math class includes only a few culturally specific details. Namely, the author describes Ms. Rossi's explanation that a textbook representation only appeared different from the novel problems the students had solved, with reassurances that they were doing "real" algebra. In addition, Ladson-Billings concludes this section by contrasting Ms.

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Rossi's observed lesson with her concerns about her students' future experiences in middle school Algebra: their knowledge would minimized, the children would be bored, and if past patterns played out, the students would fail because of nonattendance.

Gutstein and colleagues (1997, p. 732) also specifically discuss the challenges of culturally relevant mathematics education. They identify "the important distinction between thinking critically in mathematics—an essential component of mathematical reasoning and power—and viewing knowledge critically in general—necessary for effecting social change." In addition, the authors point out that there has been limited discussion, collaboration, and resulting programming and research among scholars focused on culturally relevant teaching and those in mathematics education. Leonard and her colleagues (2010) affirm that although culturally relevant and social justice pedagogies "can potentially lead to the development of a strong mathematics identity that may encourage students to believe they have the ability to learn mathematics, understand the significance of mathematical knowledge, recognize the opportunities and the barriers presented by understanding mathematical knowledge, and develop the motivation and persistence to obtain mathematical knowledge in the world outside the class," many challenges remain and the road is not clear.

This literature suggests the following elements within this principle that merit investigation:

       8.1. Participants explore knowledge of students in planning instruction;

       8.2. Participants use knowledge students bring to school to help them engage and learn;

       8.3. Participants use knowledge of students in evaluating instruction; and

       8.4. Participants are confident and comfortable about teaching in high-need

schools.

These were investigated as part of this study.

Principle 9: Commitment to Educational Equity

> The program helps prospective teachers develop the commitment
> to be change agents who work to promote greater equity and
> social justice in schooling and society. (Zeichner et al., 1998, p.
> 168).

The expert panel highlighted student engagement in community service like the early field experiences that are part of this study. "The goal of a multicultural teacher education program is to help prospective teachers become change agents who can impact power relationships through curriculum, instructional practices, and individual and collective action toward more just personal and structural relationships in schools, districts, and communities" (Zeichner et al., 1998, p. 168). An altruistic desire to serve society—making a difference—has been shown to be a primary motivator for preservice teachers, the majority of whom are middle class White women (e.g., Guarino et al., 2006; Zeichner, 2003). Yet the difficulties that many future teachers perceive about urban contexts dissuade them from choosing to teach in those schools (Ng, 2003, 2004). University personnel hope that Program participants will commit to promote education in local City schools and communities after completing their course of study, but they are not required to do so. Exploring their engagement with diverse groups of children and youth in the context of early field placements is expected to provide insight into their attitudes toward educational equity, including the role that teaching in urban City schools may play in improving educational equity in STEM.

This study explored the evidence supporting the applicability of the following elements within this MPTEP principle to Program field placements:

9.1. Participants are committed to social change;
9.2. Participants are committed to educational equity; and
9.3. Participants intend to teach in high-need schools.

Summary

This overview provides a foundation for understanding the key issues related to providing City classrooms with committed teachers who have been engaged in effective preservice preparation in the form of field placements. The challenges to improving student math and science outcomes in schools that have been chronically underserved are extraordinarily complex. The activities related to applied learning in a small Program for prospective teachers will not eliminate the inequities in State schools, but this research provides much-needed understanding of preservice teachers' experiences while engaged in such activities.

Before presenting the methodology that guided this study and the methods used, a cautionary note: Even if Program early field experiences are seen to positively affect preservice teachers' attitudes toward urban communities and their desire to serve them, these activities take place in nested social and political contexts, simultaneous with possibly contradictory reforms that may expand challenges that the program hopes to interrupt (see, e.g., McDermott, 2000; Ng, 2003). According to Zeichner (2003, p. 509–510), a "solution to the problems of inequality and injustice in public education will need to address the larger contexts in which teaching and teacher education exist," as well as the structures of the profession of teaching and teacher education.

Chapter 3: Case Study Methodology and Methods

This chapter describes how the study was designed and how the data were collected and analyzed. A qualitative case study design was used to determine how the Multicultural Preservice Teacher Education Project panel's (Zeichner et al., 1998) design principles of good practice in preservice teacher education (MPTEP principles) applied to early field placements coordinated by an endowed university-based prospective STEM teacher support Program. Following Robert Yin's work as presented in *Case Study Research: Design and Methods* (2003, 2009), this chapter will provide an overview of the case study design, explain why it was selected for the two cases in this study, and detail the research methods used. Specifically, it will discuss the interviews, observations, and documents that served as study data and describe the nested analytic design matrix derived from the MPTEP principles.

Case Study of Program Early Field Placements

The study was guided by Yin's (2003, 2009) case study approach, a method often relied upon for applied social research and evaluation.[26] While Yin (2003) emphasizes that case study research can include both quantitative and qualitative data, qualitative researchers (e.g., Creswell, 1998) highlight Yin's approach as supporting accessible qualitative case study design for new researchers. Yin (2009, p. 3, 8–14) indicates that while the case study method has historically undergone criticism and can be a challenging endeavor, it is the preferred strategy when a study is focused on a

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[26]Scholars (e.g., Stake, 1995) report that many researchers, including Yin, approach case study research from an evaluation perspective. Evaluation involves assessing the strengths and weaknesses of programs, policies, personnel, products, and organizations to improve their effectiveness. See http://www.eval.org/aboutus/organization/aboutus.asp. (See also Weiss, C. H., 1972).

contemporary real-life phenomenon in which the investigator has little control over events, which was true of this study.

According to Creswell's (1998, p. 61) introductory qualitative research text, "a case study is an exploration of a 'bounded system' or a case (or multiple cases) over time through detailed, in-depth data collection involving multiple sources of information rich in context." Other scholars use similar language. For example, Borg and Gall (1989, p. 402) state that a case study involves choosing to conduct a detailed examination of a subject, group, or phenomenon.

Given the shortage of STEM teachers in the City who are designated as HQT, the need to understand early field placements geared to urban teacher preparation, and available access to the Program participants and the Public Charter School (PCS) placement site, which scholars suggest can be both critical and difficult to find (e.g., Creswell, 1998, p. 117), this case study presented an ideal research opportunity.[27] Case studies of the two most common applied learning placements among Program participants, PCS and Summer College, were conducted. Each of these two placements functions as a system bounded by time, place, and participation (see Yin, 2003).

The primary case in this study was placements made through a partnership with PCS, a local public charter school where Program participants assisted mentor teachers in classrooms with students in grades 5 through 8. A second case, Summer College placements, through which Program participants' worked with a federally funded college preparatory program for high school students at the University was also explored.

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[27] Program personnel also expressed interest in using what was learned from this study to shape future Program activities.

Research Questions

The central question driving this study was to determine the degree to which nine MPTEP design principles in preservice teacher preparation (Zeichner et al., 1998)—the theoretical propositions—were reflected in the experiences of Program participants in placements with PCS and Summer College. The following research questions were designed to explore these issues:

Research Question 1. In what ways do the Program's early field placements reflect six multicultural education principles related to preservice teacher preparation activities?

Research Question 2. In what ways do the Program's early field placements reflect three multicultural education principles related to desired outcomes in terms of participants' readiness and commitment to teach in high-need urban schools?

Data Sources and Analysis

In addition to the centrality of a well-chosen case and research questions, Yin (2003, 2009) highlights the foundational importance of pre-established criteria for developing data collection instruments and interpreting the findings. This includes an emphasis on using theoretical propositions as the preferred strategy for analyzing case study evidence (Yin, 2009, p. 130). In line with Yin's approach, the study design was guided by use of the nine MPTEP design principles as theoretical propositions.

The MPTEP panel (Zeichner et al., 1998) did not specify what would constitute research evidence of the principles. I therefore developed a set of matrices from the

MPTEP panel's language, the larger body of literature, and relevant documents to assist in mapping the principles, their elements, and possible indicators to the sources of data in a nested coding system. These matrices are included in their entirety in Appendix B. An excerpt is shown in Table 3-1 to illustrate how the research questions are connected to the MPTEP principles, including an excerpt from each. Following the table to the right, one can see how the elements are nested in the principles and their relationships to the possible indicators the researcher developed from the scholarly literature. Each row shows the relevant data sources, a visual summary of the evidence for that element and, ultimately, links to a visual summary of the evidence for that principle.

Table 3-1 Illustration of Research Design and Analysis

Research Questions	Principles	Excerpt from MPTEP Description^	Elements	Possible Indicators	Data Collected			Summary of Findings: Public Charter School (PCS)	Evidence of Element (PCS)	Evidence of Principle † (PCS)
Q1. In what ways do the Program's early field placements reflect six multicultural education principles related to preservice teacher preparation activities?	*1. Field Experiences Explore Socio-cultural Diversity*	"The program provides carefully planned and varied field experiences that explore sociocultural diversity in schools and communities." (Zeichner et al., 1998, p. 168).	1.3. Placement site focused on culturally responsive teaching	Site supervisors/ mentors focused on culturally responsive teaching	Int ✓	Obs ✓	Doc	- Mentor teachers appeared to be focused on culturally responsive teaching.	●	●⊘
			1.4. Reflection guided by culturally competent/ relevant/ responsive educators	Participants have guided opportunities to reflect on placement experience	Int ✓	Obs ✓	Doc	- Brief routine check-in onsite with mentor teachers - Mentor teachers observed to be culturally competent/relevant/responsive - Limited use of prompted reflection as teaching tool for PCS placement participants	●⊘	

● Evident (at least one notable event/comment, all/most observations/interviews, all participants; OR more than one notable event/comment, most observations/interviews, most participants)

⊙ Partially evident (at least one notable event/comment, all or most participants)

⊘ Not evident/countervailing evidence (more than one notable event/comment that element is not present) (can coexist with other signals)

* Insufficient data

† Conclusion for Principle 1 includes elements 1.1, 1.2, and 1.5, not incorporated above

^ In this study, the MPTEP language was applied to the Program, rather than to a larger University context.

The MPTEP principles were mapped to the Program logic model (Segal & Frechtling, 2009) to explore and illustrate their relevance (see Figure 3-1, Appendix A). A logic model is a visual way of presenting a program's theory of change, or an understanding of the relationships among resources, activities, and desired results (W. K. Kellogg Foundation, 2004). Yin (2003, p. 127) asserts the increasing usefulness of logic models to stipulate a complex chain of events over time. Moreover, because Program personnel might refer to the logic model to guide implementation, connecting the study to the model suggests greater utility of research. Subdivided into inputs, activities, outcomes, and impacts to show possible relationships, the adapted model includes the key elements related to early urban field experiences (Box *ACT 8*), the five MPTEP principles that appear related to all Program activities (Box *ACT 10*), and the three principles closely associated with desired Program outcomes (Boxes *OUT 2* and *OUT 3*).

Figure 3-1 Adapted Program Logic Model

Inputs	Activities	Outcomes	Impacts
	ACT4 University activities outside Program: -Courses -Clinical experiences -Residential experiences		
	ACT1 Establish partnerships: -University departments and programs -Campus and community organizations -Faculty and staff of local schools and colleges	*OUT1* University students gain academic knowledge and skills: -STEM -Education	*OUT4* Program participants become "highly qualified" teachers under NCLB: -Earn STEM degree -Earn teaching certification
IN1 Endowment	*ACT5* Provide financial award	*OUT2* Pre-service teachers gain ability to address student needs: *-Principle 7. Understanding Sociocultural Context of Schooling -Principle 8. Cultural Competence, Relevance, and Responsiveness*	*IMP1* Increase number of highly effective STEM teachers in low-income City schools
IN2 University staff and faculty members' knowledge and commitment	*ACT6* Provide academic professional, and social experiences		
	ACT7 Provide counseling and advising	*OUT5* Program alumni teach in high-need City schools	*IMP2* Increase STEM student interest and outcomes in high-need City schools
	ACT8 Facilitate experiential learning opportunities: *-Principle 1. Field Experiences Explore Sociocultural Diversity*		
IN3 Institutional and in-kind support from University	*ACT3* Provide summer program for incoming cohort		
	ACT2 Recruit and select University student participants		
	ACT9 Provide alumni support	*OUT3* University students develop and maintain social support, confidence, and commitment to teach at high-need schools *Principle 9. Commitment to Educational Equity*	*IMP3* Diminish STEM achievement gap in State schools
	ACT 10: ALL ACTIVITIES *-Principle 2. Multicultural Perspectives -Principle 3. Learning Assumptions and Expectations -Principle 4. Multiple Types and Sources of Knowledge -Principle 5. Exploration of Identities and Cultures -Principle 6. University Programs as Multicultural Laboratories*		

(Adapted from Segal & Frechtling, 2009)

Case study research involves analysis of extensive data drawing on multiple sources of information (Creswell, 1998; Merriam, 1988; Yin, 2003, 2009). In line with Yin's (2003) recommendations, several sources of evidence were used to triangulate findings within each case. These data sources were the following for PCS placements:

- Participant interviews before and after fall 2010 early field placements;
- Observations at PCS;
- Interviews with fall 2010 PCS mentor teachers;
- Interviews with PCS past placement participants;
- Interview with a Program staff member; and
- Review of Program and PCS documents.

Data sources for Summer College placements were:

- Interviews with Summer College past placements participants;
- Interview with a Program staff member; and
- Review of Program and Summer College documents.

Table 3-2 shows the data collection methods as they relate to the two cases in this study.

Table 3-2 Data Collection Methods

Data collection methods	Public Charter School	Summer College
Interviews		
Early field placement participants (before)	✓	
Early field placement participants (after)	✓	✓
Site supervisors/mentor teachers	✓	
Program staff	✓	✓
Observations		
Early field placement participants	✓	
Placement context	✓	*
Document Review		
Scholarly publications	✓	✓
Newspaper articles	✓	✓
Funding proposal	✓	
Staff application forms		✓
Student application forms	✓	✓
Websites	✓	✓

*Restricted to University campus context generally

Program staff notified potential subjects about the study, after which the student researcher sent an email informing them why this research was being done and asking them to schedule an interview (see Appendix C). Prior to the first interview or observation, each study respondent reviewed and signed a two-page consent form (see Appendix D).

Interviews

Interviews with 13 respondents were conducted September 2010 through February 2011, as shown in Table 3-3. All invited participants were interviewed.

Table 3-3 Interviews Conducted

Type of Respondent	Number	Months Interviews Conducted
PCS fall 2010 placement participants	2	September 2010 and January 2011
PCS past participants*	4	October–November 2010
PCS mentor teachers	2	January 2011
Summer College placement participants*	5	October–November 2010
Program Staff	1	February 2011
Total number of interview respondents	**13**	

*One respondent was both a PCS participant and a Summer College participant

The semi-structured interview guide (Appendix E) was derived from the nine principles using the MPTEP authors' language (Zeichner et al., 1998), and supplemented by other published research on the potential for early field experiences in helping prepare teachers for low-income minority urban schools (see Chapter 2) (e.g., Cicchelli & Cho, 2007; Cook & Van Cleaf, 2000; Foote & Cook-Cottone, 2004; Lazar, 2007; Tran et al., 1994). Limiting social desirability response bias was considered essential to this study. Researchers have found that prospective teachers, in particular, may report positive attitudes toward high-need communities on direct inquiry while also making remarks that

demonstrate a negative bias (see, e.g., Ng, 2004; Sleeter, 1993). Therefore, terms like "diversity" and "multicultural education" that may have cued respondents to socially desirable answers were intentionally excluded from the open-ended questionnaire.

The interview guide was adapted for all respondent types. As shown in Appendix E, interviewees were asked about several topics including placement planning, preparation, monitoring, and assessment. They were also asked about the involvement of placement site personnel, families, and communities. The researcher inquired about concepts related to cultural competence, relevance, and responsiveness, and participants' views about educational equity, again using language designed to prompt descriptions in respondents' own words. For example, placement participants were asked what they have learned about understanding students, their cultures, and their academic knowledge and whether that differs at a high-need school. Although a specific question was not included in the interview guide, each Program participant was asked to identify her/his major and teaching certification sought, and to provide background information on the early field placement.[28] Interviewees were invited to share other views about placements that were not specifically queried. Finally, the researcher made note of each respondents' race/ethnicity and gender; these characteristics were not asked specifically, but were mentioned by a few respondents. Three of the nine prospective teachers who participated in early field placements were Black, Latino and/or of mixed race/ethnicity. In addition, three of the Summer College placement participants in this study were male; all PCS placement participants interviewed were female. One of the mentor teachers was female, one was male; one was White and one was Black.

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[28] I recommend including inquiries about demographics in future use of the study questionnaire.

Interviews were audio recorded, with respondents' permission, and the researcher took contemporaneous handwritten notes. Recordings were transcribed. The researcher used handwritten notes to fill in gaps in transcripts and to emphasize points that she had noted as significant during interviews.[29] These transcripts were analyzed using the nested analytic matrix derived from the MPTEP principles. The approach to coding and analysis of all data source will be described below and illustrated in Table 3-5 on page 66.

Participants in Program field placements at PCS during fall 2010 were interviewed on the University campus before their early field experiences began and again by phone about a week after each concluded her time on site. Each interview took approximately forty-five minutes. Interviews of other study respondents lasted about one hour each. Past field placement participant interviews were conducted at University. Mentor teacher interviews were conducted at each respondent's convenience. One was conducted by telephone; one was conducted in the classroom with a placement participant and a student present. A Program staff person was interviewed at her home.[30]

The semi-structured approach offered the researcher the capability to deviate from the guide as needed (see Merriam, 1998). Adaptations were made during interviews to enhance the researcher's understanding of the placements, their context, and respondents' experiences as they might pertain to the research questions. Topics that had been addressed systematically in previous interviews were addressed succinctly in order to focus on unresolved questions and limit the burden on respondents' time.

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[29] The audio recorder failed to record one interview; notes taken during the interview were typed up and used in place of a transcript.

[30] University was delayed in opening due to weather on the day of our scheduled interview.

Observations at Public Charter School

Two participants in Program early field placements were observed at Public Charter School (PCS), the primary case selected for this study. The study design called for three to five observations of about one hour each of each fall 2010 participant. A total of 12 observations were conducted across six dates, scheduled in consultation with placement participants and PCS mentor teachers to adapt to classroom activities. Notably, although class periods at PCS are typically an hour and a half in duration, other activities conducted during the school day on several observation dates reduced classes to about one hour each. On occasions where the class periods were shorter, multiple observations were completed, as seen in Table 3-4.

Table 3-4 Observations Conducted at Public Charter School (PCS)

Description of Observation	Date	Grade	Subject	Class Period
Observations of PCS School Context				
Building and class transition	Nov 2010	N/A	N/A	N/A
Class meetings	Dec 2010	7 and 8	N/A	N/A
Observations of fall 2010 participant 1				
Short period—after awards program	Nov 2010	6	Math	1
Short period—after awards program	Nov 2010	6	Math	2
Short period—before early dismissal	Dec 2010	6	Math	1
Short period—before early dismissal	Dec 2010	6	Math	3
Participant's last week at site—full period	Jan 2011	6	Math	4
Observations of fall 2010 participant 2				
First observation—full period	Nov 2010	8	Math	2
Short period—before high school/college prep	Dec 2010	8	Math	1
Short period—before high school/college prep	Dec 2010	8	Math	2
Last part of another teacher's class	Dec 2010	7	Math	2
Participant's last week at site—full period	Jan 2011	8	Math	3

Participants began their placements in October 2010. After briefly discussing with them when placement and study goals might be likely to surface, it was determined that a flexible monthly schedule would maximize study opportunities and cause the least disruption to classroom activities. This was driven in large part by the Program's benchmark goals for the placement, which included understanding and articulating the PCS model within the first 30 classroom hours (about a month), collaborating with mentor teachers on the design and co-instruction of lessons within 60 classroom hours, and leading lessons by the conclusion of the placement.

The researcher reviewed the study matrix prior to each day of observation and took synchronous field notes guided by an approach—jottings—described by Emerson, Fretz, and Shaw (1995).[31] These jottings, sometimes called scratch notes in ethnographic research, were used to help the researcher be more conscious of and preserve what was observed. Emerson and colleagues (1995) emphasize the importance of recording dialogue, movement, spatial relations, moods, rhythms, and tone of voice. They explain: "details experienced through the senses turn into jottings with active rather than passive verbs, sensory rather than analytic adjectives, and verbatim rather than summarized dialogue" (Emerson, et al., 1995, p. 35). Writing field notes is a process that is intuitive and empathetic, reflecting the researcher's changing sense of what will be most important to future readers, as well as to the people being observed. The authors (Emerson, et al., 1995, p. 5, 26–35) indicate that there is no one "correct" way to write notes, but offer the following specific recommendations of what to jot to create vivid descriptions:

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[31] Field notes excluded personal characteristics of students that might make them identifiable in the data or reporting.

- Initial impressions of the physical setting and the people within it that might show meaningful patterns in the future;
- Key events based on the researcher's experience, intuition, and growing understanding of what those in the setting regard as important;
- Close, textured description of key details that the researcher could forget (e.g., "evocative pieces of broader scenes," dialogue); and
- "Concrete sensory details about actions and talk" and expressed emotions.

These scholars encourage novice researchers to record their general impressions and feelings, but limit generalizations, characterizations based on opinion, and explanations of individuals' internal states or motivations. Notes of this type are intended to elicit vivid memories and images when the researcher transcribes and reviews the notes for analytic coding (see Emerson, et al., 1995). To further preserve details observed, the student researcher typed up each set of jottings within one week of the observation.

Classroom observations were audio-recorded, recognizing that recordings capture only a slice of what transpires (see Emerson, et al., 1995, p. 9) and the limitations to audio quality when recording interactive classroom activities. In fact, most portions of recorded observations were difficult to understand when played back later and one was inaudible. Still, the researcher listened to these recordings during data analysis to refresh her memory of the overall classroom experience at PCS.

In addition to observations in mentor teachers' classrooms, two observations were conducted in and around the school building; these were not audio-recorded. The building and class transition were observed on the researcher's first day at PCS. On another occasion, morning grade-based meetings of teachers and students were observed. Additionally, part of a class period was observed in a classroom in which a fall 2010 participant frequently observed.

Document Review

Available documents related to the Program, PCS, and Summer College were collected and analyzed beginning in the design phase. Yin (2003, 2009) explains that documentary information is relevant to virtually every case study topic. Written reports, proposals, evaluations, and newspaper articles offer exact, broad coverage and are unobtrusive to collect, although researchers must be alert to bias and other limitations (Yin, 2003, p. 85–88). As shown in Table 3-1 above, scholarly publications and recent newspaper articles providing background on both PCS and Summer College were reviewed. Other documents related to the PCS placement included a Program-PCS funding proposal provided by the Program, PCS student application forms found online, and general PCS web pages. A few unique documents were pertinent to the case study of Summer College placements: general Summer College web pages and both student and staff application forms. These documents were analyzed using the nested coding system provided by the study matrix and incorporated into the results as relevant.

Qualitative Data Coding and Analysis

In line with Yin's recommendation to use theoretical propositions for analyzing case study evidence (Yin, 2009, p. 130), the researcher developed and used a set of matrices (see Appendix B) with nested codes to organize data and explore relationships among them. Analysis was done iteratively, following Miles and Huberman's (1994) two-step model, first reducing the transcribed data, then abstracting it for display as part of dissemination.

According to Miles and Huberman (1994), data reduction is the process of selecting, focusing, simplifying, and transforming the data that appear in field notes and transcriptions. The nested coding system of MPTEP principles, elements, and potential indicators that guided data collection was refined during analysis based on themes that emerged from the data. Changes in the indicators used are identified in the discussion of findings in Chapters 4 and 5. Furthermore, two supplementary topics of inquiry were incorporated into analyses and reporting: background on the individual early field placement participant, including major and teaching certification sought, and information about the placement structure.

The researcher annotated data from interview transcripts, field notes, and documents using the coding matrix. [32] During the first reading of each data source, the researcher made notes regarding potential indicators, shown in bold in the left column of Table 3-5. The researcher then reviewed the annotated data across sources for each MPTEP principle to draw conclusions and select key examples. More than a single source was required as evidence of the applicability of an MPTEP principle to a placement, but a statement from a single source could support or counter the presence of more than one principle.

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[32] Initial plans to use computer-assisted qualitative data analysis software to code proved more burdensome than beneficial, with the theoretical categories that were not mutually exclusive and a relatively small body of data. Although Yin (2003) notes the potential benefit of software programs to manipulate qualitative data, he also cautions against undue reliance on them.

Table 3-5 Coding Illustration

Indicators/ Other notes	Excerpt from early field placement participant interview transcript	MPTEP Principles	Elements
	How you feel like they're preparing you as a teacher. Do you feel confident?		
-Confidence teaching in high-need school **-General teaching confidence**	I definitely feel more confident. I also feel like I have a greater awareness of what being a teacher entails. Not just teaching in front of the class, it's all that other stuff as well. I remember as a kid I was like professional development day, that's just an excuse for teachers to, whatever. I'm like, oh, no, they actually have a lot of stuff to do.	Cultural competence, relevance, and responsiveness	Participants are confident and comfortable about teaching in high-need schools
-Teachers/ supervisors/ other placement site staff mentor participants	And it's a good opportunity also to get feedback from administrators and, within their own grade level as well, definitely. And that's another thing I like about [PCS] is communication between the different subjects for the grade levels. I don't know if that happens normally in most schools but the impression I got at my high school is that the science department did not talk to the social studies department. So by virtue of its small size and other things, [PCS] is able to get people together.	Multiple types and sources of knowledge	Faculty/staff knowledge
	Did you have any interactions with [Program staff] or other folks from the Program?		
Participant, Program staff communicate during placement **- Asked by Program staff for reflective feedback on lesson**	Not really. I checked in with [Program staff] a couple of times. I told her what I'd just recently done and she asked for my mentor and my feedback concerning the final lesson that I taught and I gave that to her. I think that was more just for me to get feedback from my mentor and then for her to see where we were both coming from. I didn't talk to [another participant]. I didn't see her really at all.	Principle 1: Field Experiences Explore Sociocultural Diversity	Participants' placement planning and monitoring

Reporting and Data Display

Yin (2003, p, 155–160) stresses the importance of reporting, with a focus on identifying audience(s), starting the writing process early, and maintaining respondent anonymity.[33] Members of the faculty at the student researcher's university and other scholars in the community are the primary audience for this study; the structure of the text, which was developed iteratively, is typically linear-analytic (see Yin, 2003, p. 152–153). Program personnel and other practitioners interested in early urban field placements are also an important audience.

In addition to the text, the study matrices were used to support the display of data and conclusions. Many scholars have suggested visual ways to portray and compare complex relationships (see Miles & Huberman, 1994; Onwuegbuzie & Dickinson, 2008; Rog, Boback, Barton-Villagranna, Marrone-Bennett, Cardwell, Hawdon, Diaz, Jenkins, Kridler, & Reischl, 2004; Rosenberg & Yates, 2007; Tufte, 2001; Yin, 2003, 2009). For example, Tufte (2001) described Harvey Balls, a graphic approach similar to the depiction of evidence used in the study matrix, as a "particular ingenious mix of table and graphic." Effective visual display is particularly important when working with qualitative multi-source data (see Onwuegbuzie & Dickinson, 2008) and/or case study design (see Rosenberg & Yates, 2007), when transparency can be difficult to achieve (see, e.g., Yin, 2003). Various forms of the study matrix were manipulated to organize and display connections between the research questions, MPTEP principles, elements,

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[33] Exercising caution about participants' privacy by complying with human subjects requirements is a researcher's ethical obligation. Names of study participants were excluded from reporting and personally identifying information that might provide readers with cues were limited to the greatest degree possible. Since the Program itself is small and unique in its context, efforts were also made to mask the name of the university, city, and state.

indicators, evidence, and results (see Chapters 4 and 5 and Appendix B). This technique was particularly useful in analyzing and illustrating the degree to which the principles were evident in each of the two placements and incorporating examples and summaries for each case across respondents.

Study Limitations

Several discrete limitations should be considered when interpreting the findings of this study. First, the research was designed to explore a small, localized program's activities for prospective teachers. It examined two purposively selected early field placements and, for all but two participants' experiences, provided a one-time retrospective view. Therefore, although the findings may inform our understanding of other early urban field placements, the findings cannot be generalized.

Second, as described above, the MPTEP panel did not indicate how the principles might be used to guide research. While the MPTEP scholars' language and the larger body of scholarship were central to the development of the elements and indicators used in this study, they may not reflect precisely what the panel intended or other scholars might emphasize.

As is true of all research, there were limitations to the data collected. Data sources for Program placements at Summer College only partially fulfilled Yin's call for triangulation (see Yin, 2003, p. 99–125). There was no opportunity to confirm or supplement participant interview data with direct observation or interviews with Summer College personnel. Moreover, the study relied on the capacity and willingness of interviewees to accurately recall and describe events, some of which transpired several

months prior.   Efforts to limit social desirability response bias, such as removing terms like "diversity" and "multicultural education" that could have cued respondents to report more positive attitudes than they may actually have held, could have been insufficient; it is possible that participants held views than they were unwilling to report about their placements, or about teaching in high-need urban communities. Thus, forgotten or unreported details might have positively or negatively affected the study findings.

Finally, it is important to acknowledge the potential threat to objectivity given the student researcher's interest in improving outcomes for urban schools and past evaluation work performed on behalf of the Program under contract with the University. As Yin (2002) suggested, the idea of objectivity is important and is always relevant to the validity of a case study, although familiarity may also benefit the research. It is imperative that a researcher be "unbiased by preconceived notions, including those derived from theory. Thus, a person should be sensitive and responsive to contradictory evidence" (Yin, 2002, p. 59). In addition to reliance on the MPTEP principles as theoretical propositions, the researcher endeavored to remain neutral and evenhanded by incorporating a breadth of scholarly and factual sources.

Summary

This chapter has presented how a multiple case study using Yin's (2003, 2009) approach was used to investigate how two Program early field placements reflected the nine MPTEP principles (Zeichner et al., 1998), namely six principles related to preservice teacher preparation activities and three principles related to desired outcomes in terms of participants' readiness and commitment to teach in high-need urban schools. It has

presented the research questions for exploring Program early field placements with PCS and Summer College, and described the interviews, observations, and documents used to explore those questions. It has described the set of study matrices based on the MPTEP principles used to design the study, support analysis, and display results. The discussion will now turn to the findings of the study as they relate to Program placements at PCS.

Chapter 4: Findings from Public Charter School Placements

This chapter reports the findings of the study as they relate to Program Fellowships, or early field placements, at Public Charter School (PCS). The introductory section summarizes participants' self-described academic characteristics and teaching aspirations (e.g., major field of study and teaching certification sought), as well as characteristics of the placement context (i.e., school and community demographics). The remainder of the chapter describes the study findings for the PCS placements related to each of the two research questions:

Research Question 1. In what ways do the Program's early field placements reflect six multicultural education principles related to preservice teacher preparation activities?

Research Question 2. In what ways do the Program's early field placements reflect three multicultural education principles related to desired outcomes in terms of participants' readiness and commitment to teach in high-need urban schools?

Within the context of each principle and associated elements derived from the literature and public documents reviewed (see Chapter 2 and the matrices in Appendix B), the discussion describes the findings related to the PCS placements and presents salient data from interviews with placement participants, mentor teachers, and Program staff, school observations, and publicly available documentation regarding the Program and PCS. The chapter concludes with a summary of the findings for PCS placements based on the two research questions.

PCS Context, Placement Participants, and Placement Structure

The following description of PCS and the surrounding community are intended to provide context for the findings regarding this early urban field placement. PCS is located in the northwest portion of a mid-Atlantic city, about 10 miles away from participants' University. It is an open-enrollment public charter school serving approximately 330 students in grades 5 through 8. Based on the signage on and around the building and Internet research, PCS shares a building with two other charter schools serving middle and high school students. Interview data and the school website were in agreement that students entering 5th grade citywide can participate in the annual lottery of applications received but that the emphasis is on recruiting students from neighborhoods near the school. The following interview quotes illustrate this.

> *PCS definitely wants to commit itself to a neighborhood and to serve populations that are underserved. It doesn't just accept kids from [this neighborhood]. Two weekends ago a bunch of teachers went out into the community and went door to door and said, hey, we have this school, it's really successful, do you want your kid there, trying to get information out, trying to get them to apply. (PCS mentor teacher 1)*

> *This Saturday and also January 8 is a door-to-door to recruit in [two specific] zip codes. Teachers, staff, PTA, and Board members knock on doors of families and friends of students. Children participate in the lottery process. (PCS mentor teacher 2)*

PCS fits the general demographic profile of a predominantly Black low-income urban school. Sources agreed that almost 100 percent of the students enrolled at PCS are Black. Public data about City schools show that PCS has a school-wide Title I program; PCS was reported by several interviewees to provide breakfast, lunch, and an afternoon snack to students on site. To provide further background about the area in which the

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school is located, Table 4-1 displays selected U.S. census data for the zip code in which

the school is located and national data (U.S. Census Bureau, 2000), supplemented with

recently available U.S. census data for the City and national data.

Table 4-1 Selected Local and National U.S. Census Data

Characteristics	PCS Zip Code (2000)	National (2000)	City (2010)	National (2010)
Black or African American	80.9%	12.3%	65.1%	13.6%
Hispanic or Latino (of any race)	1.2%	12.5%	4.2%	3.9%
Renter-occupied housing units	48.0%	33.8%	52.3%	30.3%
Vacant housing units	11.0%	9.0%	15.8%	13.2%
High school graduate or higher	69.4%	80.4%	77.2%	85.6%
Bachelor's degree or higher	15.9%	24.4%	24.6%	28.2%
Disability status (5 years of age and over)	28.9%	19.3%		
Median family income	$33,646	$50,046	$38,346	$49,445
Families below poverty level	19.5%	9.2%	25.6%	15.2%

Of note in the PCS area are several factors linked to high-need urban populations

(see Chapters 1 and 2), namely lower income, higher poverty, and lower educational

attainment than the national average. For example, 2010 census data show 25.6 percent

of City families live below the poverty level, compared with 15.2 percent nationally.

Class sizes varied considerably. The largest class observed was a group of 34

sixth grade girls. The smallest class observed was an eighth grade class of 19 students.

PCS is part of one of several organizations of schools focused on implementing

whole school education reform in urban areas. This affiliation includes very specific

common elements, among them an extended school day, rigorous curriculum, and efforts

to build strong family-school connections. These strategies, targeted to raising the

academic achievement of at-risk urban students, and the student outcomes associated with them are the subject of a growing body of scholarship. Although both the exploration and critique of this model are beyond the scope of this research, aspects will be addressed when relevant to data and findings from this study.

PCS incorporates three weeks of additional schooling each August, has an extended school day of more than nine hours, and requires students to wear uniforms. All respondents mentioned the additional time devoted to academics as critical to the PCS mission and goals. For example, mentor teacher 1 said it "creates the most results and sets it the most apart from other schools." However, this teacher added that despite teachers' efforts to keep learning fun, some students jokingly liken the school to a prison. Additionally, all students were seen in uniform—polo or oxford shirts and black pants— except during the observations conducted on Fridays. There was a focus on clear expectations and consequences for violating them. One of the first impressions made during an early observation was the use of a mentor teacher's articulated expectations, for example, "If you can't do that silently you will be fired from your job [as helper]. If you're talking, that's not what we do and there is a consequence." At grade-based meetings, students discussed being in the "improvement zone" based on not meeting expectations, as well as their thoughts about why they should follow the rules. One mentor teacher told a student that he was receiving a "U" for talking out of turn at the end of the class period and in the hallway. Furthermore, students were reminded at least once in each teacher's classroom to "track" the person who was talking, meaning to silently lean forward and follow the speaker with one's eyes. One mentor teacher said, "Can we all track her please. Look and listen." On another occasion, she said, "[student] is

talking. She deserves that same respect I deserve."

State data show an attendance rate of 96.2 percent at PCS for 2009–10, similar to current school attendance data reported in the January 2011 PCS newsletter and seen posted on hallway walls. This was higher than both the 93.2 percent attendance rate for City middle schools (grades six through eight) and the 94.3 percent rate for fifth grade citywide. However, it was lower than the goal of 98 percent reported in the school newsletter.

The entrance to the school was locked each time I arrived. As a guest, I gained access for each observation by pushing a call button and requesting to be buzzed in by the main office staff. On entering, I was greeted by the staff and, upon their request, signed in, took a yellow "Visitor" sticker, and, on the first two occasions, was directed to the classroom to be observed. I saw police cameras at major intersections about a mile from the school, but noticed the sound of sirens in the background only once during my observations.

Each of the PCS early field placement participants was asked to describe her academic background and individual early field placement at PCS. Table 4-2 displays each participant's placement semester at PCS, the classroom in which she was placed, participant's major field of study, and teaching level certification sought. For context, it also includes general notes about participants' involvement in the Program and teaching/tutoring experience prior to or concurrent with the PCS placement. Six respondents participated in Program early field placement Fellowships at PCS. They are listed in reverse chronological order, beginning with fall 2010, when the majority of the data for this study were collected.

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Table 4-2 Summary of Public Charter School Placement Participants

Semester at PCS	PCS math classroom	Major	Certification sought	Notes
Fall 2010	6th grade	Math	Secondary (middle school)	-Undergraduate, entered Program as freshman -Prior/concurrent experience teaching Sunday school and physical education at small private school
Fall 2010	8th grade, 7th grade observed	Math	Secondary (high school)	-Master's student, new Program affiliate -Prior experience tutoring math at community college
Spring 2010	7th grade	Math	Secondary	-Undergraduate, entered Program as sophomore *Also interviewed about Summer College placement
Spring 2010	6th and 7th grade	Math	Not stated	- Undergraduate, entered Program after transfer from rural community college
Fall 2009	6th grade	Math	Elementary	-Undergraduate, entered Program as freshman -Prior volunteer experience at science and technology secondary school in the City -Prior volunteer experience at charter boarding secondary school in the City
Spring 2009	7th grade	Math	Secondary (middle school)	- Undergraduate, in Program after transfer from out of state -Prior work experience in informal education

There was general agreement among PCS placement participants and confirmation by Program documentation and Program staff that each Fellow spent 120 hours or more engaged in the PCS placement. A Program document indicates that at the conclusion of each semester, each Program Fellow would receive a stipend of $1,800 ($15 per hour for 120 hours) and each PCS mentor teacher would receive a stipend of $1,000 for each prospective teacher supervised; this was confirmed by Program personnel. Each placement participant was onsite at PCS on one or two days each week during all or most of a University semester, as well as a week or more during a University break. The following is an example of placement participants' descriptions in this regard.

I knew that I was expected to be there a certain number of hours, a certain number of days and I guess I was considering going just once a week but I tried to go more than that…For my spring break I was there every single day. (PCS placement participant 6)

The data showed that the levels of engagement with lesson planning and facilitation were intended to and did increase throughout each placement. Both fall 2010 participants spent most of their time at PCS observing lessons facilitated by their mentor teachers and assisting students individually and in small groups, particularly early on. The following comment is an illustration.

I played a supportive role in the classroom. I would help make sure kids were on task and answer questions they might have, and I observed. (PCS placement participant 1)

Past placement participants reported variation in their levels of direct engagement with students, particularly at the start of their placements. Three distinct examples follow, including one that makes a direct comparison to others' PCS placement experiences.

Immediately [the mentor teacher] put me with students that had IEPs [Individualized Educational Programs] and needed additional support, as an in-classroom tutor right next to them. That happened right away.. Any time they were doing group or individual work, or anything that wasn't focused on the board, they came back and [the mentor teacher] focused into the classroom. (PCS placement participant 4)

When I was first there for a while, I didn't really interact with the kids. I sat back and observed a lot and I wrote a lot of notes, about how she managed the class mostly. (PCS placement participant 5)

I didn't see as much instruction as other [Program participants] who were working with [PCS]. (PCS placement participant 3)

The cause of this variation was not clear from the data.

All interviewees agreed that PCS Fellows had increasing levels of responsibility in the classroom over time. This included working with individual students and teaching lessons to an entire class. The following two interview quotes are illustrative.

> *It's pretty similar [to other internship placements]. There's always some sort of requirement that that they need to work their way into a more active role in the classroom starting with just sitting in the back and observing and then walking around and interacting a little bit, to teaching maybe one or two slides from a lesson and then maybe teaching a full lesson. (PCS mentor teacher 1)*

> *It helped me understand a lot more about what being a teacher means. I liked [PCS] a lot, the actual experience, because I was able to work with my mentor teacher, which is great. I observed during first period and then worked with the second two. (PCS placement participant 1)*

The two fall 2010 PCS mentor teachers[34] working with Program Fellows taught mathematics in grades six and eight, respectively. They had each been teaching for approximately five years, but both had come to PCS after teaching at other schools. One had previously taught middle grades in another mid-Atlantic high-need urban district; the other started at PCS in spring 2010 after teaching at high schools in a northeast high-need urban district and briefly at a middle school in the district in which PCS is located. Interestingly, both fall 2010 PCS mentor teachers entered teaching through residency/fellows programs.

Principles Guiding Activities: PCS Placements

The discussion turns to the findings regarding in what ways Program early field placements at PCS reflected six MPTEP principles related to preservice teacher preparation activities. The section representing each of the six principles will incorporate

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[34] Past mentor teachers were not interviewed for this study. One fall 2010 mentor had supervised other Program Fellows in the past.

language from the MPTEP panel and set forth the elements derived from the literature (see Chapter 2 and Appendix B), possible indicators that were identified before interview and observation data were collected, and any additional indicators that emerged from the data. The text will summarize the relevant data from the multiple sources and include key examples.

The data were complex and variable for the elements within each principle, as well as across principles. Some MPTEP principles were clearly reflected in Program early field placements at PCS, while others were less so for particular elements or in their entirety. Discussion of the relevance of the MPTEP principles to PCS placements will begin with the principle thought to be most relevant to this study—*Principle 1: Field Experiences Explore Sociocultural Diversity.*

Principle 1: Field Experiences Explore Sociocultural Diversity

> The program provides carefully planned and varied field experiences that explore sociocultural diversity in schools and communities (Zeichner et al., 1998, p. 168).

Close examination of the MPTEP panel's language, related literature, and publicly available documentation led to the identification of the following elements related to field experiences:

1.1. Careful placement planning and monitoring;

1.2. Careful preparation for placement;

1.3. Placement site focused on culturally responsive teaching;

1.4. Reflection guided by culturally competent, relevant, and responsive educators; and

1.5. Placements incorporate the community.

Each will be discussed in turn.

1.1. Careful placement planning and monitoring

The possible indicators of this element that were identified before data were collected were that the participant, site supervisor, and Program staff communicate before the placement and during it. There was partial evidence that early field experiences were carefully planned and monitored, and also countervailing evidence.

All PCS early field placement participants indicated that they communicated regularly and effectively with Program staff during their PCS Fellowships. However, the evidence suggests that these in-person and email communications were conducted "as needed" about a variety of topics and were not specifically intended to monitor the PCS placements. The following interview comment is illustrative.

> *I always come to see [Programs staff] to check in. I like to come and stop by and say hi because she makes it really easy to just come talk to her. (PCS placement participant 6)*

In addition, several participants referenced hearing about the experience at PCS from other Program participants who had previously participated, including a few who resided on the University's residence hall living-learning floor for aspiring teachers.

It was also evident from interviews that mentor teachers for the fall 2010 semester did not communicate directly with Program staff. Instead, teachers coordinated with a PCS staff member, who in turn communicated with Program staff, and these communications were minimal. The following interview excerpt is an example.

> *They just asked me would you like a [Program] Fellow, and I said, sure…I think it was [school coordinator]. And that was it. (PCS mentor teacher 1)*

Interviews with Program staff and past PCS Fellows show that communication at the launch of past placements was somewhat greater. There had been a meeting at the outset of the Program-PCS partnership that included Program staff, PCS Fellows, PCS mentor teachers, and the PCS school coordinator, as illustrated by the following description.

> *I met my teacher the day I went there with [Program staff] and we talked with the coordinator. I think she was a guidance counselor. We went over what days I could come. I had to get a volunteer pass, and then I went and started. They gave me an overview of the school during that time and introduced to me to the teacher I was going to work with. (PCS placement participant 5)*

During the 2010 PCS placements, each of the participants was in regular contact with her mentor teacher both during time spent at the school and outside of it.[35] One of the fall 2010 participants, placement participant 1, talked with mentor 1 by phone each evening before she spent time at the school; mentor teacher 2 communicated with her placement participant primarily by email. The following interview excerpt is an example of the pattern of communications.

> *I think the best situations were where she came and observed for two days in a row, so one day she observed and interacted and then at the end of that day she had a good sense of where the kids were and so we thought together about what the next lesson could look like and did some of the planning. Then we talked at night and I told her about the slides and discussed more details. (PCS mentor teacher 1)*

There was countervailing evidence to suggest that some aspects of planning and/or communication prior to the placement were quite limited in fall 2010, the only time that data were collected before participants began placements at PCS. Fall 2010

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[35] This topic was not explored with past participants.

participants' knowledge about the placements in interviews prior to their start was

incomplete and the tone reflected uncertainty.

> *Well right now I'm actually not too familiar with it…my understanding is that I'll be going and shadowing a teacher in an urban area for a couple hours a week …We're all meeting this Saturday and I think placement is going to happen soon after that. (PCS placement participant 1)*

Other limitations in communications were identified. Several PCS Fellows noted some

unanticipated changes in lessons between planning and implementation, as shown in the

example below.

> *She would give me an idea and say, I should be discussing this topic next week. I might have you work with a group of students. But then some days I'd go in and I'd spend the whole day observing. So from week to week, I never really knew if I was actually going to be working with the students or if I was sitting there observing. (PCS placement participant 2)*

1.2. Careful preparation for placement

The possible indicators of this element that were identified before primary data

were collected were that the participants are aware of the Program educational

philosophy before placement and introduced to the site context before placement.

Interviews with fall 2010 participants prior to their placements demonstrated that

participants' understanding of what would be expected of them and confidence about

their abilities to meet those expectations was an important indicator to add. There was

partial evidence that participants were prepared for PCS placements in these ways and

also evidence that suggested the preparation was less "careful" than that emphasized by

the MPTEP panel.

The Fellows interviewed before placements were aware of the Program mission,

but were uncertain about articulating it. The general message was that the Program was

designed to improve STEM in high-need city schools. The following comment is illustrative.

> *I'm not sure what it is exactly but from what I understand, our educational philosophy is basically to do our best to help students become stronger in the STEM subjects, especially in high-need schools. (PCS placement participant 2)*

This message was consistent with other respondents' descriptions of the Program's educational philosophy or mission (see *Multicultural Perspectives).*

There was evidence that PCS placement participants had only very basic knowledge about the school and surrounding community prior to placement. PCS Fellows knew that it was a charter school serving a predominantly Black community in the City, but did not know more until after they began their placements.

> *I got the impression that it was not necessarily a magnet school but it's kind of a special school that you can apply to go to but still public though, right? (PCS placement participant 1)*

> *It's a charter school and, from what I understand, they have a somewhat rigid program and the students have these expectations… I'm pretty sure that they come from low-income families but that's all I know. (PCS placement participant 2)*

In addition, several participants referenced hearing generally about the experience at PCS from other Program participants who had previously completed PCS early field placements, including a few who resided on the University's residence hall living-learning floor for aspiring teachers.

Participants' understanding of what would be expected of them and confidence about meeting those expectations was added as a study indicator during data collection. As referenced above, the interview data show that participants did not fully understand what would be expected of them at PCS. Notably, in interviews regarding the fall 2010

placements, participants described feeling unprepared. The tone of their comments

suggested that more information would have been welcome, as shown below.

> *I'm still not exactly sure what I will be doing, what my role will be. (PCS placement participant 2–before)*

> *I was not prepared at all. I had no idea what to expect or what I was going to be doing up until I went back in January… The first couple times going there, I didn't know what I was going to be doing, how the class was going to be set up, or anything like that. (PCS placement participant 2–after)*

A few past participants echoed the sentiment, as illustrated by the following

example.

> *I didn't really know what I was going to be expected to do. I knew that I'd be there assisting the teacher, possibly doing some teaching of the entire classroom. (PCS placement participant 6)*

1.3. Placement site focused on culturally responsive teaching

Exploring PCS's efforts in the "process of working toward more culturally

responsive and multicultural teaching" (see Zeichner et al., 1998) would be a study in

itself. The researcher operationalized this inquiry by generally applying the indicators

derived for the principle *Cultural Competence, Relevance, and Responsiveness* from the

MPTEP panel's language and related literature (e.g., Delpit, 1996; Ladson-Billings,

1994) to the two PCS mentor teachers observed in this study, and found these teachers to

be focused on culturally responsive teaching for purposes of this research using the

indicators developed from the MPTEP principles and related literature, although data

regarding some other members of the faculty and staff suggested a work in progress. It

was consistently observed at PCS and referenced positively in interviews that mentor

teachers addressed multiple learning styles in the classroom, adapted lessons based on

student cues, talked with parents/guardians regularly, often worked with students outside

of class time, and that all/most students routinely participated in class. For example, on

each occasion that the researcher observed each fall 2010 mentor teacher's math

classroom, she noticed all or most students raising their hands to participate. This is one

indicator that the teachers were using knowledge that students bring to school to help

them engage and learn. Even a staff person who came to talk to the eighth grade class

about college during one observation engaged the students in learning about argument by

first talking about issues that mattered to them, such as their own families. Interviews

with PCS placement participants corroborated this. For example, Program early field

placement participants at PCS mentioned teachers reviewing and building on what

students know and also talking with parents when needed.

> *They start from the basics and they're just building on top of it. That's how [mentor teacher] always did it. She told me it's better to start out too simple than thinking they know something they don't… The kids really know a lot, and they're constantly being reviewed. That's what I saw [mentor teacher] do the best. (PCS placement participant 5)*

> *[Mentor teacher] was never hesitant to call the parent whenever a situation occurred. (PCS placement participant 3)*

Mentor teachers were also described as affirmatively avoiding a "blame the

victim" (or cultural deficit) orientation toward urban students, something of concern to

scholars in the field. This can be seen in the following descriptions of the fall 2010

mentor teachers.

> *[Mentor teacher] is very responsible in terms of not finding a scapegoat with the students. If they're not learning, [mentor teacher] is very self-reflective, like what can I do better. (PCS placement participant 1)*

You have to be a great teacher to have self-reflection, to know you're messing up when you're messing up. It's not the kids and to realize that. And I think [mentor teacher] did that. (PCS placement participant 5)

As another example, one participant described a way that her mentor teacher used sayings to encourage students to participate while simultaneously providing cues to their engagement, a technique the researchers had observed her using.

If the teacher was explaining a topic, she would say "are we clear"? All the kids would respond, "crystal." I was like, what are they doing? Oh, crystal clear. That's really neat. Because it makes sure that they're all paying attention. (PCS placement participant 2)

During one class period observed, the mentor teacher said, "Give yourself a hand clap." Students clapped once. "Give yourself a hand clap." Students clapped once again. "Get out your thinking skills."

Interviews with the mentor teachers added depth to the researcher's understanding on this point. As an example, one teacher's comment about using students' knowledge in planning instruction and helping them to learn referenced working with students outside of the classroom and talking with parents/guardians.

It's a process. Our goal at [PCS], which is not unique in schools that want the best for students, is that we meet them where they are. Many of our students are behind academically and some lack social skills needed to enter and matriculate in and through the best high schools and colleges. It takes educating parents, giving students opportunities outside of the classroom, basic skills as well as developing critical thinking…In all cases it takes time for students to make adjustments/changes. (PCS mentor teacher 2)

Individual high school acceptance letters for school year were posted on the wall outside the eighth grade classroom, beginning with the high school class of 2010 through the class of 2014. Each student is wrote "Class of 201X" on his/her papers, showing the year

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in which he/she expected to graduate from high school. For example, the sixth graders were the class of 2017.

There was evidence in both mentor teachers' classrooms that the teachers offered students considerable encouragement throughout each lesson. Comments such as "Give yourselves a pat on the back. You did a great job!" and "you guys are experts at solving equations" were common." In one class, mentor teacher 1 was heard saying, "You have all done really well on assessments. You've done well because you've worked hard. You'll keep being successful."

Both mentor teachers encouraged students to stretch their skills. During a particularly difficult lesson on inequalities, mentor teacher 1 said, "Take notes on this. This is difficult. When I see this I have to think about it….Maybe we need to talk more about how inequalities work…I haven't done a good job teaching this. That's clear. It's different from an equation. Not just one number solves it." During a quiz, mentor teacher 2 said, "I like what I see. People aren't guessing. They're solving. Please don't think that you can do all the work in your head."

Negative behavior was often redirected without punishment or "consequences," for example, "You're distracting others and yourself."

In addition, there appeared to be a fond familiarity between students and teachers that supported instruction. For example, a sixth grade student asked for a pin for her blouse "to prevent cleavage." Another student offered her one and the (female) teacher later said to me "That made my day, that is adorable." References were made to students coming to both mentor teachers for additional support, as well as conversation, during lunchtime.

Interestingly, one mentor teacher's remarks included a specific reference to Lisa Delpit's 1996 text, *Other People's Children*, a central contribution to the field on the topic of cultural competence, relevance, and responsiveness, particularly as it relates to teaching Black children. As shown below, the teacher reflectively described both recognizing and adjusting to the culture of students' urban community, and also helping the students to be culturally competent in the dominant (White) culture.

> *Delpit helped me realize that one of the biggest gifts that I could give to my kids is my own knowledge of my access to the 'culture of power,' she called it... I should make adjustments so that I can sit well in the community that I'm entering and so that I can be an effective teacher there. But also that I shouldn't forget that one of the biggest resources that I have access to is my own understanding of the culture of power and that that needs to be shared with the kids as well. (PCS mentor teacher 1)*

While the prevailing evidence supports the conclusion that the two fall 2010 mentor teachers were culturally responsive, data about individual members of the PCS faculty and staff at large suggest that the school's work toward more culturally responsive teaching may be incomplete. While they are worthy of note, their impact on the culturally responsive efforts of PCS more generally are unclear. A staff member who served as a mentor teacher's substitute during three observed periods was more rigid with students and seemed less effective at keeping them engaged. For example, the staff member gave students numerous reminders that he would send students out of the classroom for talking or leaving their seats without permission, something not heard from the mentor teachers observed. In addition, two students had a verbal altercation and one was sent to the office, the only such interaction the researcher witnessed at the school. In fact, the placement participant in that classroom commented to me that she had never seen the students behave like that and added, "He told several students, in other classes

too, they were going home. They already have a half day. It doesn't seem effective."

She had not previously seen them under the guidance of a staff member other than her

mentor teacher and indicated that she had observed the students have a more relaxed and

friendly relationship with this staff member outside the classroom during the change of

classes. In addition, two PCS field placement participants mentioned teachers in

neighboring classrooms and described ways in which they were audibly disrespectful to

classes, as a result not well respected by students. For example, one mentioned hearing

the teacher yelling at students through the classroom wall. Finally, one participant

indicated that a teacher, within earshot of a student, indicated that providing him with

additional help at the end of the school year was unnecessary since he was unlikely to

pass the course.

1.4. Reflection guided by culturally competent/relevant/responsive educators

The possible indicator of this element identified before data were collected was

that participants have guided opportunities to reflect on the placement experience,

including details about form, frequency, and who guided them.[36] There was evidence

that placement participants engaged in routine oral communication and informal

reflection with mentor teachers regarding instruction at PCS. However, opportunities for

written or prompted reflection appeared inconsistent.

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[36] Conclusions regarding mentor teachers' cultural responsiveness are described above. While drawing a similar conclusion about Program staff is beyond the scope of this study, cultural responsiveness will be assumed for purposes of this section.

All PCS participants and mentor teachers described brief discussions about implementing, improving, and building on lessons between classes or during planning time. The following are selected comments regarding these informal discussions.

I'd share my thought process when I was starting to plan, what material to pull, anticipate problems, more concrete tools. At the end of the day I'd check on what worked and what didn't. What would I change, even if it worked? Where do we need to go from here? (PCS mentor teacher 2)

They were normally casual. They weren't really focused... We would discuss, this really worked for this class and stuff that I noticed too, like if we did an activity in the first class and then in the second class she did it differently...Questions that were asked in the first class, she automatically covered in the next couple classes. (PCS placement participant 2)

We didn't have a formal kind of reflection but at the end of the day he'd be like, so do you think they got that? (PCS placement participant 1)

In addition, the evidence suggests that mentor teachers discussed their views about teacher development more generally with placement participants, but did so at their own discretion. For example, the following represents a unique focus that was mentioned by one mentor teacher and paired placement participant.

The biggest thing I talk about with [my mentor teacher] is developing a classroom persona that's really confident and able to take on that role of leader. (PCS placement participant 2)

Each of the two fall 2010 Program early field placement participants at PCS described completing a written reflection at some time during her placement, but neither reflection appears to have been guided by a mentor teacher or Program staff. One participant described completing a Program feedback form about the final lesson she facilitated at PCS and asking her mentor teacher to do the same. The other fall 2010 participant mentioned this form, but said she did not complete it. This participant did,

however, describe a different reflective piece at the suggestion of her mentor teacher.

She shared it with her mentor, but it was not discussed, as shown below.

> *There was a day the students had a fun day. [Mentor teacher] told me, you don't really need to come in but you can write a reflection instead. It was really interesting because I was just reflecting on what my first impressions were after having been there two or three weeks, what I had learned in that amount of time....I shared it with her but we never discussed it. (PCS placement participant 2)*

In contrast, two past PCS placement participants described clearer expectations that they engage in guided reflection. They indicated that Program staff had provided guides for their observation and other activities at PCS, reportedly drawn from the rubrics that the University department of education used at that time to assess the teaching internship required for teacher certification. The following interview excerpts provide additional details.

> *[Program staff] did give us a set of questions, analyzing the behavior, it was questions like pay attention to these things while you're watching, and with what are you seeing. (PCS placement participant 5)*

> *[Program staff] provided us with the standards that they used to evaluate the [University] teaching internship, although they've revised them since. Students going through the formal internship that year were using those standards, and we were given those and asked to evaluate ourselves... There's a caring rubric, a reflection rubric... we did a rubric every month and had to include what we needed to improve and how we were going to do so...Every time I was there I would write things down. (PCS placement participant 4)*

Informal reflection by participants about the PCS placement also reportedly occurred on the University's campus individually with Program staff and in Program meetings (referred to as "family meetings") although the consistency of these events and the centrality of PCS placement activities to their content are unclear. An example follows.

I'd usually meet with [Program staff member] about three times a semester, separate from our team meetings. We'd usually discuss what's going on in my schoolwork, math and education. When I was at [PCS] we'd talk about what was going on, things I didn't really like, things I found different and interesting, what I'd like to do as a teacher, things I'd take away from it, frustrations. We'd bring a lot of that into our discussions when we'd have our family meetings too, because we have a chance to share our experiences. (PCS placement participant 3)

1.5. Placements incorporate the community

The possible indicators of this element identified before data were collected were that placements include community visits and incorporate community-based teacher educators. The evidence showed that Program placements at PCS included no formal community connection. Early field placements at PCS do not appear to intentionally incorporate community-based teacher educators, although some faculty and staff members, including one of the fall 2010 mentor teachers, reside near the school. Placement participants' knowledge of the local community was therefore limited to what they gained within the school building (see *Cultural Competence, Relevance, and Responsiveness*).

As illustrated in Table 4-3, the principle *Field Experiences Explore Sociocultural Diversity* was evident overall, with notable countervailing evidence related to several elements. The discussion turns to the next MPTEP principle.

Table 4-3 Summary of Findings from Research Question 1: Public Charter School

Principles	MPTEP Description Excerpt	Elements	Evidence of Elements	Evidence of Principles
1. Field Experiences Explore Sociocultural Diversity	The program provides carefully planned and varied field experiences that explore sociocultural diversity in schools and communities (Zeichner et al., 1998, p. 168).	1.1. Careful placement planning and monitoring	⊙⊘	●⊘
		1.2. Careful preparation for placement	⊙	
		1.3. Placement site focused on culturally responsive teaching	●	
		1.4. Reflection guided by culturally competent, relevant, responsive educators	●⊘	
		1.5. Placements incorporate the community	⊘	
2. Multicultural Perspectives	Multicultural perspectives permeate the entire teacher education curriculum, including general education courses and those in academic subject matter areas (Zeichner et al., 1998, p. 165).	2.1. Coherent Program philosophy of education	●⊘	●
		2.2. Themes of culture, instruction, learning, and equity in other Program components	●	
		2.3. Participants' backgrounds, abilities, and learning styles considered	●	
3. Learning Assumptions and Expectations	The program is based on the assumption that all students in elementary and secondary schools bring knowledge, skills, and experiences that should be used as resources in teaching and learning, and that high expectations for learning are held for all students (Zeichner et al., 1998, p. 166).	3.1. Assumptions about students	●	●
		3.2. High academic expectations	●	
4. Multiple Types and Sources of Knowledge	The program draws upon and validates multiple types and sources of knowledge (Zeichner et al., 1998, p. 169).	4.1. Academic knowledge	⊙⊘	⊙⊘
		4.2. Faculty/staff knowledge	●	
		4.3. Family/community knowledge	⊘	
5. Exploration of Identities and Cultures	The program helps prospective teachers reexamine their own and others' multiple and interrelated identities (Zeichner et al., 1998, p. 168).	5.1. Participants explore own identities and cultures	⊘	⊘
		5.2. Participants explore others' identities and cultures	⊘	
6. University Programs as Multicultural Laboratories	The program teaches prospective teachers how to change power and privilege in multicultural classrooms (Zeichner et al., 1998, p. 169).	6.1. Choice in placements	●	⊙⊘
		6.2. Choice in assessments	⊘	

● Evident (at least one notable event/comment, all/most observations/interviews, all participants; OR more than one notable event/comment, most observations/interviews, most participants)

⊙ Partially evident (at least one notable event/comment, all or most participants)

⊘ Not evident/countervailing evidence (more than one notable event/comment that element is not present) (can coexist with other signals)

* Insufficient data

^ In this study, the MPTEP language was applied to the Program, rather than to a larger University context.

Principle 2: Multicultural Perspectives

> Multicultural perspectives permeate the entire teacher education curriculum, including general education courses and those in academic subject matter areas (Zeichner et al., 1998, p. 165).

Examination of the MPTEP panel's language and related literature as it pertains to Program early field experiences led to the identification of the following elements for this principle:

2.1. Coherent Program philosophy of education;

2.2. Themes of culture, instruction, learning, and equity in other Program components; and

2.3. Participants' backgrounds, abilities, and learning styles considered.

Each will be discussed in turn.

2.1. Coherent Program philosophy of education

The possible indicators of this element identified before primary data were collected were evidence of a Program philosophy of education and its similarity to the placement site mission or philosophy of education. There was evidence of an overall Program mission that was comprehensively understood by PCS early field placement participants, but the evidence showed that a Program philosophy of education had not been clearly articulated.

The Program was generally described by all respondents as designed to improve STEM in high-need City schools. PCS participants were consistent about a few details, including the Program's emphasis on content knowledge, a STEM major field of study, coursework in education, a peer group, and placed value on teaching in a high-need school, as illustrated by the comments that follow.

It was stressed from the beginning that [Program staff] want teachers to be knowledgeable in their subject area so that they can bring the most to the classroom, that they can answer the question, "where will I ever need to know this in the real world?" Specifically, that you need to have a major and then you also do education along with it. (PCS placement participant 6)

They expect us to hold ourselves at the highest standard but be a family within [the Program at University] to help each other through our challenging academics. But then it's so much more, because it's really about our inspiration and all of our aspirations to become great teachers in schools that need it, in schools that are struggling that seem like there's no hope. (PCS placement participant 5)

I'm not sure how much we've talked about that. They definitely see an importance for the STEM programs…You lose a lot of potential teachers to the real world because they don't have to come into the classroom to stay with their academic love. So there is a shortage. They definitely appreciate that, and that we could probably make more money elsewhere. They're looking for people who are really committed to the classroom and see the value in teaching. (PCS placement participant 4)

The evidence also shows that the PCS placement site mission is similar to the Program's overall orientation, in that it is focused on providing students from a local urban high-need community with challenging academics. The PCS college preparatory mission was observed throughout the school, from a "Climbing the Mountains to College" mural at the building entrance to college-focused content on bulletin boards in hallways and classrooms. The school motto—"Excellence without Exception"—was repeated enthusiastically at morning grade level meetings and in classrooms. The seriousness with which academics and college preparation were taken was evident in the interview comments of all PCS placement participants and mentor teachers, including the following examples.

It's expected of all students that they will go to college and graduate. (PCS placement participant 1)

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> *I really liked their focus on college. Just the idea of naming each class group after a college helps them realize that it's their goal. (PCS placement participant 2)*

> *[PCS] expects middle schoolers to attend college, to get into top high schools. A branch of [PCS] helps them get placed. A counselor follows them, monitors grades, and helps them navigate college. (PCS mentor teacher 2)*

Each homeroom class was named for a different college, many (but not all of them) Historically Black Colleges and Universities. A map of colleges with a "college spotlight" was posted in the sixth grade hallway. Those posted (as mapped) included Penn State, Boudin, USC, Frostburg, Hampton, Morgan.

The following remark by a PCS participant adds texture to the way that PCS may be seen to Program participants. A similar description was not shared in other interviews, but appears to have left an impression on this respondent and got the attention of the researcher.

> *[Program director's] summary is that they are targeting students who statistically should end up in jail. If you use the same programs that the jails are using to predict how many jail cells they need to build for 10 years from now, and then go find those kids and put them in [PCS] instead, is how she described it. So that they do not have their doors opened to the students that do have support. (PCS past participant 4)*

2.2. Themes of culture, instruction, learning, and equity in other Program components

The possible indicator of this element was that MPTEP principles are relevant to other Program components. There was evidence of this element. As shown throughout this discussion, PCS participants and Program staff connected the themes seen in the MPTEP principles to a variety of Program activities.

For example, PCS Fellows described participating in a variety of Program activities that engage academic, school-based, and community knowledge (see *Multiple Types and Sources of Knowledge*). These included watching and discussing films about urban schooling, building relationships with peers at "family" meetings, engaging in individual counseling sessions with Program staff, and participating in school- and community-based applied learning placements, of which PCS is one option. Examples are shown below.

> *We get together and have bonding sessions, [Program] family meetings, keeping us around people that are into the same things we are, wanting to be teachers. But then also mentoring us and teaching us about different types of teaching and getting us to look at debates... Getting us really knowledgeable about the whole aspect of teaching, not just in the classroom, but it's a little political too. (PCS placement participant 6)*

> *We've talked about the education courses we've had to take. We've talked about different needs of low-income students. (PCS placement participant 1)*

A few participants indicated that these activities helped them sustain their shared desire to teach in a high-need urban district, as illustrated by the following quote.

> *Whenever we get together, it really reinforces why I'm here. …[Program staff] shows a video or says something and it captivates all of us… It reminds us as to how passionate we are about teaching and to keep that focus. (PCS placement participant 6)*

2.3. Participants' backgrounds, abilities, and learning styles considered

The possible indicator of this element identified before data were collected was that PCS placement participants' backgrounds, abilities, and/or learning styles are considered in placement selection, monitoring, and/or assessment. Although participants and mentor teachers were not aware of planning considerations that Program staff said

took place informally behind the scenes, there was evidence of this element in terms of placement selection. Specifically, Program staff explained that Program participants are informed of a variety of early field placement options and are individually encouraged to take advantage of those that seem most timely based on their academics, experiences, and aspirations. They are then expected to self-select.

As illustrated in Table 4-3 above, the principle *Multicultural Perspectives* was evident overall. The discussion turns to the next principle.

Principle 3: Learning Assumptions and Expectations

> The program is based on the assumption that all students in
> elementary and secondary schools bring knowledge, skills, and
> experiences that should be used as resources in teaching and
> learning, and that high expectations for learning are held for all
> students (Zeichner et al., 1998, p. 166).

Examination of the MPTEP panel's language and related literature led to the identification and examination of two elements within this principle:

3.1. Assumptions about students
3.2. High academic expectations

3.1. Assumptions about students

The possible indicator of this element identified before data were collected was that building on students' prior knowledge was referenced and/or observed. A second indicator was incorporated during data collection, namely specific articulated assumptions about urban students' knowledge and skills. There was evidence of this element.

Data from classroom observations and interviews showed routine efforts to build on students' prior knowledge. For example, the typical PCS class structure consisted of a "Do Now" review to start the period, a warm up for the lesson, a group lesson guided by the mentor teacher or PCS Fellow, assessment or drill, and an activity that required students to apply the lesson. In one warm up, used as a diagnostic, mentor teacher 1 said, "diagnostic means we'll see what you already know…You put a good effort and I really appreciate that." In addition mentor teacher 1 notably took verbal responsibility for the classes' success in learning mathematics concepts—on one particular occasion he was heard saying "Hmmm, we still have some work to do…we're struggling with this as a class." Mentor teacher 2 reported that a PCS math teacher often teaches the same students for two years in a row in order to build on what they learned the previous year. That teacher had worked with her previous year's class for two years, but the classes observed for only one.

A variety of specific assumptions about urban students' knowledge and skills emerged from interviews with PCS placement participants, including those related to students' academic preparation, interest in STEM subjects, and classroom needs. Given the emphasis in the literature on the importance of preservice teachers' assumptions about urban schools and children, comments are included here. Although such comments were not comprehensively made, they offer an interesting glimpse into the views of a small diverse group of prospective urban teachers and offer a potential avenue to explore in future research. As shown below, Fellows expressed that PCS students were more engaged in school, had stronger arithmetic skills, and performed better academically than they had expected.

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They pick up things quicker than I thought they would, but I don't have a lot of experience with kids…. They seem pretty competent with basic fundamental skills and "math facts" [arithmetic drills]. (PCS placement participant 1)

The ability for 30 twelve year olds to sit quietly for even ten minutes, that was surprising to me. (PCS placement participant 2)

After class they had kind of like a relaxed like play time before the buses came, or while the buses were coming, and I would ask students, you could either stay back with me and I'll work on your homework with you, and then I'll take you out to play, or you can just go straight out and play. It's your choice, but I'm here if you want to work with me. They always wanted to stay and do homework with me. (PCS placement participant 3)

3.2. High academic expectations

The possible indicators of this element, as identified before data were collected, relate to high performance standards for all students and multiple examples of ways students demonstrate academic success. There was evidence of this element.

As addressed above regarding the similarity of the Program and PCS philosophies, high performance standards were shown by the PCS college preparatory mission and oft referenced motto, "Excellence without Exception." The sign over mentor teacher 1's door read, "Excuses stop here." Moreover, observations and interviews, including the following example, suggested that students internalized those high expectations and sought to meet them.

The kids did so great because they knew what was expected of them, like they knew that they were important and that the faculty do care about them and want the best for them. I feel like that gave them the sense of needing to meet those standards for themselves too. They don't want let somebody down who believes in them and that gave them the ability to believe in themselves. (PCS placement participant 5)

The researcher observed multiple ways of demonstrating academic success. These included postings in school hallways and classrooms, including attendance and homework statistics and perfect student papers. In classrooms, mentor teachers were routinely observed positively recognizing students for completing their homework, participating in lessons, offering creative approaches to solving math problems, and asking questions. In one classroom, perfect quiz papers were posted; in the other, completed homework papers with "Excellent!" marked on each one were on the bulletin board. In both classrooms, every board was decorated with student work, academic concepts, and/or encouraging slogans. Several interviewees also mentioned multiple ways that teachers emphasized students' successes, including the following.

> *[Mentor teacher] puts up the perfect papers, obviously to help with self-esteem and just to encourage kids to show them, hey, these perfect papers are possible. And he likes to make a big show out of really good things. He uses stickers and really large check marks. I was grading one day and he was like, you need to make your check marks larger. (PCS placement participant 1)*

Observations at PCS also yielded evidence of high expectations. Posted on the wall in the classroom of mentor 1 were the following stated goals:

1) At least 90 percent proficient/advanced on MSA

2) At least 85 percent will show mastery on each objective

3) At least 90 percent of senior [PCS]ers will attend [graduation]

Students own goals were also posted in the classroom, including "keep up an 'A' homework average" and "keep above the drama."

In addition, efforts to challenge and support all students were observed. These included arithmetic drills with differentiated time allotted (4 minutes, 3 minutes, 2

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minutes, and 1:40) based on student performance on past drills and use of Program

placement participants to provide individualized instruction to students at all levels of

performance.

To reiterate, there was evidence that the MPTEP principle regarding *Learning*

Assumptions and Expectations was present in Program early field placements at PCS.

The discussion turns to the next principle.

Principle 4: Multiple Types and Sources of Knowledge

> The program draws upon and validates multiple types and
> sources of knowledge (Zeichner et al., 1998, p. 169).

Examination of the relevant literature and documentation led to the identification

and examination of reliance on the following elements:

4.1. Academic knowledge

4.2. Faculty/staff knowledge

4.3. Family/community knowledge

Each will be discussed below.

4.1. Academic knowledge

One possible indicator of this element, as identified before data were collected,

relates to guided reflection as including texts by urban teachers and community members.

An additional indicator, relating to use of academic content in lesson facilitation, was

identified during data collection in response to comments made during interviews and

additional review of concepts in the literature. This element was partially evident.

As described above (see *Field Experiences Explore Sociocultural Diversity*),

prompted reflection was not a consistent part of PCS placements. Only a few texts were

mentioned as being used to guide some participants' reflection and there is no evidence of the inclusion of contributions of urban teachers and/or community members.

Mentor teachers and Program Fellows at PCS specifically indicated ways in which early field placement participants drew on academic sources in planning mathematics lessons for PCS students. This is illustrated by the following example.

> *There were a few times though when she did specifically say, okay, I'm going to have you teach them this. Over that next week I would look up that topic and think about how I should introduce it to them. (PCS placement participant 2)*

However, the question was not asked of all respondents, because the element was not identified from the principles and related literature prior to data collection.

4.2. Faculty/staff knowledge

The possible indicator of this element, as identified before data were collected, relates to whether teachers, supervisors, and/or other placement site staff mentor early field placement participants. This element was evident in PCS placements.

It was clear from the observations and interviews that each PCS Fellow was guided by a mentor teacher to engage in the classroom with increasing responsibility (see PCS Context, Placement Participants, and Placement Structure). In addition, some PCS participants observed or interacted with other teachers, at the discretion of the mentor teacher. For example, one participant described regular grade level staff meetings in which she heard teachers discussing assistance needed by particular students, as well as broader grade and school issues. This participant also participated in a daylong school-wide professional development activity, described below.

They had the whole school and the day had been divided up into different planned meetings and then teachers would have their own time to develop lesson plans…[The grade] has had several teachers leave during their time there, which isn't usual at PCS, and even the administrators have picked up on this negative vibe, so on a professional development day we had a meeting to discuss what we could do to fix that and what the problem was. (PCS placement participant 1)

Participants, including those quoted below, indicated that working alongside a mentor teacher enhanced their general understanding of the responsibilities of a teacher and their growth in learning to balance them.

[I appreciated] being able to work with [the mentor teacher] in the non-classroom hours and the professional development day and to plan out the lessons for the next day. (PCS placement participant 1)

I got to see like the other side of teaching because [the mentor teacher] organized transportation and testing. I got to see all of that work, which I never thought that teachers did. (PCS placement participant 3)

4.3. Family/community knowledge

The possible indicator of this element, as identified before data were collected, was that family and/or community members mentor participants as part of the early field placement. This element was not evident in Program early field placements at PCS.

Although parents/guardians are explicitly deemed critical to the success of PCS students in documentation and are required to participate in students' applications to the school, their active involvement at PCS was not evident in the data, specifically as it relates to the experiences of early field placement participants. Participants' interactions with parents/guardians were limited to providing family members with missed work for a student who was out and a few placement participants who attended an occasional parent conference. The following interview quote illustrates this, and also reaffirms the findings

in the literature about the complexity of the views prospective teachers may hold about urban youth and families.

> *[A parent conference] was a good way to be exposed, like how to handle parents in different ways. One parent that I observed, my first one, she was more concerned about her kid not being pushed enough…. But it was cool to see that because it was a parent who does really care. And then I got to see [situations where] parents weren't even there, or did not care, like parents who didn't come to the conference and it was just grandparents, everything put on them. (PCS placement participant 5)*

While this past Program Fellow found that involvement in such meetings provided valuable insight, most placement participants were not invited to observe or participate in these activities, as illustrated below.

> *I don't think I saw any parents except for maybe like in the hallway or something. (PCS placement participant 2)*

> *I never really met a parent. (Past placement participant 3)*

> *I was going to sit in on some of the IEP [Individualized Educational Program] meetings, but what I learned there was that parents don't usually come. (PCS placement participant 4)*

As discussed above (see *Field Experiences Explore Sociocultural Diversity*) there was no coordinated involvement with the community in Program early field placements at PCS.

> *I'm not sure about the community. I'm not sure about their involvement in the school. (PCS placement participant 6)*

As shown in Table 4-3 above, the principle *Multiple Types and Sources of Knowledge, Perspectives* was partially evident with notable countervailing evidence.

Principle 5: Exploration of Identities and Cultures

> The program helps prospective teachers reexamine their own and others' multiple and interrelated identities (Zeichner et al., 1998, p. 168).

Examination of the MPTEP panel's language and related literature led to the identification and examination of two elements:

5.1. Participants explore their own identities and cultures; and

5.2. Participants explore others' identities and cultures.

This principle and its elements were not evident in Program early field placements at PCS, as shown in table 4-3 above, although across placements, participants' comments suggested that exploration of identifies and cultures may take place in other Program components (see *Multicultural Perspectives*). The data showed that no formal texts were used for reflection (see *Field Experiences Explore Sociocultural Diversity, Multiple Types and Sources of Knowledge*). Moreover, reflection was specifically focused on lessons, not prompting examination of participants' identities and cultures. The discussion turns to the next principle.

Principle 6: University Programs as Multicultural Laboratories

> The program teaches prospective teachers how to change power and privilege in multicultural classrooms (Zeichner et al., 1998, p. 169).

Examination of related literature and documentation led to the identification and examination of the degree to which two elements within this principle were relevant:

6.1. Choice in placements; and

6.2. Choice in assessments.

Each will be discussed below.

6.1. Choice in placements

The possible indicator of this element, as identified before primary data were collected, was that participants have options in Program early field placement sites. This element was evident for PCS placement participant, as well as across placements studied. All early field placement participants agreed that Program personnel provided information about various opportunities to engage with urban children and youth in schools and other educational contexts. Program staff described providing individualized suggestions to participants, based on their unique academic and professional goals and priorities. Participants then select at least one placement each year. Several PCS Fellows, including the following, described the value of being provided with career-building options by a University staff member they trusted.

> *I know that when [Program staff] sends out something, she's already vetted it. Whatever e-mail is coming from her, I don't need to look it up and decide if this is a useful experience for me, or if this is appropriate for what I need to do because she's already done all that for me. (PCS placement participant 4)*

> *[Program staff] has been a huge help in my journey of being exposed to different educational sites in [City] ... I feel like her putting me in these places is giving me a huge advancement. (PCS placement participant 5)*

6.2. Choice in assessments

The possible indicator of this element, as identified before primary data were collected, was that participants help make decisions about how their early field placement performance will be assessed. This element was not evident because the PCS placement was not formally assessed. The following comments are illustrative of the informal feedback structure for PCS early field placements.

I talked to the teachers, we'd just discuss the students but there was no formal assessment in the end. And I talked to [Program staff] about it often. (PCS placement participant 3)

I was supposed to have [Program staff] come in and observe me. I think she did it for other people but the timing never worked out when I was there and she was available. But I always asked for feedback from the teachers that I was with. (PCS placement participant 6)

Overall, the data show that the principle *University Programs as Multicultural Laboratories* was partially evident, with an element that was not evident, as shown in Table 4-3 above. The discussion will now turn to the relevance of the three MPTEP principles related to desired Program outcomes to Program early field placements at PCS.

Principles Guiding Desired Outcomes: PCS Placements

Like the data regarding the first six principles, the findings regarding in what ways Program early field placements at PCS reflected three MPTEP principles regarding desired outcomes in terms of participants' readiness and commitment to teach in high-need urban schools were complex and variable. The discussion will be presented similarly. For each principle, it will incorporate language from the MPTEP panel, and set forth the elements derived from the literature (see Chapter 2 and Appendix B), possible indicators that were identified before primary data were collected, and any additional indicators that emerged. The text will summarize the relevant data from the multiple sources and include examples. Discussion of the principles regarding outcomes will begin with *Understanding Sociocultural Context of Schooling.*

Principle 7: Understanding Sociocultural Context of Schooling

The program fosters the understanding that teaching and learning occur in socio-political contexts that are not neutral but are based

on relationships of power and privilege (Zeichner et al., 1998, p. 168).

Examination of the related literature and documentation led to the identification and examination of the degree to which two elements of this principle were relevant:

7.1. Participants understand power/privilege associated with race, ethnicity, gender, and class; and

7.2. Participants understand sociocultural context of high-need schools.
Each will be discussed below.

7.1. Participants understand power/privilege associated with race, ethnicity, gender, class

The possible indicator of this element was that participants do not show favoritism based on race, ethnicity, gender, or social class. This indicator—the absence of favoritism—was partially evident. An additional indicator was added during data analysis, namely that participants demonstrate understanding of unequal power relations, but there were insufficient data on this point. The element was partially evident for PCS placements.

Virtually all PCS students are Black and the school qualifies for Federal Title I support, representing minimal diversity in students' racial, ethnic, and social class backgrounds (see PCS Context, Placement Participants, and Placement Structure). Fall 2010 PCS early field placement participants were observed in the classroom interacting with male and female students of various levels of past achievement in mathematics with no favoritism observed. For example, in one class period, a 2010 fall placement participant was observed first assisting a boy who was struggling with a new math topic after being absent, and later posing additional word problems to a female student who

completed an assignment before her peers. Furthermore, although it may be partially

attributable to the desire to provide social desirable responses, in no interviews was

preference for a particular group articulated, except for several respondents' stating a

preference for teaching in a high-need school in the future (see *Commitment to

Educational Equity*).

The additional indicator was added to this element during data analysis to align

the research more closely with the MPTEP panel's language and the larger body of

scholarship. Notably, the literature suggests that understanding unequal power relations

may help teachers overcome "blame the victim" or "cultural deficit" orientations toward

urban students (see, e.g., Sleeter & Grant, 2007; Villegas & Lucas, 2002; Zeichner,

2005). Perhaps because it was not specifically explored during interviews, there were

insufficient data that the indicator, namely that participants demonstrate understanding of

unequal power relations, was present in Program early field placements at PCS.   In fact,

one participant explained that she had not thought or read specifically about the role that

race plays in learning math, although she had noticed gender and racial differences in her

college math classes. Other PCS Fellows neutrally referenced racial differences, but did

not mention concepts associated with power and privilege.

7.2. *Participants understand sociocultural context of high-need schools*

The possible indicator of this element was that participants discuss how society

and school affect academic achievement and equality. This element was partially evident

for Program early field placements in the study, including PCS. All PCS early field

placement participants interviewed mentioned social context, but the references were

notably basic with respect to the many external factors that affect equitable academics, as shown below.

> *There's a lot of how race is played out into our urban background or landscape, and how cities evolve. There might have been a certain neighborhood and eventually over time it became predominantly an African-American neighborhood, and how maybe that neighborhood went into decline, and then rose up again. Those relationships play themselves out in our everyday life, or culture. ...A lot of people live out in counties because the school systems are better and it's the whole "White flight" thing. (PCS placement participant 1)*

Program participants placed at PCS neither mentioned nor critiqued the "misguided and dangerous" belief that "classroom and school contexts provide equal opportunities for all children" emphasized by the MPTEP panel (Zeichner et al., 1998, p. 166).

As illustrated in Table 4-4, the principle *Understanding Sociocultural Context of Schooling* was partially evident.

Table 4-4 Summary of Findings from Research Question 2: Public Charter School

Principles	MPTEP Description Excerpt^	Elements	Evidence of Elements	Evidence of Principles
7. Understanding Sociocultural Context of Schooling	The program fosters the understanding that teaching and learning occur in socio-political contexts that are not neutral but are based on relationships of power and privilege (Zeichner et al., 1998, p. 168).	7.1. Participants understand power/privilege associated with race, ethnicity, gender, class	⊙	⊙
		7.2. Participants understand sociocultural context of high-need schools	⊙	
8. Cultural Competence, Relevance, and Responsiveness	The program teaches prospective teachers how to learn about students, families, and communities, and how to use knowledge of culturally diverse students' backgrounds in planning, delivering, and evaluating instruction (Zeichner et al., 1998, p. 167).	8.1. Participants explore knowledge of students in planning instruction	⊙⊘	●
		8.2. Participants use knowledge students bring to school to help them engage and learn	●	
		8.3. Participants use knowledge of students in evaluating instruction	*	
		8.4. Participants are confident and comfortable about teaching in high-need schools	●	
9. Commitment to Educational Equity	The program helps prospective teachers develop the commitment to be change agents who work to promote greater equity and social justice in schooling and society. (Zeichner et al., 1998, p. 168).	9.1. Participants are committed to social change	⊙⊘	●
		9.2. Participants are committed to educational equity	⊙	
		9.3. Participants intend to teach in high-need schools	●	

● Evident
⊙ Partially evident
⊘ Not evident/countervailing evidence (can coexist with other signals)
* Insufficient data
^ In this study, the MPTEP language was applied to the Program, rather than to a larger University context.

Principle 8: Cultural Competence, Relevance, and Responsiveness

> The program teaches prospective teachers how to learn about students, families, and communities, and how to use knowledge of culturally diverse students' backgrounds in planning, delivering, and evaluating instruction (Zeichner et al., 1998, p. 167).

Examination of the related literature and documentation led to the identification and examination of the degree to which the following elements within this principle are relevant to Program early field experiences:

8.1. Participants explore knowledge of students in planning instruction;

8.2. Participants use knowledge students bring to school to help them engage and learn;

8.3. Participants use knowledge of students in evaluating instruction; and

8.4. Participants are confident and comfortable about teaching in high-need schools.

Each will be discussed below.

8.1. Participants explore knowledge of students in planning instruction

Seven indicators of this element were drawn from the extensive body of scholarly literature on this topic:

- Participants observe/interact with students in the classroom;
- Participants discuss/show familiarity with students;
- Participants observe/interact with students outside of the classroom;
- Participants consult/observe other teachers/site staff;
- Participants interact with parents/guardians;
- Participants make home visits; and
- Participants interact with community members.

These indicators reflect slight adaptation made during data analysis in order to eliminate redundancies and more fully address the concepts emphasized by the MPTEP panel. Overall, this element was partially evident, but there was countervailing evidence as to participants' interactions with family and community members.

As described above (see PCS Context, Placement Participants, and Placement Structure), the study found ample evidence of attentive classroom participation for all PCS participants. For example, the following interview quote reveals not only that the participants observed and interacted with students in the classroom, but also that they thought about those sometimes new and pedagogically complex situations.

> *A lot of times I can't really understand where they're coming from because I was never in a situation like that….One of the children's parents had just been diagnosed with cancer…One of the students was talking to me because we have the same last name. She asked me if we were related and I said, I don't know, where did your parents grow up. She said, my mom's from [City] but I don't really see my dad very much. I was kind of, like, oh. I hope I didn't say anything wrong. (PCS placement participant 2)*

PCS early field placement participants showed familiarity with students in the classroom. For example, the two fall 2010 participants addressed students by name during lessons, particularly during the final observation in January 2011. Past PCS participants also discussed getting to know students. Some participants, like the following, described specific things they had learned about PCS students.

> *Sometimes they have a little bit more motivation to learn, because they're more aware of how important education is and how much they have to work for it. (PCS placement participant 3)*

However, there was also countervailing evidence suggesting that their familiarity with PCS students may have been incomplete, as illustrated in the interview comments below.

> *I really wanted to be a person in the classroom, not just visiting once a week. (PCS placement participant 6)*

> *Even at the end I still felt kind of like a guest in the classroom. A wanted and invited guest, definitely, but I didn't feel confident enough to say I am a member of this classroom. (PCS placement participant 1)*

PCS participants' observation and interaction with students outside the classroom was evident, but timing and frequency were variable. All PCS Fellows reported engaging with students outside of organized classroom activities, including during morning meetings, class transitions, meals, and/or planning periods. The following comments offer examples of the variation, kinds, and topics of these interactions in participants own words. They include discussions initiated by students, placement participants, and a mentor teacher, and range from general talk to informal counseling.

> *I talk to them one on one about their interests, like, what sports do you play? I don't try to get into their personal lives. If they want to open up to me, I'm there for that, but I never want to force myself into anyone's personal information, especially when I'm only there observing temporarily, so it's hard to get know students. I think [PCS] was the first experience where I was able to really get to know the kids because I was there a lot and interacting with them. (PCS placement participant 5)*

> *They're trying to tell me about their life [during class] which I do care about, but it's math class. I don't want to open the door for them to tell me about their lives during class because some of the students who aren't done [with assignments] are going to tell me about their lives. If I've told them during class that they can't tell me about their life, then I come down during lunch and I'm like okay, now it's not math class, now you can tell me. (PCS placement participant 4)*

> *You definitely had the moments where something had happened at home that they couldn't not bring into the classroom. [Mentor teacher's]*

philosophy on that was to just let it go during the class period and then talk to them during lunch. All of those interactions that I saw, where if you let it go and then talk to them during lunch, there was something significant and pretty valid going on at home. (PCS placement participant 1)

There was partial evidence that PCS participants consulted and/or observed teachers other than their assigned mentor teacher. This means that a few participants reported interactions with more than one teacher, but others did not. For example, one of the fall 2010 placement participants spent time weekly observing in a seventh grade math classroom. The mentor teacher explained that this teacher, who had also mentored Program participants in the past, offered an exceptional example of a positive classroom culture. His rationale is detailed below.

He's without a doubt the best teacher I've ever seen. I think it was helpful for her to see that and get some ideas from him…You walk into his room and it seems like magic. He's very consciously developed the culture of the classroom. Especially in the first few weeks, every time a teachable moment came up where he could correct or encourage something that would help establish a strong culture in the classroom of positivity and teamwork and family. He was really focused on building this culture so that he could use that to support his instruction for the remainder of the year. A kid got an answer wrong and some other kid laughed or chuckled and he stopped and he said, that doesn't happen. (PCS mentor teacher 1)

This same PCS participant also described participating in staff meetings and a professional development activity at the school. Other participants did not recount this level of detail.

There was partial evidence that participants talked with parents/guardians of PCS students. Although a few PCS Fellows specifically described parent conferences or brief interactions when family members came to pick up students' missed work, it was not evident that interactions with families were common or extensive. Moreover, it appears

that none of these conversations took place in a way that might have allowed them to "understand the way life is organized in the communities where the children live" (see Zeichner et al., 1998, p. 167). The following is an example.

> *I don't know a lot. I kind of could pick up on stuff through people talking, the kids talking about their families or their teachers discussing the parents when they were in meetings that I got to sit in on. (PCS placement participant 2)*

As described above (see *Field Experiences Explore Sociocultural Diversity),* participants neither made home visits nor interacted with community members.

8.2. Participants use knowledge students bring to school to help them engage and learn

The following possible indicators of this element were identified from the literature on this topic:

- Participants select and use culturally relevant texts;
- Participants design activities that engage students in personally and culturally appropriate ways;
- Participants address multiple learning styles;
- Participants individualize/adapt teaching approach based on student cues;
- Participants show interest and enthusiasm about teaching;
- Participants encourage and respond to student questions; and
- All/most students participate.

This element was evident overall. However, there were insufficient data regarding participants' involvement in lesson planning to draw conclusions as to whether they selected and used culturally relevant texts or whether they designed activities that engaged students in personally and culturally appropriate ways.

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The data show that participants addressed multiple learning styles in the classroom.[37] The two fall 2010 participants were observed using multiple approaches with students, including short lecture and discussion, individualized work with one-on-one assistance, a kinesthetic lesson that used physical space, and competitive group activities. For example, during the final lesson of PCS field placement participant 2 that was observed, she taught students to draw and identify the parts of a circle. First, she had student list what they knew about circles, "no sides, no angles, round, 360 degrees, 2 dimensional, not polygon…." During the lesson, she provided a group of several students with yarn and had them physically create a large circle with the yarn. When she asked for six volunteers, almost every student's hand went up. Students who were not selected to form the circle were asked to read aloud the definitions of various parts of the circle and identify them on the circle their peers had created: circumference, radius, diameter, segment, and tangent. Interestingly, during this lesson, the staff substitute teacher previously observed was again present in the room threatening students who talked out of turn with the "improvement zone," but Participant 2 appeared to have little difficulty commanding most students' attention. On one occasion, Participant 1 was observed using the smart board in her mentor teacher's classroom and engaging the students at the blackboard. Both fall 2010 participants led group work, as well as individual lessons with students, during multiple observations.

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[37] See "Placement site focused on culturally responsive teaching" in the discussion of the principle *Field Experiences Explore Sociocultural Diversity* for an application of this concept to PCS mentor teachers.

Each PCS early field placement participant referenced the use of multiple approaches to teaching in interviews, sometimes offering examples. The following comments are illustrative.

> *Once they're there, how do you engage them? It's different in every lesson. You've got to feed every different intelligence. (PCS placement participant 6)*

> *Give them different options for solving problems. We know that there are different ways of solving problems; give them those different ways. Don't make them do it one way because sometimes they just they think better in a different way. (PCS placement participant 3)*

Fall 2010 participants showed interest and enthusiasm in the PCS classroom. For most of the observations made of these participants, participants were visibly engaged in observing, assisting students, and other classroom tasks. However, one of the participants was seen using a cellular device, seemingly to text or email, while observing in the classroom, countervailing evidence that may give the appearance of ambivalent interest to students or other observers. Past Program participants at PCS seemed enthusiastic about their PCS Fellowships, but additional data were not collected about their classroom activities.

PCS early field placement participants encouraged and responded to student questions. Fall 2010 Fellows were consistently seen providing assistance to individual students and small groups. They also solicited and responded to numerous questions during the large group lessons that they were seen facilitating. In addition, comments made by all PCS placement participants and both mentor teachers suggested the importance of addressing students' questions.

All PCS participants described individualizing or adapting teaching approaches based on student cues. Their comments suggested a variety of signals and techniques for addressing them, as the following examples demonstrate.

Just watching generally as you're teaching, who's paying attention, who's not, who has the confused look on their face or just like the look of indifference and then trying to reach out to them and seeing if you can do one on one. (PCS placement participant 2–before)

You want them to understand the topic so sometimes you have to explain a little bit more to help the students that aren't going to catch on as quickly. (PCS placement participant 2–after)

If I have time I run through different topics to really figure out if they've learned something, begin building their confidence, because if they're not confident they're not going to tell you that they don't understand something, they don't want you to know that they don't understand because then they feel bad. (PCS placement participant 3)

Observations of the two fall 2010 participants confirm this conclusion, as did interviews with mentor teachers, who described participants working effectively with both more and less advanced students on a variety of math topics.

As addressed in the description of mentor teachers' cultural competence, relevance, and responsiveness (see Field Experiences Explore Sociocultural Diversity), virtually all students actively participated throughout each class period observed. For example, research notes from November 19 during a sixth grade lesson say "kids – hands up, seem to want to participate (e.g., waving arms)." During one lesson in the eighth grade classroom, the researcher noted that every student was engaged in solving word problems reflecting inequalities. Students were also seen celebrating for doing all nine problems correctly. In one observation, I recorded two students verbalizing whether they did or didn't "get it" when asked. In addition, past early field placement participants,

including the following, described the student behavior and engagement in the classroom

at PCS as very positive.

> *The most impressive thing I saw in [mentor teacher's] classroom was that the students had a high amount of respect for the teachers at the school. They were the most well behaved students I've seen. (PCS placement participant)*

8.3. Participants use knowledge of students in evaluating instruction

The possible indicator of this element identified before primary data were

collected was that participants use a variety of assessment strategies. Although there was

evidence of PCS participants' reliance on cues in the classroom to gauge student

understanding, data collected on participants' involvement in assessing or evaluating

students' learning were insufficient to draw a conclusion about whether they "use a

variety of evaluation strategies that maximize students' opportunities to display what they

know in ways that are familiar to them" (see Zeichner et al., 1998, p. 167). The clearest

evidence relates to a few participants who described implementing an activity variously

called an "assessment ticket" or "exit ticket" at the end of a class period, as shown in the

example below.

> *In their independent work, they were in groups and they had a little envelope I made with index cards in it and it told the measurement of each item in a bag, that they each had to measure on their own: a penny, a teabag, a pencil, a straw. As a group, they could go over and see how they did. During that time, if they needed help, I could be there hands-on with them. At the end they had to answer an exit ticket with three word problems, applying the things that they just measured. That way I knew if they were understanding what was going on. (PCS placement participant 5)*

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8.4. Participants are confident and comfortable about teaching in high-need schools

The possible indicator of this element identified before primary data were collected was that participants report confidence about teaching in a high-need school. A second indicator was developed during data analysis to more fully address concerns expressed in the literature about prospective teachers' common discomfort in low-income Black schooling contexts. This element was evident.

All PCS early field placement participants reported increased confidence about teaching in a high-need City school, as well improved confidence about teaching in general. The following comments describe participants' successes in their own words.

> *I definitely feel more confident. I also feel like I have a greater awareness of what being a teacher entails. Not just teaching in front of the class, it's all that other stuff as well. (PCS placement participant 2)*

> *I really took on the way [mentor teacher] handled the classroom, in the same ways… The kids were working with me long enough and it was exciting [for them] to have a new teacher for the day. (PCS placement participant 5)*

> *It set me up to take better advantage [of my teaching internship]. I need to jump in and be involved in this, I need to and learn all those names right away because you can't discipline a student that's 20 feet away if you don't know their name. (PCS placement participant 4)*

The literature shows that being comfortable working in the environment of a high-need school requires that the teacher be at ease in the cultural environment. While not all participants commented on the topic, most reported increased comfort in a low-income Black schooling context. The following examples show a variety of areas in which participants have gained familiarity and comfort, as well as some concerns and preconceptions recounted from before their PCS Fellowship experiences.

I had this idea that it was going to be this really scary thing and the kids were going to be mean and whatever and it wasn't like that at all. I definitely learned that kids are kids no matter what environment they were raised in. I feel more confident going into a high-need school now... I have some experience under my belt. (PCS placement participant 2)

They live in a very different environment from what I grew up, the schools are a very different environment, the classroom management techniques have to be adapted from what I saw modeled through my teachers. If I didn't get the experience now, I would be afraid to go into those classrooms because I wouldn't know how. (PCS placement participant 4)

I'm not color blind. I don't think that race is not an issue. But it's my first time in a school and the fact that there's just so many more students than there are me, that was my biggest intimidation. (PCS placement participant 1)

The first few weeks, the girls would comment, I really love your hair. It was really long then. I felt so awkward... I mentioned at one of our [Program] meetings that semester how they would compliment me or comment on things specific to the fact that I was of a different culture. I wasn't used to it at all. (PCS placement participant 3)

As illustrated in Table 4-4 on page 106, *Principle 8: Cultural Competence, Relevance, and Responsiveness* was partially evident, with notable countervailing evidence regarding interaction with families and in the community.

Principle 9: Commitment to Educational Equity

> The program helps prospective teachers develop the commitment to be change agents who work to promote greater equity and social justice in schooling and society. (Zeichner et al., 1998, p. 168).

Examination of the MPTEP panel's language and related literature led to the examination of the following elements of this principle:

9.1. Participants are committed to social change;

9.2. Participants are committed to educational equity; and

9.3. Participants intend to teach in high-need schools.

Each will be discussed in turn.

9.1. Participants are committed to social change

The MPTEP panel wrote: "students should be encouraged to become actively engaged in community service and political activities that promote a more humane and just society." Two possible indicators were identified before data were collected: Participants are engaged in community service, and Participants are engaged in political activities. This element was partially evident, but there was also countervailing evidence.

Several PCS placement participants described their involvement in activities to serve and build community, but not all did. Two specifically mentioned tutoring in a school through the University's center for applied learning and another described a community service project that was part of a recent degree program.

Program early field placement participants, including those at PCS, did not appear to be actively engaged in political activities. No participants described political involvement. Program staff confirmed Program participants' penchant for community service, but not political involvement.

9.2. Participants are committed to educational equity

Two possible indicators of this element were identified before primary data were collected: Participants are interested in pursuing equity in schools, communities, and/or districts, and Participants are knowledgeable about the collective nature of teaching. This element was partially evident.

All PCS early field placement participants mentioned the importance of providing more equitable schooling opportunities. Specific challenges in local high-need contexts were mentioned, including lower student performance than in more affluent districts and the pressing need for committed, effective teachers in the City.

> *I think all kids deserve that chance to be successful. [City kids] aren't performing as well on tests and it's not right. A lot of it has to do with teachers that aren't willing to stay where they are. (PCS placement participant 6)*

> *After seeing countless videos or news reports on how the schools are declining, especially in [the City], I want to see if I can make a difference and I honestly think I could…. In private school, those students already have the support that they need and in public school, qualified teachers just aren't available. So I feel like I would be more useful there. (PCS placement participant 2)*

> *There's nothing about a student's background that should limit their potential in any academic field. But unfortunately, if you don't have that support at home, if you don't get a great teacher in the classroom, it will limit you. That's not right because they have the same potential, if not more. (PCS placement participant 4)*

A few PCS participants, including the following, specifically emphasized the importance of high-quality mathematics instruction.

> *Math is very underrepresented, especially for minorities and poor people, and so I really like the idea of evening out that statistic. (PCS placement participant 1)*

Although participants emphasized change they might help effect individually to increase equity, they paid notably minimal attention to issues regarding "structural relationships in schools, districts, and communities." (see Zeichner et al., 1998, p. 168). That is, mentioning achievement differences between the City and its environs or "white flight" do not appear to rise to the level of evidence the MPTEP panel might seek in this regard.

Participants made consistently positive references to the importance of PCS teachers' collaborative efforts to support students, as illustrated below.

> *They talk about the student's home life. They would discuss what issues are going on, which is interesting because it's like they do exactly what you should do as teachers. (PCS placement participant 3)*

> *Every teacher with the 6th grade team, they all work together. If you don't have that support it's really hard to be a great math teacher because you need that support system. (PCS placement participant 5)*

9.3. Participants intend to teach in high-need schools

Two possible indicators of this element were identified before data were collected: Participants value teaching as an occupation, and Participants report/show a strong desire to teach in a high-need urban district. This element was evident, but possible barriers were also identified.

The value that PCS Fellows placed on teaching as an occupation was evident. Although there was variation in the source of participants' desires to teach, all reported continued efforts to become certified as teachers and intentions to enter the occupation when they complete their schooling, as the following examples illustrate.

> *I'm interested in math and I want to do something that's interesting, rewarding, and community oriented. (PCS placement participant 1)*

> *When I started to realize I wanted to teach, in high school, when I was in classrooms I would write down things I liked in a notebook so I wouldn't forget. (PCS placement participant 3)*

> *I do feel like teachers are very, very important. Whether you're home schooled or private schooled or public schooled, somebody's teaching you something. You're not learning on your own. (PCS placement participant 2)*

In addition, fall 2010 participants were observed to be dressed neatly at PCS, a potential sign of the value held for teaching noted by Ladson-Billings in *Dreamkeepers* (1994).

Participants' commitment to teach in a high-need school was evident, particularly so in the more extensive data collected for the fall 2010 participants. For example, even before her PCS placement, one Program participant indicated that she wanted to work in the City, "hands down." Her commitment was solidified when she was accepted to the City teaching residency program. Several participants, including the following, mentioned being influenced by the passion that Program personnel have for serving children in high-need City schools.

> *When I first applied, I was honestly scared to death. I was like oh my gosh, I can't imagine teaching in a high-need school. And then basically just catching the passion that [Program staff member] carries, seeing how much she cares about kids, you can't help but catch that same thing. Now I have that same passion to (it sounds kind of corny) change a life…My take on it is that all students deserve to have a quality education. Obviously, teaching isn't a profession that you get into because of the money, but some people would just say, I'm going to go to a county where I can make a lot of money. I'd rather go where I can make a difference. (PCS placement participant 2)*

However, spouses' employment, as well as assigned placement location, were identified as possible barriers for participants, as illustrated by the following two examples.

> *Like I said, I absolutely love PCS and I'd love to be there and it would be amazing to teach those kids or even in public schools [in City]. But I'm going to follow [my husband]'s job… I don't really want to work in a suburban school…. I'd like to be in an urban or a rural setting, honestly. (PCS placement participant 6)*

> *Probably to teach math in [the City], that's the plan. [Spouse's employment] will affect where I live. It's part of why I went into teaching.*

So, as much as I want to teach in [the City] because I've seen the need and it's right here close to home…I have to go where that takes us. (PCS placement participant 4)

Overall, the principle *Commitment to Educational Equity* was evident, as illustrated in Table 4-4, Summary of Findings from Research Question 2: Public Charter School, although there was countervailing evidence for one element.

Summary of PCS Findings Based on the Research Questions

As the literature discussed in Chapter 2 suggested and the findings of this study confirm, examination of how Program early field placements at PCS reflect the nine principles of good practice set forth by the MPTEP panel reveals complex answers. For each principle examined except one (see *Learning Assumptions and Expectations*), in addition to evidence suggesting its relevance to PCS early field placements, there was countervailing evidence that prevented a clear conclusion. Findings based on the research questions are summarized in Table 4-5.

Table 4-5 Summary of Findings from Public Charter School Placements

Research Questions	Principles	MPTEP Description Excerpts^	Public Charter School
Q1. In what ways do the Program's early field placements reflect six multicultural education principles related to preservice teacher preparation activities?	*1. Field Experiences Explore Sociocultural Diversity*	The program provides carefully planned and varied field experiences that explore sociocultural diversity in schools and communities (Zeichner et al., 1998, p. 168).	●⊘
	2. Multicultural Perspectives	Multicultural perspectives permeate the entire teacher education curriculum, including general education courses and those in academic subject matter areas (Zeichner et al., 1998, p. 165).	●
	3. Learning Assumptions and Expectations	The program is based on the assumption that all students in elementary and secondary schools bring knowledge, skills, and experiences that should be used as resources in teaching and learning, and that high expectations for learning are held for all students (Zeichner et al., 1998, p. 166).	●
	4. Multiple Types and Sources of Knowledge	The program draws upon and validates multiple types and sources of knowledge (Zeichner et al., 1998, p. 169).	⊙⊘
	5. Exploration of Identities and Cultures	The program helps prospective teachers reexamine their own and others' multiple and interrelated identities (Zeichner et al., 1998, p. 168).	⊘
	6. University Programs as Multicultural Laboratories	The program teaches prospective teachers how to change power and privilege in multicultural classrooms (Zeichner et al., 1998, p. 169).	⊙⊘
Q2. In what ways do the Program's early field placements reflect three multicultural education principles related to desired outcomes in terms of participants' readiness and commitment to teach in high-need urban schools?	*7. Understanding Sociocultural Context of Schooling*	The program fosters the understanding that teaching and learning occur in socio-political contexts that are not neutral but are based on relationships of power and privilege (Zeichner et al., 1998, p. 168).	⊙
	8. Cultural Competence, Relevance, and Responsiveness	The program teaches prospective teachers how to learn about students, families, and communities, and how to use knowledge of culturally diverse students' backgrounds in planning, delivering, and evaluating instruction (Zeichner et al., 1998, p. 167).	●
	9. Commitment to Educational Equity	The program helps prospective teachers develop the commitment to be change agents who work to promote greater equity and social justice in schooling and society. (Zeichner et al., 1998, p. 168).	●

● Evident
⊙ Partially evident
⊘ Not evident/countervailing evidence (can coexist with other signals)
* Insufficient data
^ In this study, the MPTEP language was applied to the Program, rather than to a larger University context.

Research Question 1. In what ways do the Program's early field placements reflect six multicultural education principles related to preservice teacher preparation activities?

Five education principles related to preservice teacher preparation activities were reflected to varying degrees in Program applied learning placements at PCS, but one was not and there was countervailing evidence of several elements.

1. *Field Experiences Explore Sociocultural Diversity*—thought to be most relevant to this research——was applicable to Program early field experiences at PCS, but data also show countervailing evidence of several important elements.

2. *Multicultural Perspectives* was applicable to Program early field experiences at PCS with minimal countervailing evidence.

3. *Learning Assumptions and Expectations* was also reflected in the data.

Three principles show partial evidence of applicability, but the data also show countervailing evidence, namely:

4. *Multiple Types and Sources of Knowledge*,

5. *Exploration of Identities and Cultures*, and

6. *University Programs as Multicultural Laboratories*.

Research Question 2. In what ways do the Program's early field placements reflect three multicultural education principles related to desired outcomes in terms of participants' readiness and commitment to teach in high-need urban schools?

Three multicultural education principles related to desired Program outcomes were reflected to varying degrees in early field placements at PCS, with countervailing or insufficient evidence on a few points.

7. *Understanding Sociocultural Context of Schooling* was applicable to Program early field experiences at PCS, but the data also show countervailing evidence.

8. *Cultural Competence, Relevance, and Responsiveness* was evident based on the data, with the caveat that participants' observed and interviewed were still involved in preservice teacher preparation at the time of this study.

9. *Commitment to Educational Equity* was also evident, with the same caveat.

In addition, this research explored the usefulness of the MPTEP principles as a theoretical framework. The nine principles and the matrices of elements and indicators the researcher built on them provided an extremely useful lens through which to design, analyze, and report on the case of Program early field experiences at PCS.

Next, Chapter 5 will address the applicability of the nine MPTEP principles to Program field placements with a summer college preparatory program for high school students from low income families and those who may be the first generation in their families to go to college.

Chapter 5: Findings from Summer College Placements

This chapter reports the findings of the study as they relate to Program early field placements, or applied learning experiences, at Summer College.[38] The introductory section summarizes the placement context and participants' self-described major field of study and teaching certification sought, as well as characteristics of the placements. The remainder of the chapter describes the study findings related to Summer College placements for each of the two research questions:

> Research Question 1. In what ways do the Program's early field placements reflect six multicultural education principles related to preservice teacher preparation activities?

> Research Question 2. In what ways do the Program's early field placements reflect three multicultural education principles related to desired outcomes in terms of participants' readiness and commitment to teach in high-need urban schools?

Within the context of each principle and associated elements derived from the literature and public documents (see Chapter 2 and Appendix B), the discussion describes the results and presents salient data from interviews with Summer College placement participants, Program staff, and available documentation regarding the Program and Summer College. The chapter concludes with a summary of the findings for Summer College placements.

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[38] The data regarding Summer College did not include placement observations or interviews with Summer College staff. The evidence was therefore much more limited than for PCS placements (see Chapter 4) regarding numerous elements, and in some cases was absent.

Summer College Context, Placement Participants, and Placement Structure

The websites for Summer College at University show that the institution offers two related college preparatory summer programs to serve high school students from groups that are generally underrepresented in higher education. Each of the Summer College programs runs from Monday through Friday for six weeks on University's campus, and also offers activities during the academic year.[39] One Summer College program had a clearer STEM focus and curriculum, evident by its name, description in public documentation, and respondents' descriptions. The other is considered to have a "classic" college preparatory approach.

If they go to college, the high school students who participate in Summer College programming will be the first generation in their family to do so and/or low income, meaning an individual whose family's taxable income for the preceding year did not exceed 150 percent of the poverty level amount ($38,685 for a family of 4 in 2009–10). The website shows that the classic Summer College program serves 9th through 12th grade students from one City and four County public schools. The STEM program serves students from three City and three County public schools. The focus was corroborated by interview comments, including the following.

> *I heard it's low income, or if you're the first in your family to go to college, first generation. County, City schools. I think they were all Black people, except one Hispanic girl. They ranged academically. (Summer College placement participant 4)*

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[39] Activities for Summer College student participants other than the summer program are outside the scope of this study.

One interviewee mentioned that about two-thirds of the high school student participants were female.

The five Program participants who engaged in applied learning experiences at Summer College in summer 2010 were each interviewed about their experiences as a daytime or residential tutor-counselor, including one individual who had previously completed a Program placement at PCS. Each was asked to describe his/her academic background and early field placement at Summer College.[40]

Table 5-1 displays which type of Summer College staff position each participant held, the major field of study, and teaching level certification sought. It also includes notes about participants' involvement in the Program generally and prior teaching/tutoring experiences mentioned in interviews.

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[40] As noted in Chapters 3 and 4, this introductory inquiry was overlooked in developing the interview guide.

Table 5-1 Summary of Summer College Participants and Placements in Study

Semester at Summer College	Summer College Staff Placement	Major	Certification sought	Notes
Summer 2010	Classic daytime tutor-counselor	Math	Elementary	-Undergraduate, entered program as junior -Prior experience working at summer camp and daycare
Summer 2010	Classic daytime tutor-counselor	Math	Secondary (high school)	-Undergraduate, entered Program as freshman -Will take accelerated Master's program -Prior experience tutoring math in high school
Summer 2010	Classic daytime tutor-counselor	Math	Secondary	-Undergraduate, entered Program as sophomore *Also interviewed about PCS applied learning placement
Summer 2010	Classic residential tutor-counselor	Biology	Elementary (or middle)	- Undergraduate, entered Program as junior - Prior placement experiences observing and planning lessons through elementary education courses
Summer 2010	STEM daytime tutor-counselor	Biology	Secondary	-Undergraduate, entered Program as junior -Will take accelerated Master's program -Several prior service learning experiences and experiences with religious/educational camps

As shown above, four respondents were academic or daytime tutor-counselors, three with the Summer College classic program and one with the STEM program. One was a residential tutor-counselor in the dorms in the evening for the Summer College classic program.[41] Daytime tutor-counselors accompanied participating high school students to Summer College classes and provided them with academic support in

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[41] Tutor-counselors were paid, but the amount was neither requested nor disclosed as part of this study.

assigned subject areas between the hours of approximately 8:00 AM and 4:30 PM,[42] with

the participation of an instructor. The residential tutor-counselor was part of a group that

provided social and emotional support to high school students each evening, assisted

them with homework, and supervised them in the dorms overnight. The following are

examples of participants' descriptions in this regard.

> *I was a daytime tutor counselor, with them the academic part of the day. I brought them class to class. I was in every class with them. I was assisting the teacher. (Summer College placement participant 1)*

> *We were helping out with homework and also giving them an enriched home environment away from home…We had what was called brother-to-brother—all the guys would get together and we'd talk about what they thought about international issues or the current state of the economy, or relationships, or the area where they're growing up…. The hours were just crazy. There's lots of all-nighters to be pulled watching the floors, making sure the boys stayed on the boys' floor and the girls stayed on the girls' floor. (Summer College placement participant 2)*

The day and residential teams on each of the two programs were said to

collaborate primarily *ad hoc*, often by text message. One participant mentioned

exchanging grade reports and informal descriptions of student behavior at the end of the

academic day, but others did not mention it. The following comments illustrate the

separation between the staffs in respondents' words.

> *There was no communication between the day staff and the night staff...no logs taken or anything like that and no communication at all. Once we get off shift, then it's the night shift... there was no way for us to communicate what our experiences were. (Summer College placement participant 5)*

> *Residential never told us anything about what was going on. We'd usually hear things from the students...like maybe two students would get in an argument and then in the classroom they wouldn't want to be working*

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[42] Classic Summer College staff extended the duration of daytime responsibilities midsummer. The details are not relevant to this study, but the management of this change seems to have negatively affected some Program applied learning participants.

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together.... It would have been better to have whole meetings with everybody. (Summer College placement participant 4)

Insufficient communication regarding specific student issues was also described, including highly emotional stories told by participating high school students during talks with evening tutor-counselors and a series of thefts of student belongings for which two students were ultimately suspended or dismissed.

Principles Guiding Activities: Summer College Placements

The discussion now turns to the findings regarding in what ways Program early field placements at Summer College reflected six MPTEP principles related to preservice teacher preparation activities. As with the discussion of PCS placements in Chapter 4, the section representing each of the six principles will incorporate language from the MPTEP panel and set forth the elements derived from the literature and public documents, possible indicators that were identified before interviews were conducted, and any changes to the indicators that emerged. The text will summarize the relevant data from interviews and documentation and include key examples.

Notably, there were insufficient data to make a determination regarding several elements based on the limited data collected for Summer College placements, which will be discussed in Chapter 6. Discussion of the relevance of the MPTEP principles to Program applied learning placements at Summer College will begin with the principle thought to be most relevant to this study—*Field Experiences Explore Sociocultural Diversity.*

Principle 1: Field Experiences Explore Sociocultural Diversity

> The program provides carefully planned and varied field experiences that explore sociocultural diversity in schools and communities (Zeichner et al., 1998, p. 168).

Examination of the related literature led to the identification of the following elements related to field experiences:

1.1. Careful placement planning and monitoring;

1.2. Careful preparation for placement;

1.3. Placement site focused on culturally responsive teaching;

1.4. Reflection guided by culturally competent, relevant, and responsive educators; and

1.5. Placements incorporate the community.

Each will be discussed in turn.

1.1. Careful placement planning and monitoring

The possible indicators of this element were that the participant, site supervisor, and Program staff communicate before the placement, and that they do so during it. There was partial evidence that early field experiences at Summer College were carefully planned and monitored, and also countervailing evidence that suggested that some aspects were quite limited.

Participant interview data suggested that communication among Program personnel, Summer College staff, and tutor-counselors prior to placement was inconsistent. All participants indicated that they learned about the opportunity through Program personnel, as seen in the following example.

> *[Program staff] gave us the application form and told us where to turn it in, when to turn it in by, who to speak to about it. (Summer College placement participant 2)*

As part of the tutor-counselor application process, Program participants were introduced to high school students attending Summer College activities during the academic year. However, most indicated that they did not feel well informed about unique challenges they would face during the program. In addition, Program staff described having greater opportunity to engage in informal planning with personnel from one of the Summer College programs than the other, due to proximity and established collegial relationships.

Communication during the placement was also partially evident, with additional countervailing evidence. As briefly addressed above (see PCS Context, Placement Participants, and Placement Structure), the interview data showed that the two staffs (day and residential) and administrators on the classic Summer College program communicated inconsistently and sometimes ineffectively. Evening tutor-counselors were said to have had both weekly and ad hoc meetings that included administrators with supervisory responsibility. However, daytime tutor-counselors specifically described this as an area where their experiences fell short.

> *The nighttime staff had two administrators that worked with them, and they had a meeting every single night. We had no administrator specified for the daytime tutors and we never had a meeting. So there was little to no communication. (Summer College placement participant 3)*

> *We had a couple of meetings throughout the summer. One was with one of the administrative people, because someone had asked to have a meeting. I think it was with the hours changing—I didn't really know what the meeting was for. We all sat together in the dining hall when the kids were eating dinner and it went really badly, two people left angry... More communication would have been better. (Summer College placement participant 4)*

1.2. Careful preparation for placement

The possible indicators of this element developed for this study were that the participants are aware of the Program educational philosophy before placement and introduced to the site context before placement. Interviews and reexamination of the literature during data collection demonstrated that Program early field placement participants' confidence about their abilities to meet placement expectations was an important indicator to add. There was partial evidence that participants were prepared for Summer College placements in these ways.

There were insufficient data regarding participants' awareness of the Program educational philosophy before it. All interviews related to Summer College were conducted after placements, when respondents attended to other aspects of their experiences.

There was partial evidence that participants were introduced to the Summer College context before the placement. Placement participants served as tutor-counselors in and around classrooms, dining facilities, and dormitories on their University campus, which was familiar to them. In addition, the second of the two-part tutor-counselor application process exposed them to the student environment. Each Program participant who served as a tutor-counselor observed Summer College Saturday classes and facilitated a short lesson for the high school student participants. Once selected, tutor-counselors participated in a weeklong training program.

Participants' had mixed views about the clarity of expectations and their confidence to meet them. Selections of residential and daytime staff were made by Summer College administrators. In both cases, some Program participants did not feel

well-informed about the details of what was expected. The following descriptions shared

by a daytime and a residential tutor-counselor, respectively, show the ambiguity

regarding the consequences of these unclear expectations on their development as

prospective teachers.

> *Actually it wasn't made completely clear to me what I was expected to do. But for some reason I was just like, alright I'll just jump in anyways. I'll be here and do my job. (Summer College placement participant 1)*

> *I did a little bit of research, got in touch with the people, and I thought I had a pretty good idea of what I was getting into. Really, I didn't, but it turned out way better than I ever imagined. (Summer College placement participant 2)*

1.3. Placement site focused on culturally responsive teaching

Exploring Summer College's efforts in the "process of working toward more

culturally responsive and multicultural teaching" (see Zeichner et al., 1998) would be a

study in itself. Given the lack of observations during the Summer College program

and/or personnel interviews, there were insufficient data to draw a conclusion about this

element. Data were limited to indirect references on the Summer College at University

website regarding the students it serves and interview comments like the following about

the Summer College programs' intentions.

> *[Students] are in seriously underprivileged areas and they don't have a lot of the resources or teachers that really care enough. [Summer College] takes them out of that, not just giving them resources, but totally removes them from their environment and puts them in a college setting, really just gets them thinking. This is college. I can do it. I want to do it. (Summer College placement participant 2)*

1.4. Reflection guided by culturally competent, relevant, responsive educators

The possible indicator of this element was that participants have guided opportunities to reflect on the placement experience.[43] This element was not evident. Although one Summer College participant said that Program staff gave all Program participants in summer placements a form to guide reflection and later facilitated discussion of their experiences at a Program meeting, included below, others did not mention it when asked about reflection.

> *At the beginning of the summer, for any of the programs we were getting involved with, [Program staff] said here's this form. [She said] I want you to think about this during the summer and we'll talk about it afterwards: what the program was, focus on what group of kids we were working with, which demographic. Also consider how it was helping us grow as future teachers. When we met again as a group for the first time this school year, we all talked about that in turns. (Summer College placement participant 2)*

1.5. Placements incorporate the community

The two possible indicators of this element identified before interview data were collected were that placements include community visits, and incorporate community-based teacher educators. This element was not evident. The data showed that Program placements at Summer College included no formal community connection.

Summer College programming on the University campus did not include visits that exposed tutor-counselors to the communities in which high school student participants resided. Moreover, there were no data to suggest that Summer College personnel included community-based teacher educators. Tutor-counselors' familiarity

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[43] As described above, there were insufficient data collected regarding the cultural responsiveness of Summer College personnel. Drawing a conclusion about Program staff is beyond the scope of this study, but will be assumed here.

with relevant City communities was therefore limited to what they learned from Summer College high school student participants on the University campus (see *Cultural Competence, Relevance, and Responsiveness*) and outside experiences.

The principle *Field Experiences Explore Sociocultural Diversity* was partially evident overall, with notable countervailing evidence related to several elements and insufficient data regarding one of the elements. This is illustrated in Table 5-2.

Table 5-2 Summary of Findings from Research Question 1: Summer College

Principles	MPTEP Description Excerpt^	Elements	Evidence of Elements	Evidence of Principles
1. Field Experiences Explore Sociocultural Diversity	The program provides carefully planned and varied field experiences that explore sociocultural diversity in schools and communities (Zeichner et al., 1998, p. 168).	1.1. Careful placement planning and monitoring	⊙⊘	⊙⊘
		1.2. Careful preparation for placement	⊙	
		1.3. Placement site focused on culturally responsive teaching	*	
		1.4. Reflection guided by culturally competent, relevant, responsive educators	⊘	
		1.5. Placements incorporate the community	⊘	
2. Multicultural Perspectives	Multicultural perspectives permeate the entire teacher education curriculum, including general education courses and those in academic subject matter areas (Zeichner et al., 1998, p. 165).	2.1. Coherent Program philosophy of education	⊙⊘	●
		2.2. Themes of culture, instruction, learning, and equity in other Program components	●	
		2.3. Participants' backgrounds, abilities, and learning styles considered	●	
3. Learning Assumptions and Expectations	The program is based on the assumption that all students in elementary and secondary schools bring knowledge, skills, and experiences that should be used as resources in teaching and learning, and that high expectations for learning are held for all students (Zeichner et al., 1998, p. 166).	3.1. Assumptions about students	*	⊙*
		3.2. High academic expectations	⊙	
4. Multiple Types and Sources of Knowledge	The program draws upon and validates multiple types and sources of knowledge (Zeichner et al., 1998, p. 169).	4.1. Academic knowledge	⊙	⊘
		4.2. Faculty/staff knowledge	⊘	
		4.3. Family/community knowledge	⊘	
5. Exploration of Identities and Cultures	The program helps prospective teachers reexamine their own and others' multiple and interrelated identities (Zeichner et al., 1998, p. 168).	5.1. Participants explore own identities and cultures	⊘	⊘
		5.2. Participants explore others' identities and cultures	⊘	
6. University Programs as Multicultural Laboratories	The program teaches prospective teachers how to change power and privilege in multicultural classrooms (Zeichner et al., 1998, p. 169).	6.1. Choice in placements	●	⊙⊘
		6.2. Choice in assessments	⊘	

● Evident
⊙ Partially evident
⊘ Not evident/countervailing evidence (can coexist with other signals)
* Insufficient data
^ In this study, the MPTEP language was applied to the Program, rather than to a larger University context.

Principle 2: Multicultural Perspectives

> Multicultural perspectives permeate the entire teacher education curriculum, including general education courses and those in academic subject matter areas (Zeichner et al., 1998, p. 165).

Examination of the related literature led to the identification of three elements within this principle that may be relevant to the Program activities explored in this study:

2.1. Coherent Program philosophy of education;

2.2. Themes of culture, instruction, learning, and equity in other Program components; and

2.3. Participants' backgrounds, abilities, and learning styles considered.

Each will be discussed in turn.

2.1. Coherent Program philosophy of education

The two possible indicators of this element identified from the literature and documentary data were a shared understanding of the Program philosophy of education and its similarity to the placement site mission or philosophy of education. There was partial evidence of this principle, and also countervailing evidence.

There was evidence of an overall Program mission that was comprehensively understood by Summer College participants, but the data also showed that a Program philosophy of education had not been clearly articulated. Summer College early field placement participants affirmed Program documents and statements by staff that the Program was designed to improve STEM teaching in high-need City schools. Summer College respondents' comments were consistent about a few details, including the Program's emphasis on STEM content knowledge among prospective teachers and a value on teaching in a high-need school, as illustrated by the examples below.

I'm trying to think of the formal statement: to produce well-qualified STEM teachers to meet the needs of high-need students or high-need schools. (Summer College placement participant 3)

To reach out to students who really need good teachers, learn how to teach students from different types of backgrounds and truly care about their education, be there because you want to be, and continue to have that drive even when it's difficult. (Summer College placement participant 4)

The Program tries to teach about cultural awareness, diversity, and how to interact with people...to promote children's educational success and also try to improve them as an individual in society. (Summer College placement participant 5)

Documentary and interview evidence shows that the Summer College mission to provide students from nearby high-need urban communities with intensive college-preparatory academics and study skills support (see PCS Context, Placement Participants, and Placement Structure) was similar to the Program's overall focus on local high-need student populations. The following comments are illustrative.

To offer the resources of a college prep program for students that would not otherwise have those resources. (Summer College placement participant 3)

The main focus was getting them ready for college, getting them prepared for the type of environment where they'll be on their own and they're going to have to go to the library and study. (Summer College placement participant 4)

In fact, one interview respondent linked the missions of the Program and that of Summer College.

It's funny because [Program's mission] really coincides with the [Summer College] Program. It's going to places where the teaching isn't that great, the resources aren't really there, and the whole attitude towards education is unproductive and turning it around to a great environment for teaching and for learning. (Summer College placement participant 2)

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2.2. Themes of culture, instruction, learning, and equity in other Program components

The possible indicator of this element was that themes of culture, instruction, learning, and equity are presented in other Program components. This element was evident for Summer College placements. As seen throughout this discussion, Program participants in Summer College applied learning placements and Program staff connected these themes to a variety of Program activities. For example, Summer College tutor-counselors described participating in a variety of Program activities that engage academic, school-based, and community knowledge (see *Multiple Types and Sources of Knowledge*). These included emphasizing STEM content, watching and discussing films about urban schooling, and building relationships with peers and Program staff at "family" meetings. Examples are shown below.

> *The path that [Program staff] has laid out for us is clear with our not just becoming good teachers, but also being very well acquainted with our field. So whereas I could be getting a degree in education I'm getting a degree in my field and a certification. (Summer College placement participant 3)*

> *We recently went down to [the City]. We watched* Waiting for Superman*, the movie about the educational system in America. Afterwards, we reflected about it and we had a discussion about ideas we had about correcting the educational system. (Summer College placement participant 5)*

> *At the cohort meeting...we engaged in icebreakers and team builders to get to know each other and then we talked about the different things that we were engaged in on campus and why we want to become teachers. We discussed cultural diversity and what that really meant and how that applied to our lives and how that could be applied to the children that we're teaching. (Summer College placement participant 1)*

2.3. Participants' backgrounds, abilities, and learning styles considered

The possible indicator of this element was that Summer College placement participants' backgrounds, abilities, and/or learning styles are considered in placement selection, monitoring, and/or assessment. There was evidence of this element in terms of placement selection, although Program participants did not appear to be aware of the informal considerations described by Program staff. Specifically, Program staff explained that Program participants are informed of a variety of early field placement options and individually encouraged to take advantage of those that seem most timely based on their academics, experiences, and aspirations. Participants then self-select.

The MPTEP principle *Multicultural Perspectives* was evident overall, as illustrated in Table 5-2 above. The discussion turns to the next principle.

Principle 3: Learning Assumptions and Expectations

> The program is based on the assumption that all students in elementary and secondary schools bring knowledge, skills, and experiences that should be used as resources in teaching and learning, and that high expectations for learning are held for all students (Zeichner et al., 1998, p. 166).

Examination of the MPTEP panel's language, related literature, and publicly available documentary evidence led to the identification and examination of two elements within this principle:

3.1. Assumptions about students; and

3.2. High academic expectations.

Each will be discussed below.

3.1. Assumptions about students

The possible indicator of this element identified before data were collected was that building on students' prior knowledge was referenced and/or observed. A second indicator was incorporated during data collection, namely specific articulated assumptions about urban students' knowledge and skills. There were insufficient data regarding this element to draw a conclusion.

Although there was evidence of Summer College placement participants' efforts to build on students' prior knowledge, the data were insufficient to draw a conclusion. The clearest evidence came from two complementary descriptions of a Summer College math course that tutor-counselors subdivided to better address students' varied preparation. However, similar comments were not made by two daytime tutor-counselors and the residential tutor-counselor interviewed for the study acknowledged his disconnection from the academic activities of Summer College high school student participants, which generally occurred during the day.

A variety of specific assumptions about urban students were stated during interviews with Summer College placement participants, although none directly addressed students' knowledge and skills. Rather, articulated assumptions related to students' stability and academic encouragement at home (both positive and negative), general desire to succeed academically, and lack of interest in math.

3.2. High academic expectations

The possible indicators of this element, as identified before interviews were conducted, relate to high performance standards for all students and multiple examples of

ways students demonstrate academic success. There was partial evidence of this element, although there were insufficient data collected regarding ways students demonstrate high academic success.

As addressed above regarding similarities of the Program and Summer College missions, high performance standards were seen in Summer College's college preparatory mission, as well as descriptions of intense academics. While Summer College tutor-counselors did not articulate clear performance standards for students, such expectations were implicit when they discussed other topics, such as students' challenging courses (e.g., calculus, statistics) and college preparation in general.

The MPTEP principle *Learning Assumptions and Expectations* was partially evident overall. This is illustrated in Table 5-2 above.

Principle 4: Multiple Types and Sources of Knowledge

> The program draws upon and validates multiple types and
> sources of knowledge (Zeichner et al., 1998, p. 169).

Examination of the MPTEP panel's language, related literature, and extant public documentation of the Program and Summer College led to the identification and examination of reliance on the following elements in Program early field placements:

4.1. Academic knowledge;
4.2. Faculty/staff knowledge; and
4.3. Family/community knowledge.

Each is discussed below.

4.1. Academic knowledge

The possible indicator of this element identified before Summer College interview data were collected relates to guided reflection that includes texts by urban teachers and community members. An additional indicator, relating to use of academic content in lesson facilitation, was identified in response to comments made during interviews and subsequent review of this concept in the literature.

As described above (see *Field Experiences Explore Sociocultural Diversity*), there was reportedly limited or no use of prompted reflection as a teaching or staff development tool for placements at Summer College. Only one participant mentioned receiving guiding questions and there was no evidence of facilitative texts highlighting the contributions of urban teachers and/or community members.

The use of academic content in lesson facilitation was partially evident, but the data were limited. A few tutor-counselors specifically indicated ways in which they drew on academic sources, particularly mathematics, in planning lessons for Summer College students, as illustrated by the following example.

> *I need to know what needs to be brought across to them, what they need to know. From there, I like to see what other people have done [on the internet and in textbooks] because there's no sense in reinventing the wheel. See different takes on it and then put my own spin on it. (Summer College placement participant 1)*

4.2. Faculty/staff knowledge

The possible indicator of this element, identified before interview data were collected, relates to whether teachers/supervisors and other staff mentor early field placement participants. Based on the data collected from tutor-counselors' interview

descriptions, mentoring by Summer College staff and leaders of a sort likely envisioned by the MPTEP panel was not evident. Program participants reported some collective administrative efforts at meetings (see Careful placement planning and monitoring), but routine guidance to tutor-counselors on effectively engaging with students with increasing levels of responsibility was not described.

4.3. Family/community knowledge

The possible indicator of this element identified from the literature and relevant documents was that family and/or community members mentor participants as part of the early field placement. This element was not evident, although a residential tutor-counselor described interactions with a few students' parents at events. Most interactions with parents/guardians or other family members were limited to occasional passing contact regarding administrative details. The following example comment is illustrative.

> *With a majority of them, you'd see the parents once in a while. Sometimes you'd see them only at pickup or drop-off. Some of the students you wouldn't even see a parent through the whole program because a brother or a cousin or a friend was dropping them off and picking them up and then wouldn't come to the events or wouldn't come to the family things. (Summer College placement participant 2)*

As discussed above (see *Field Experiences Explore Sociocultural Diversity*) there was no coordinated involvement with the community.

The MPTEP principle *Multiple Types and Sources of Knowledge* was not evident from the data collected on Program early field placements at Summer College, as shown in Table 5-2 above. The discussion turns to the next principle.

Principle 5: Exploration of Identities and Cultures

> The program helps prospective teachers reexamine their own and others' multiple and interrelated identities (Zeichner et al., 1998, p. 168).

Examination of the MPTEP panel's language, related literature, and extant public documentation about Program early field placements suggested two elements for exploration in this study:

5.1. Participants explore their own identities and cultures; and

5.2. Participants explore others' identities and cultures.

Each will be addressed below.

5.1. Exploration of own identities and cultures

The possible indicator of this element identified before interview data were collected was that reflection involves exploration of participants' identities as complex and multidimensional. As discussed above (see *Field Experiences Explore Sociocultural Diversity* and *Multiple Types and Sources of Knowledge*), the data showed no or limited use of reflection as a tool. Although tutor-counselors commonly mentioned their own racial and class backgrounds and schooling experiences in interviews, no formal exploration of their identities was evident from the data collected on the Program applied learning placement at Summer College.

5.2. Exploration of others' identities and cultures

The two possible indicators of this element both related to reflection, the first as considering the histories, contributions, and current status of groups in society, and the second as examining participants' attitudes and beliefs about the common group attributes and variability of urban children and families. This element was not evident.

The data on this point were very limited, although the one placement participant who described Program-guided reflection (see *Field Experiences Explore Sociocultural Diversity*) mentioned student demographics as an area of inquiry.

The MPTEP principle *Exploration of Identities and Cultures* was not evident in Program placements at Summer College, [44] as shown below in table 5-2 above. Discussion turns to the next principle.

Principle 6: University Programs as Multicultural Laboratories

> The program teaches prospective teachers how to change power
> and privilege in multicultural classrooms (Zeichner et al., 1998,
> p. 169).

Examination of the MPTEP panel's language and related literature led to the identification of two elements within this principle:

6.1. Choice in placements; and
6.2. Choice in assessments.
Each will be addressed below.

6.1. Choice in placements

The possible indicator of this element, as identified before interview data were collected, was that participants have options in Program early field placement sites. This element was evident. All Program placement early field placement participants at Summer College agreed that Program staff provided information about various opportunities to engage with urban children and youth in schools and other educational contexts. Program staff described providing individualized suggestions to participants,

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[44] Summer College placement participants' comments suggested that exploration of identifies and cultures may take place in other Program components (see *Multicultural Perspectives*).

based on their unique academic and professional goals and priorities. Participants then

select at least one placement each year. Several Summer College placement participants,

including the following, described the value of being provided with specific career-

building options by a Program staff member, as well as the added benefit of working with

peers from the Program.

> *[Program staff] always gives us options of things to get involved in, and [Summer College] was one of the things on the list of options. (Summer College placement participant 2)*

> *The other option I had heard about was in the city. [Summer College] seemed more convenient...Some other [Program participants] were doing it too. It was nice to have them there. (Summer College placement participant 4)*

6.2. Choice in assessments

The two possible indicators of this element were that participants help make

decisions about how their early field placement performance will be assessed and help

select texts for reflection. This element was not evident.

The Summer College placement was not formally assessed by the Program, but

tutor-counselors' individual and collective performance was said to be assessed by

Summer College administrators, as described in the following comment.

> *We had midpoint interviews or evaluations with the people in charge…. and then towards the end we had a second meeting just to let us know how we were doing, what they thought of the program so far and how the counselors were interacting with the students and each other. (Summer College placement participant 2)*

As discussed above, the Summer College placements did not include formal

reflection.

The data show that the principle *University Programs as Multicultural Laboratories* was partially evident, with substantial countervailing evidence regarding elements that were not present, as shown in table 5-2 above. The discussion turns to the relevance to Summer College early field placements of the three MPTEP principles related to desired Program outcomes.

Principles Guiding Desired Outcomes: Summer College Placements

Like the data about the first six principles, the findings regarding in what ways Program early field placements at Summer College reflected three MPTEP principles regarding desired outcomes, in terms of participants' readiness and commitment to teach in high-need urban schools, were limited by the data sources available. The discussion of findings will be presented similarly. For each principle, it will incorporate language from the MPTEP panel and set forth the elements derived from the literature and public documents, possible indicators that were identified before Summer College interviews were conducted, and any changes to the indicators that emerged. The text will summarize the relevant data and include examples. Discussion of the MPTEP principles regarding outcomes will begin with *Understanding Sociocultural Context of Schooling*.

Principle 7: Understanding Sociocultural Context of Schooling

> The program fosters the understanding that teaching and learning occur in socio-political contexts that are not neutral but are based on relationships of power and privilege (Zeichner et al., 1998, p. 168).

Examination of the MPTEP panel's language and related literature led to the identification and examination of two elements within this principle:

7.1. Participant understands power/privilege associated with race, ethnicity, gender, and class; and

7.2. Participant understands sociocultural context of high-need schools.

Each will be discussed below.

7.1. Participants understand power/privilege associated with race, ethnicity, gender, class

The possible indicator of this element identified before interview data were collected was that placement participants do not show favoritism based on race, ethnicity, gender, or social class. An additional possible indicator was added during data analysis, namely that participants demonstrate understanding of unequal power relations. There were insufficient data on this element to draw a conclusion.

There were insufficient data relevant to the possible indicator, absence of favoritism. As described above, there was minimal diversity in the racial, ethnic, and social class backgrounds of high school students participating in Summer College (see PCS Context, Placement Participants, and Placement Structure). Virtually all students were Black, from low-income families, and would be first generation college students. In no interviews did placement participants articulate favoritism or preference for a particular group, but the topic may not have been mentioned due to respondents' awareness of socially desirable answers.

An additional possible indicator was added during data analysis to align the research more closely with the MPTEP panel's language and the body of relevant scholarship, but there were insufficient data from Summer College placements to draw the conclusion that participants demonstrate understanding of unequal power relations. The literature suggests that understanding unequal power relations may help teachers

overcome "blame the victim" or "cultural deficit" orientations toward urban students (see, e.g., Sleeter & Grant, 2007; Villegas & Lucas, 2002; Zeichner, 2005). Most Summer College tutor-scholars interviewed neutrally referenced race and/or racial differences, but did not mention concepts associated with power and privilege, perhaps at least in part because these terms were excluded from interview guides.

7.2. Participants understand sociocultural context of high-need schools

One possible indicator of this element was identified before interview data were collected, namely that participants discuss how society and school affect academic achievement and equality. There was insufficient evidence of this element, given the minimal discussion on point during interviews with Summer College placement participants. A few Summer College early field placement participants mentioned social context at a basic level as part of the discussion, shown below.

> *I went to a public school up through 9th grade and transferred to a private school. I saw the disparity there and I just really wanted to be a good public school teacher. (Summer College placement participant 3)*

> *A lot of people go into high-needs schools thinking, I'm going into a high-need school and that affects how they teach. If you can get a teacher who's ...going to teach in an adaptive way that's not teaching down to the students. (Summer College placement participant 2)*

There was insufficient evidence of the principle *Understanding Sociocultural Context of Schooling,* as depicted in Table 5-3.

Table 5-3 Summary of Findings from Research Question 2: Public Charter School

Principles	MPTEP Description Excerpt^	Evidence of Principles	Elements	Evidence of Elements
Understanding Sociocultural Context of Schooling	The program fosters the understanding that teaching and learning occur in socio-political contexts that are not neutral but are based on relationships of power and privilege (Zeichner et al., 1998, p. 168).	*	Participants understand power/privilege associated with race, ethnicity, gender, class	*
			Participants understand sociocultural context of high-need schools	*
Cultural Competence, Relevance, and Responsiveness	The program teaches prospective teachers how to learn about students, families, and communities, and how to use knowledge of culturally diverse students' backgrounds in planning, delivering, and evaluating instruction (Zeichner et al., 1998, p. 167).	⊙*	Participants explore knowledge of students in planning instruction	⊙⊘
			Participants use knowledge students bring to school to help them engage and learn	*
			Participants use knowledge of students in evaluating instruction	*
			Participants are confident and comfortable about teaching in high-need schools	⊙
Commitment to Educational Equity	The program helps prospective teachers develop the commitment to be change agents who work to promote greater equity and social justice in schooling and society. (Zeichner et al., 1998, p. 168).	⊙	Participants are committed to social change	⊙⊘
			Participants are committed to educational equity	⊙
			Participants intend to teach in high-need schools	⊙

● Evident
⊙ Partially evident
⊘ Not evident/countervailing evidence (can coexist with other signals)
* Insufficient data
^ In this study, the MPTEP language was applied to the Program, rather than to a larger University context.

Principle 8: Cultural Competence, Relevance, and Responsiveness

> The program teaches prospective teachers how to learn about students, families, and communities, and how to use knowledge of culturally diverse students' backgrounds in planning, delivering, and evaluating instruction (Zeichner et al., 1998, p. 167).

Examination of the literature and public documents led to the identification of the following elements of this principle and how they relate to Program early field experiences:

8.1. Participants explore knowledge of students in planning instruction;

8.2. Participants use knowledge students bring to school to help them engage and learn;

8.3. Participants use knowledge of students in evaluating instruction; and

8.4. Participants are confident and comfortable about teaching in high-need schools.

Each is discussed below.

8.1. Participants explore knowledge of students in planning instruction

Six possible indicators of this element were drawn from the extensive body of scholarly literature on this topic:

- Participants observe/interact with students in the classroom;
- Participants discuss/show familiarity with students;
- Participants observe/interact with students outside of the classroom;
- Participants consult/observe other teachers/site staff;
- Participants interact with parents/guardians;
- Participants make home visits; and
- Participants interact with community members.

These indicators were adapted slightly from those developed prior to data collection in order to eliminate redundancies and more fully cover the concepts emphasized by the MPTEP panel. This element was partially evident, but there was also countervailing evidence related to several indicators, as detailed in the discussion that follows.

Observing/interacting with students in the classroom was partially evident among Program applied learning participants at Summer College. As described above, the study found evidence of classroom interactions between daytime tutor-counselors and participating high school students (see Summer College Context, Placement Participants,

and Placement Structure). In addition, there was prominent discussion about the limited

involvement of residential tutor-counselors with students' academics. The following

examples, from interviews with a Summer College daytime and a residential tutor-

counselor, respectively, illustrate the contrast.

> *We ended up breaking the class into three sections: basic trig, statistics, and calculus…I took over as the statistics teacher. I made the lessons, I gave them worksheets. I did everything myself and so did another tutor-counselor who took over the calculus one, and then the instructor took over another one. (Summer College placement participant 1)*

> *I was residential...I thought it would be more education-based and more school involved, but they had a whole separate group of counselors for that. If the kids had homework problems or if during study time they needed help, we were there for them, but for the most part it wasn't. (Summer College placement participant 2)*

It was evident that all Summer College field placement participants

discussed/showed familiarity with students, as recounted by tutor-counselors in

interviews. The following examples reveal tutor-counselors' views about the closeness

with students they developed through the placement.

> *They respected me and they liked me, too. It was a really good experience to know how to balance teaching with being a mentor. Some of them bonded with me, and others bonded with other tutor-counselors that they were able to connect with. (Summer College placement participant 1)*

> *Emotionally, you form connections....You hear about their home lives and what they've experienced, their dreams, their goals… Stuff as serious as witnessing murders or having friends be killed, witnessing or experiencing drug use, dealing with having a mother who's a single parent that has to work and having so much free time after school to do whatever they want, getting into trouble, and trying to stay out of trouble.   (Summer College placement participant 2)*

Individual and group interaction with students outside the classroom was evident

among all Summer College placement participants in the study. For daytime tutor-

counselors, this occurred primarily at meals, during study halls, and between scheduled daily events. For the residential tutor-counselors connections were made was during scheduled evening events and small blocks of unstructured free time in the dorms. The following comments are examples.

> *I talked to a lot of the females about their weekend and how it was. This one girl would just talk.... (Summer College placement participant 4)*

> *We went on field trips after hours and would often help them move back in. You definitely learn a lot about them. (Summer College placement participant 3)*

Consultations/observations with Summer College personnel were partially evident. As described above, tutor-counselors all described routine informal interactions within their staff groups, including an instructor on the daytime staff and a residential administrator in the dorms, as well as varying levels of more formal consultation during the placement (see Summer College Context, Placement Participants, and Placement Structure). However, they also highlighted challenges associated with the relative autonomy, individually and by team, and suggested that greater opportunities to work together would have been an improvement.

There was partial evidence that placement participants interacted with parents or other family members of the high school students with whom they worked at Sumer College. Interview comments suggest that conversations occurred only in passing during students' weekly drop off or at special events during which families were focused on their children (see *Multiple Types and Sources of Knowledge*). It does not appear that these conversations took place in a manner that might have helped early field placement

participants to "understand the way life is organized in the communities where the children live" (see Zeichner et al., 1998, p. 167).

Participants neither made home visits nor interacted with community members, as described above (see *Field Experiences Explore Sociocultural Diversity, Multiple Types and Sources of Knowledge*).

8.2. Participants use knowledge students bring to school to help them engage and learn

The following possible indicators of this element were identified from the abundant literature on this topic:

- Participants select and use culturally relevant texts;
- Participants design activities that engage students in personally and culturally appropriate ways;
- Participants address multiple learning styles;
- Participants individualize/adapt teaching approach based on student cues;
- Participants show interest and enthusiasm about teaching;
- Participants encourage and respond to student questions; and
- All/most students participate.

Although Summer College early field placement participants commented minimally on these topics in interviews, there were insufficient data related to each possible indicator and the element overall.

There was partial evidence of Summer College early field placement participants' efforts to learn about students and use information to engage them in appropriate ways. The data consisted of remarks by a few daytime tutor-counselors regarding efforts to learn about high school students, and adapt the curriculum to meet their needs and develop their interest in math, as shown below.

The way the summer was supposed to work was that kids would take classes that would prepare them for their classes the next semester. The way they had it was that kids going into Algebra II, Pre-Calc and Calculus were all in the same class....We couldn't just cover stuff that the Calculus kids would need because then the other two groups would be lost. We split them up into different sections. (Summer College placement participant 3)

It's good to get this practice, and I try to show them what it's good for other than just getting a grade and passing a class. (Summer College placement participant 4)

There were insufficient data regarding whether participants addressed multiple learning styles. Relevant comments were limited to a subset of the daytime tutor counselor who mentioned use of lecture, discussions, examples, and simulation in class.

There was evidence of Summer College early field placement participants' interest and enthusiasm about teaching. All participants interviewed described the desire to share appreciation for their fields of study and appeared enthusiastic about teaching. The following comment is an example.

When you teach someone who isn't getting it and then they finally do, it's really rewarding (Summer College placement participant 4)

There was partial evidence, among the daytime tutor-counselors, that participants individualized/adapted their teaching approaches based on student cues. The following general comment adaptation in the classroom is an example.

I try to break it down to where they're confused, because a lot of times they can't tell you exactly what they're confused about. It's just like, I don't get this. (Summer College placement participant 4)

Interview respondents did not address the use of culturally relevant texts in early field experiences at Summer College. There was insufficient evidence that Summer College placement participants encouraged and responded to student academic questions.

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There were insufficient data to draw a conclusion about whether all or most students participated in academic activities. There were a few comments about students falling asleep in class during classroom activities that suggested this may be a potential issue for future exploration. It may say something about what was happening in the dorm at night and suggests another reason for improved coordination between daytime and residential tutor-counselors.

> *Once I started covering new material, they all seemed pretty motivated. The kids that would sleep on their desks would perk up every once in a while. (Summer College placement participant 3)*

> *Kids would be falling asleep in the class all the time and it would be our job to... monitor their behavior. (Summer College placement participant 5)*

8.3. Participants use knowledge of students in evaluating instruction

The possible indicator of this element was that participants use a variety of assessment strategies. Data collected on participants' involvement were insufficient to draw a conclusion about whether they "use a variety of evaluation strategies that maximize students' opportunities to display what they know in ways that are familiar to them" (see Zeichner et al., 1998, p. 167).

8.4. Participants are confident and comfortable about teaching in high-need schools

The possible indicator of this element identified before interview data were collected was that participants report confidence about teaching in a high-need school. A second indicator was developed during data analysis to more fully address concerns expressed in the literature about prospective teachers' potential for discomfort in low-income Black schooling contexts. This element was partially evident.

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Confidence to teach in a high-need school was partially evident among Summer College placement participants interviewed. Respondents reported variable confidence about teaching in a classroom, in general, at the time they were interviewed. Academic tutor-counselors voiced more confidence about being in the classroom than did the residential tutor-counselor, who wanted more experience first, as shown in the following interview excerpts from a daytime and residential tutor-counselor, respectively.

> *I feel about 75 percent there. That final 25 percent I won't be able to get until I've had my internship… But at this point, especially after this summer, I think I'll be a lot more effective than I ever thought I could be in that environment. (Summer College placement participant 2)*

The literature shows that being comfortable in a high-need school requires that a teacher be at ease in the cultural environment. While not all participants commented on the topic, a few reported gaining comfort working with low-income Black students resulting from the Summer College placement, or partial evidence. Notably, while some uncertainty about working with Black urban students before the placement was reported, no Summer College participants reported discomfort or seemed uneasy about it at the time they were interviewed.

The MPTEP principle *Cultural Competence, Relevance, and Responsiveness* was partially evident in Summer College placements, with the caveat that there were insufficient data on several elements to draw a firm conclusion. This is illustrated in Table 5-3 at the conclusion of this section on desired outcomes.

Principle 9: Commitment to Educational Equity

> The program helps prospective teachers develop the commitment
> to be change agents who work to promote greater equity and
> social justice in schooling and society. (Zeichner et al., 1998, p.
> 168).

Examination of the MPTEP panel's language and related literature led to the

identification of the following elements within this principle related to desired outcomes:

9.1. Participants are committed to social change;

9.2. Participants are committed to educational equity; and

9.3. Participants intend to teach in high-need schools.

The degree to which each was relevant to Program early field placements at

Summer College is explored below.

9.1. Participants are committed to social change

The MPTEP panel wrote: "students should be encouraged to become actively

engaged in community service and political activities that promote a more humane and

just society" (Zeichner, 1998, 168–169). Two possible indicators were therefore

identified: participants are engaged in community service, and participants are engaged in

political activities. This element was partially evident, but there was also countervailing

evidence.

Several Summer College applied learning placement participants described a

variety of activities in which they engaged to serve and build community, but not all did.

For example, one student was deeply involved with service-learning activities and

another was a leader of an ethnicity-based club.

Summer College placement participants did not appear to be actively engaged in

political activities. No tutor-counselors described political involvement and Program

staff confirmed Program participants' general penchant for community service, but not political involvement.

9.2. Participants are committed to educational equity

Two possible indicators of this element were identified before data were collected: participants are interested in pursuing equity in schools, communities, and/or districts, and participants are knowledgeable about collective nature of teaching. This element was partially evident.

Most participants referenced educational equity as important, specifically in terms of providing quality schooling in high-need City contexts. The following comments are illustrative.

> *[City] kids deserve that chance to be successful and obviously they aren't performing well on tests and it's not fair. It has a lot to do with teachers that aren't willing to stay where they are. (Summer College placement participant 1)*
>
> *I feel like I'd be doing a lot more with my life if I worked in a high need area. (Summer College placement participant 4)*

However, although the Program participants interviewed about Summer College early field placement experiences emphasized change wrought by individuals, including themselves potentially, but paid only token attention to issues regarding "structural relationships in schools, districts, and communities" (see Zeichner et al., 1998, p. 168). That is, mentioning achievement differences or "making a difference" or do not appear to rise to the level of evidence the MPTEP panel might seek in this regard.

Summer College tutor-counselors' views about the importance of collaborative efforts to support students were inferred from their interview responses. These included

not only discussions of ways in which they worked together within their Summer College teams, but also critiques regarding areas in which they would have valued greater opportunities for collaboration. As discussed above (see *Field Experiences Explore Sociocultural Diversity*), participants generally sought a more collective experience.

9.3. Participants intend to teach in high-need schools

Two possible indicators of this element were identified before interviews were conducted: participants value teaching as an occupation, and participants report/show a strong desire to teach in a high-need urban district. This element was evident for Program early field placements at Summer College, but possible barriers were also identified.

The value that Summer College tutor-counselors placed on teaching as an occupation was evident, as seen in the following interview excerpt.

> *When your teacher believes in you, you're going to believe in yourself...What they need to see is that someone's there to support them, and someone really does believe in what they can do and what they're capable of. (Summer College placement participant 4)*

Although there was variation in the source of participants' desire to become teachers, all reported ongoing efforts to become certified as teachers and intentions to enter the occupation when they complete their schooling. Each described a passion for learning about his/her STEM major and the desire to share that interest with others, as seen in the comments that follow.

> *I love science… natural sciences like geography or zoology especially. That's my favorite, it just fascinates me. (Summer College placement participant 2)*

> *Biology is what I'm passionate in. It's something that I could teach for
> hours. (Summer College placement participant 5)*

Participants' desire to teach in a high-need school was partially evident. A few Summer College placement participants were optimistic, but a few expressed clear uncertainty about whether that choice would ultimately prove to be the right one for them. This variation is illustrated in the following comments.

> *I plan on teaching in the city or in a predominantly African-American
> school eventually. (Summer College placement participant 3)*

> *I'd like to think I have what it takes but I won't know until I'm in there and
> really put in a couple years and get to assess after I've had some
> experience. (Summer College placement participant 2)*

> *Program wants us to teach in the city and I'm definitely considering that.
> I need more experience to see if that's something that's right for me.
> (Summer College placement participant 4)*

The MPTEP principle *Commitment to Educational Equity* was partially evident in Program early field experiences at Summer College, as shown in Table 5-3 above.

Summary of Summer College Findings Based on the Research Questions

As the literature discussed in Chapter 2 suggested and the findings confirm, examination of how Program early field placements at Summer College reflect the nine principles of good practice set forth by the MPTEP panel reveals complex, but incomplete answers. For several principles examined, there were insufficient data to draw a clear conclusion. As explored in Chapter 6, conducting observations and/or interviews with Summer College personnel would likely have enriched the data for this case in a meaningful way. Overall findings based on the research questions are summarized in Table 5-4 and below.

Table 5-4 Summary of Findings from Summer College Placements

Research Questions	Principles	MPTEP Description Excerpts^	Summer College
Q1. In what ways do the Program's early field placements reflect six multicultural education principles related to preservice teacher preparation activities?	*1. Field Experiences Explore Sociocultural Diversity*	The program provides carefully planned and varied field experiences that explore sociocultural diversity in schools and communities (Zeichner et al., 1998, p. 168).	⊙⊘
	2. Multicultural Perspectives	Multicultural perspectives permeate the entire teacher education curriculum, including general education courses and those in academic subject matter areas (Zeichner et al., 1998, p. 165).	●
	3. Learning Assumptions and Expectations	The program is based on the assumption that all students in elementary and secondary schools bring knowledge, skills, and experiences that should be used as resources in teaching and learning, and that high expectations for learning are held for all students (Zeichner et al., 1998, p. 166).	●
	4. Multiple Types and Sources of Knowledge	The program draws upon and validates multiple types and sources of knowledge (Zeichner et al., 1998, p. 169).	⊘*
	5. Exploration of Identities and Cultures	The program helps prospective teachers reexamine their own and others' multiple and interrelated identities (Zeichner et al., 1998, p. 168).	⊘
	6. University Programs as Multicultural Laboratories	The program teaches prospective teachers how to change power and privilege in multicultural classrooms (Zeichner et al., 1998, p. 169).	⊙⊘
Q2. In what ways do the Program's early field placements reflect three multicultural education principles related to desired outcomes in terms of participants' readiness and commitment to teach in high-need urban schools?	*7. Understanding Sociocultural Context of Schooling*	The program fosters the understanding that teaching and learning occur in socio-political contexts that are not neutral but are based on relationships of power and privilege (Zeichner et al., 1998, p. 168).	*
	8. Cultural Competence, Relevance, and Responsiveness	The program teaches prospective teachers how to learn about students, families, and communities, and how to use knowledge of culturally diverse students' backgrounds in planning, delivering, and evaluating instruction (Zeichner et al., 1998, p. 167).	⊙*
	9. Commitment to Educational Equity	The program helps prospective teachers develop the commitment to be change agents who work to promote greater equity and social justice in schooling and society. (Zeichner et al., 1998, p. 168).	●

● Evident
⊙ Partially evident
⊘ Not evident/countervailing evidence (can coexist with other signals)
* Insufficient data
^ In this study, the MPTEP language was applied to the Program, rather than to a larger University context.

Research Question 1. In what ways do the Program's early field placements

reflect six multicultural education principles related to preservice teacher

preparation activities?

Three multicultural education principles related to preservice teacher support activities were reflected to varying degrees in Program applied learning placements at Summer College overall.

1. *Field Experiences Explore Sociocultural Diversity,* the principle thought to be most relevant to this research, was partially evident overall, with notable countervailing evidence related to several elements and insufficient data regarding one of the elements.

2. *Multicultural Perspectives* was evident.

3. *Learning Assumptions and Expectations* was partially evident overall, with a caveat that the data collected were insufficient to draw a firm conclusion.

Two principles were not evident and data were particularly weak in some areas.

4. *Multiple Types and Sources of Knowledge* was not evident from the data collected on Summer College placements.

5. *Exploration of Identities and Cultures* was not evident from the data collected on Summer College placements.

6. The principle *University Programs as Multicultural Laboratories* was partially evident, with substantial countervailing evidence.

Research Question 2. In what ways do the Program's early field placements reflect three multicultural education principles related to desired outcomes in terms of participants' readiness and commitment to teach in high-need urban schools?

Two multicultural education principles related to desired outcomes were partially evident in Program placements at Summer College, but the data were insufficient for two draw a conclusion for one and for two elements of another.

7. *Commitment to Educational Equity* was partially evident in Program early field experiences at Summer College.

8. *Cultural Competence, Relevance, and Responsiveness* was partially evident in Summer College placements, with insufficient data to draw a firm conclusion.

9. There was insufficient evidence of the principle *Understanding Sociocultural Context of Schooling*.

In addition, this research found that the MPTEP principles provided a useful theoretical framework around which to design, analyze, and report on the case of Program early field experiences at Summer College. Study conclusions and implications will be discussed next.

Chapter 6: Conclusions and Implications

This chapter shares conclusions drawn from the study findings and suggests implications. The dual focus is on supporting practitioners' work to design and guide early field placements for prospective teachers in urban settings, particularly in critical shortage areas like STEM, and related scholarly contributions.

Conclusions

This study adds to the growing body of research examining early urban field placements for prospective teachers as one way to help address acute shortages of STEM teachers in high-need urban schools (see, e.g., Cochran-Smith & Zeichner, 2005; Darling-Hammond, 2007; NCTAF, 2003), thereby helping to redress concerns about racial disparities in academic achievement and preparedness for STEM careers (e.g., Business Roundtable, 2005, 2008; College Board, 1999; Obama, 2009). Comments made by respondents in this study, including the following, echo the pressing need for effective preparation of teachers for urban schools.

> *Teaching in high-need schools has distinctly different requirements. You're a teacher, social worker, parent. There are some referrals to services. It's more than developing content. (PCS mentor teacher 2)*

> *I've never been in an inner city school in [the City] so maybe I'm just being biased, maybe I've seen* <u>The Wire</u> *too many times….. Teachers set a very low bar and they pass them, which I've heard happens in a lot of public schools. (PCS placement participant 1)*

The study examined two early field placements facilitated by a privately endowed preservice STEM teacher Program, using as a theoretical base nine Multicultural Preservice Teacher Education Panel (MPTEP) design principles of good practice.

Findings related to a City public charter school serving low-income Black students in grades 5 through 8 (PCS) (see Chapter 4), and Summer College, a University academic enrichment program for low-income youth in grades 9 through 11 (see Chapter 5) are illustrated in Table 6-1 to highlight areas of consistency and differentiation. As shown, most of the MPTEP principles related to preservice teacher support activities and desired outcomes were reflected to varying degrees in Program applied learning placements, although one was not (Principle 5, Exploration of Identities and Cultures). Based on the data collected, the principles were more evident in placements at PCS than at Summer College, although this was due at least in part to fewer sources of data related to Summer College placements.

Table 6-1 Summary: Evidence of MPTEP Principles in Two Early Field Placements

Research Questions	Principles	MPTEP Description Excerpts^	Public Charter School	Summer College
Q1. In what ways do the Program's early field placements reflect six multicultural education principles related to preservice teacher preparation activities?	*1. Field Experiences Explore Sociocultural Diversity*	The program provides carefully planned and varied field experiences that explore sociocultural diversity in schools and communities (Zeichner et al., 1998, p. 168).	●⊘	⊙⊘
	2. Multicultural Perspectives	Multicultural perspectives permeate the entire teacher education curriculum, including general education courses and those in academic subject matter areas (Zeichner et al., 1998, p. 165).	●	●
	3. Learning Assumptions and Expectations	The program is based on the assumption that all students in elementary and secondary schools bring knowledge, skills, and experiences that should be used as resources in teaching and learning, and that high expectations for learning are held for all students (Zeichner et al., 1998, p. 166).	●	●
	4. Multiple Types and Sources of Knowledge	The program draws upon and validates multiple types and sources of knowledge (Zeichner et al., 1998, p. 169).	⊙⊘	⊘*
	5. Exploration of Identities and Cultures	The program helps prospective teachers reexamine their own and others' multiple and interrelated identities (Zeichner et al., 1998, p. 168).	⊘	⊘
	6. University Programs as Multicultural Laboratories	The program teaches prospective teachers how to change power and privilege in multicultural classrooms (Zeichner et al., 1998, p. 169).	⊙⊘	⊙⊘
Q2. In what ways do the Program's early field placements reflect three multicultural education principles related to desired outcomes in terms of participants' readiness and commitment to teach in high-need urban schools?	*7. Understanding Sociocultural Context of Schooling*	The program fosters the understanding that teaching and learning occur in socio-political contexts that are not neutral but are based on relationships of power and privilege (Zeichner et al., 1998, p. 168).	⊙	*
	8. Cultural Competence, Relevance, and Responsiveness	The program teaches prospective teachers how to learn about students, families, and communities, and how to use knowledge of culturally diverse students' backgrounds in planning, delivering, and evaluating instruction (Zeichner et al., 1998, p. 167).	●	⊙*
	9. Commitment to Educational Equity	The program helps prospective teachers develop the commitment to be change agents who work to promote greater equity and social justice in schooling and society. (Zeichner et al., 1998, p. 168).	●	●

● Evident
⊙ Partially evident
⊘ Not evident/countervailing evidence (can coexist with other signals)
* Insufficient data
^ As used in this study, the MPTEP language was applied to the Program, rather than to a larger University context.

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Implications for Practice

Given the important and confounding challenges associated with preparing teachers for high-need urban schools, this section addresses the implications of this study for planning and implementing early field experiences in preservice teacher preparation for urban environments. There were several conclusions drawn from this research that may be of particular interest to Program personnel and other practitioners seeking to prepare teachers in shortage areas for high-need urban schools.

These areas of interest include two aspects of teacher preparation highlighted by the MPTEP panel that were particularly relevant to Program activities. First, the data collected showed that the Program emphasized multicultural perspectives. For example, personnel provided Program participants with activities through which to learn about culture and equity in schooling, and a selection of early field placement sites with missions to improve academics for local low-income predominantly Black students in and around the City. Second, positive learning assumptions and high academic expectations were evident in both placements studied. Such experiences in early urban field placements are thought to help counteract negative attitudes about urban students among preservice teachers, who are often predominantly White (see, e.g., Ng 2004, Sleeter, 2001).

In terms of desired Program outcomes, all 10 early field placement participants interviewed as part of this research articulated the desire to be agents for positive change in urban schools, with several specifically expressing the intention to reduce the achievement gap in math or science, dependent on the chosen field of study. Although it is premature to draw conclusions about their longer term plans and accomplishments, this

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was a positive sign that also suggests a potential area of future Program study. Finally, the data in this study suggested that PCS placement participants were developing the sort of cultural competence, relevance, and responsiveness advocated in the literature on good practice in teaching Black children and youth (see, e.g., Ladson-Billings, 1994). The scholarship shows that being comfortable working in the environment of a high-need school requires that the teacher be at ease in the cultural environment. While not all participants commented on the topic, most reported increased comfort in a low-income Black schooling context as a result of their Program early field experience and other Program activities.

The study also identified a variety of potential opportunities to improve the Program and its applied learning placements. The challenges addressed in the discussion that follows may also help others address the complex endeavor of preparing high quality teachers in STEM and other shortage areas for urban contexts. In terms of the MPTEP principle thought to be most relevant to this study, *Principle 1: Field Experiences Explore Sociocultural Diversity,* the data comprehensively showed that placement planning and monitoring for Program applied learning placements with PCS and Summer College could have been more "careful" and comprehensive. Placement participants, several of whom had taken few or no teacher training courses yet, mentioned limitations in the degree to which their academic coursework had prepared them. Further, all early field placement participants indicated that more frequent and complete communication could have been beneficial, both prior to and during placements. Providing additional information to introduce Program participants to each placement might improve their

sense of readiness, for example, through a visit to the site website, followed by a discussion with Program staff and/or a visit to the community in which students reside.

The consistent use of guided reflection in applied learning placements was referenced by some, but not all, of the placement participants interviewed, and was also mentioned with respect to the later teaching internship required as part of each participant's academic program. That guided reflection did not consistently have a strong part in the early field placements was one of the surprising findings in this study, given the focal role that reflective teaching plays in the literature on teaching and preparing new teachers (e.g., Schon, 1983; van Manen 1995; Zeichner, et al., 1998) as well as the philosophies of many teacher preparation programs. My own mentored training in using reflective journals and student written self-evaluation at the college level reaffirmed for me as a teacher the utility of loosely guided reflection in helping students make meaning of unfamiliar environments, interactions, and ideas. Programs facilitating early urban field placements that do not already do so might consider incorporating guided reflection into such activities or making it more intentional, given the emphasis by experts in the field. In fact, a Program placement participant indicated that the University's service-learning center assigns reflective writing to participants, for example, inquiring about what the service experience means to participants and how it applies to their career paths.

The notably limited inclusion of local urban community voices in these two Program placements suggested an opportunity that could be addressed, at least in part, by reading and discussing texts about schooling and culture by local authors. This might improve participants' expressed understanding of power and privilege in schooling. In addition, while participants' individual backgrounds, abilities, and learning styles were

found to be considered by Program staff, a reflective discussion of the efforts to address

Program participants' unique learning needs might provide additional benefit, both to

their sense of preparedness for placements and as prospective teachers who may have

similar responsibilities for their students in the future.

Although this study found that themes emphasized by the MPTEP panel with

respect to *Principle 2: Multicultural Perspectives* were presented in a variety of Program

components, it also found that Program had not articulated a clear philosophy of

education, an effort that may be both warranted and timely. The MPTEP panel stated the

following:

> Evidence from research and wisdom from best practice points out
> that in order for teacher education students to both understand
> and implement a multicultural perspective in their classes and
> during their field experiences, such a perspective should
> permeate the entire curriculum of their teacher education
> programs including courses taken outside their schools,
> departments, and colleges of education. (Zeichner, et al., p. 165)

Although the Program's activities fall outside the purview of the University's Department

of Education courses, developing a philosophy could help ensure that a clearly stated

multicultural or culturally responsive perspective is coherently integrated into all

activities facilitated by the Program. The MPTEP principles used in this study might

provide a useful guide. For example, the high expectations for urban students in high-

need schools articulated throughout Program early field placements were encouraging, a

contrast to the challenges and concerns represented in the literature, and might be an

educational tenet or principle of a program seeking to prepare urban STEM teachers.

The study also showed what appeared to be limited communication during the

Summer College program among the daytime academic counselors, the evening

residential counselors, and Summer College's professional staff.   Several respondents

expressed strong views on the issue and, while it appeared to have affected their

experiences as tutor-counselors, it is unclear what impact it may have had on them as

prospective future STEM teachers. More interactions between the groups on the

objectives for the program during the summer, including expected behavior in the dorm

and how that links to academic performance in high school and in college might benefit

both the Program early field placement participants' development as teachers, and also

the Summer College program outcomes for participating high school students. Further

investigation is warranted as part of future monitoring or evaluation of Program early

field placements.

As a final note regarding implications for practice, assessing participants'

preparedness to teach independently, in a high-need school or elsewhere, is beyond the

scope of this study. However, a few participants shared feelings about the daunting

duties of a teacher and their readiness overall. Since these are relevant to Program's

continuing efforts to prepare STEM teachers for City schools, remarks of potential

interest are included below.

> *I don't feel comfortable making a lesson plan and then just going up and implementing it all by myself. I feel like I would still need some assistance. (PCS placement participant 2)*

> *Of course you're going to be nervous about something that means a lot to you and it does mean a lot to me....It's not just management, it's not just the lessons, but you're having to apply it to all the levels of students in your classroom… and to meet each of the standards and advance them in their own ways. That's a lot for one person to be able to accomplish…. (PCS placement participant 5)*

In general, this examination of two applied learning placements was a starting point. Further inquiry by the Program into several aspects of applied learning placements, as well as other activities, may be warranted. In particular, given the more limited data collected regarding Summer College, it would be useful to make further inquiry into and perhaps observations of tutor-counselors' activities, in terms of their interactions with students and how the positions may affect their development as prospective teachers.

Implications for Future Research

This study advances the research and suggests three major avenues for related exploration and two methodological recommendations. First, although it was limited to early field placements facilitated by a small and unique program, the findings provide new and in-depth information about a tool that scholars and practitioners believe to be essential for preparing prospective teachers for high-need city schools, namely early urban field experiences. Previously, there was ample discourse about early field experiences in high-need urban contexts, but little empirical research. The study provides a detailed look at two very different placements in the context of a distinctive program seeking to help prepare prospective STEM teachers for City schools, deepening understanding about the activities and potential outcomes that can be associated with such placements.

Given the diversity of early urban field placements offered nationwide and the numerous aspects deemed important in the literature, further research exploring the activities and desired outcomes associated with a range of early field placements is

recommended.   Related to this, participants in both placements in this study reported feeling some uncertainty about working with Black urban students before the placement, but did not report continued discomfort or seem uneasy about it at the time they were interviewed or, for two participants, observed in a predominantly Black City school. Further research on these kinds of urban placement contexts may add dimension to how scholars see the pool of prospective urban teachers.

The second recommendation for future research relates to the use of the MPTEP principles to guide future studies of the preparation of prospective teachers. This study used a novel research-based theoretical framework built on the work of a group of scholars whose contributions helped form the foundation of the field of multicultural and culturally relevant education for prospective teachers. Although the data were complex and variable for the elements within each principle, as well as across principles for both Program placements, the MPTEP principles served as necessary touchstones. The author recommends that researchers seeking to understand and improve teacher education for high-need urban schools consider employing these principles in their work, adapting them as needed to complement the theory of change and the context of a given study. Notably, participants' responses to interview questions appeared to be candid, if incomplete with respect to some of the MPTEP principles. This reaffirmed my design choice to gather perceptions using more general inquiries about their placement experiences, excluding from the interview questionnaire terms like "diversity" and "multicultural education," which may have cued socially desirable answers.

In using the principles, researchers should be mindful of the socio-political orientation of the MPTEP principles and their potential applicability to programming for

prospective urban teachers now and in the future. Zeichner and his colleagues published

"A Research Informed Vision of Good Practice in Multicultural Teacher Education:

Design Principles" just a few years prior to the passing and enactment of the No Child

Left Behind Act of 2001 (NCLB). The efforts that states and school systems have since

made to comply with NCLB legislation have altered priorities in teacher preparation.

There may therefore be limitations to the applicability of individual MPTEP principles,

elements within them, or the emphasis on multicultural education overall in preparing

prospective teachers. For example, related to Principle 6, *University Programs as*

Multicultural Laboratories, the panel wrote, "The program teaches prospective teachers

how to change power and privilege in multicultural classrooms" (Zeichner et al., 1998, p.

169). There may be a variety of reasons why this principle was only partially evident,

with countervailing evidence, in the early field placements researched in this study.

Among these reasons could be the difficulty of disrupting power and privilege in

classrooms where schools are struggling to meet NCLB annual yearly progress (AYP)

requirements, teachers are given directed curriculums to implement, and administrators

are required to focus on standardized testing. Similarly, it might be less applicable in a

school with an intentional focus on structured traditional relationships and consistency, as

PCS is described in the literature. Moreover, teaching prospective teachers to break the

rules of classroom expectations before they have ample experience in classrooms may not

be a wise choice. Finally with respect to this issue, multicultural or culturally relevant

education may be more readily incorporated into lessons in social studies or English

literature, for example, than in mathematics. Therefore, while the MPTEP principles may

provide a valuable theoretical framework, applying them wholesale as a measure of program effectiveness may be asking too much.

The emphases within particular principles may be more applicable to particular kinds of teacher preparation programs or components within those programs. The MPTEP principles were chosen for this study based on their apparent match to the Program's orientation, as illustrated in the logic model (see Appendix A), as I understood it from past work evaluating the Program. The principles proved to be a useful systematic way to explore the Program's applied learning experiences using qualitative data. However, the principles' breadth limited the depth of data that one researcher could gather with limited time.

Were I to conduct further research on the same Program using the MPTEP principles, I would prioritize the principles and emphasize those that seemed most important to understanding the preparation of prospective urban teachers in the context of that particular investigation, as I did in this study with Principle 1, *Field Experiences Explore Sociocultural Diversity*. For example, in a future study of early field experiences, I would focus more on the use of guided reflection and less on the disruption of power and privilege. I would consider which elements of the principles were likely to be most applicable to a particular placement setting and what I could learn about that setting. To the extent possible, I would share the principles, elements, and indicators with Program staff during study design to more collaboratively focus on aspects that were most important to the Program's vision.

Finally, in considering the use of the MPTEP principles in future research, it is noteworthy that although several principles were determined to be "evident" in this study,

it is possible that although the evidence in this study reached a basic threshold, but that the range of presence/absence could be broader or more complex in more expansive research. For example, a true case study of multiple teacher education programs and/or multiple field placement locations likely would yield a more complex picture than the one depicted in Table 6-1 on page 173.

The third implication for future research is that this study suggests further elucidation of teacher "effectiveness" and descriptions of specific teacher behaviors as an important area, not unlike a recent exploration of teaching techniques observed to turn high-risk students into achievers (see Lemov, 2010), perhaps using the MPTEP principles as a lens. This research touched on the practices of mentor teachers and other staff in field placements, prospective teachers' reflective observations during interviews about the results of various behaviors, and the importance that mentors and other classroom teachers may hold in a teacher's development. Although determinations about the effectiveness of teachers' classroom practice goes beyond the scope of this study, there were certainly data to support effectiveness on the part of the PCS mentor teachers and also some efforts that were perceived as less effective on the part of one PCS staff member, as well as among Summer College supervisory staff. The choice of which teachers should mentor prospective urban teachers, and how, may be a critical one in the context of Program field placements and also more generally (see, e.g., Tillman, 2005).

Methodologically, the research highlights the importance of using multiple sources of data to triangulate case study findings (see Yin, 2003, p. 99–125). Although the data about PCS placements were sufficient to draw conclusions regarding all nine principles explored, those related to Summer College, the placements added as a

supplementary case, were more limited. In future research regarding field experiences, in addition to interviews with participants and review of documents, I recommend collecting data using observations and/or interviews with site supervisors. The observations at PCS gave me the opportunity to get close to the placement participants, mentor teachers, and students, in a relatively natural way. One day, several sixth grade girls told me that they liked my shoes (I thanked each of them). Even the mentor teacher whispered to me that she had some like them. On my last observation in the eighth grade classroom, two students introduced themselves and one asked if I would come teach at their school next year (I told them no, that I was studying the intern in their classroom for a paper for graduate school). Beyond that, the students barely gave notice to me sitting in the corner taking notes. In fact, on November 19, 2010, I wrote in my notes, "surprised I am not drawing more attention." Conversely, the staff member who substituted for one of the mentor teachers during an observation seemed to be watching me in the room and, after the period ended said, "I'm sorry you had to see that." These types of examples demonstrate the additional benefit gained observations, particularly when seeking to understand the experiences of prospective teachers.

In addition, I recommend improvements to the interview guide for future research. First, I recommends beginning with background inquiries regarding each participant's major and teaching certification sought. A specific question regarding placement participants' other teaching-related experiences in a variety of contexts (i.e., through a defined program, academic coursework, jobs, and service-learning) might also provide useful data. In addition, the interview question about the roles that identity and assumptions play in schooling and academic achievement did not elicit comments about

power/privilege, as intended. Although these terms were excluded to limiting social desirability response bias, this topic might require a more direct inquiry. Similarly, future adaptation of the interview guide used in this study might incorporate more specific explorations of themes that have raised concern among scholars and practitioners, for example assumptions that urban students will have poor basic skills and/or classroom behavior and the possible influences on participants' own assumptions.

Summary

This case study was undertaken to better understand one aspect of a privately endowed preservice STEM teacher education Program that supports prospective teachers pursuing STEM and education coursework at a public mid-Atlantic university: early urban field experiences. Although this research has added knowledge to support scholars' assertions that that urban field experiences may help prepare prospective teachers and address critical teaching shortage areas and provided feedback to practitioners, more research on early urban field placements is needed. In particular I recommend further use of the MPTEP principles, making clear choices about the relevance and priority of the various principles and elements. If teachers are better prepared to address the needs of urban students, there might be an improvement in students' preparation for jobs that could improve their individual economic chances, as well as the financial viability of their communities and the nation's ability to meet the growing demand for a skilled STEM workforce.

It is important to note that a focus on urban field experiences for prospective teachers is narrow. Even collective efforts to diminish the critical need for science and

mathematics educators are but one small part of the attempts to understand and address the racial and ethnic disparities in valued and high paying jobs in STEM fields. Although scholars have connected racial and ethnic disparities in these important jobs to shortages in the numbers and quality of STEM teachers, which are acute in urban schools with large minority and low-income student populations, even the best teachers will not resolve the urban poverty that the 2010 census revealed has grown.

Appendices

Appendix A: Adapted Program Logic Model

Inputs

IN1
Endowment

IN2
University staff and faculty members' knowledge and commitment

IN3
Institutional and in-kind support from University

Activities

ACT1
Establish partnerships:
-University departments and programs
-Campus and community organizations
-Faculty and staff of local schools and colleges

ACT2
Recruit and select University student participants

ACT3
Provide summer program for incoming cohort

ACT4
University activities outside Program:
-Courses
-Clinical experiences
-Residential experiences

ACT5
Provide financial award

ACT6
Provide academic professional, and social experiences

ACT7
Provide counseling and advising

ACT8
Facilitate experiential learning opportunities:
-*Principle 1. Field Experiences Explore Sociocultural Diversity*

ACT9
Provide alumni support

ACT 10: ALL ACTIVITIES
-*Principle 2. Multicultural Perspectives*
-*Principle 3. Learning Assumptions and Expectations*
-*Principle 4. Multiple Types and Sources of Knowledge*
-*Principle 5. Exploration of Identities and Cultures*
-*Principle 6. University Programs as Multicultural Laboratories*

Outcomes

OUT1
University students gain academic knowledge and skills:
-STEM
-Education

OUT2
Pre-service teachers gain ability to address student needs:
-*Principle 7. Understanding Sociocultural Context of Schooling*
-*Principle 8. Cultural Competence, Relevance, and Responsiveness*

OUT3
University students develop and maintain social support, confidence, and commitment to teach at high-need schools
Principle 9. Commitment to Educational Equity

OUT4
Program participants become "highly qualified" teachers under NCLB:
-Earn STEM degree
-Earn teaching certification

OUT5
Program alumni teach in high-need City schools

Impacts

IMP1
Increase number of highly effective STEM teachers in low-income City schools

IMP2
Increase STEM student interest and outcomes in high-need City schools

IMP3
Diminish STEM achievement gap in State schools

(Adapted from Segal & Frechtling, 2009)

Appendix B: Study Matrices

Nested Analytic Design Matrix to Guide Research

Research Questions	Principles	Elements	Possible Indicators	Data Sources					Evidence	Notes re Results
				Partic Ints	Mentor Ints	Prog Staff Int	Observs	Docs		
Q1. In what ways do the Program's early field placements reflect six multicultural education principles related to preservice teacher preparation activities?	*1. Field Experiences Explore Sociocultural Diversity*	1.1. Careful placement planning and monitoring	Participants, site supervisors/mentors, and Program staff communicate before placement	A3	A3	A3				Form, timing, content:
			Participants, site supervisors/ mentors, and Program staff communicate during placement							Form, frequency, content:
		1.2. Careful preparation for placement	Participants aware of Program educational philosophy before placement	A1, A6	A1, A6	A1, A6				
			Participants introduced to site context before placement							
		1.3. Placement site focused on culturally responsive teaching	Site supervisors/mentors focused on culturally responsive teaching	A4	A4	A4				Specify (e.g., high academic expectations for all students):
		1.4. Reflection guided by culturally competent/relevant/ responsive educators	Participants have guided opportunities to reflect on placement experience	A9	A9	A9				Form, guided by, frequency:
		1.5. Placements incorporate the community	Placements includes community visit(s)	A5	A5	A5	✔			
			Placements incorporate community-based teacher educators							
	2. Multicultural Perspectives	2.1. Coherent Program philosophy	Shared understanding of Program philosophy of	A1, A4	A1, A4	A1, A4		Program website		Paraphrase:

Research Questions	Principles	Elements	Possible Indicators	Data Sources					Evidence	Notes re Results
				Partic Ints	Mentor Ints	Prog Staff Int	Observs	Docs		
		of education	education							
			Site philosophy of education same/similar to Program's							Paraphrase:
		2.2. Themes of culture, instruction, learning, and equity in other Program components	MPTEP principles presented in other Program components	A1		A1		Program Evaluation		E.g., Program meetings. Specify:
		2.3. Participants' backgrounds, abilities, and learning styles considered	Participants' backgrounds, abilities, and/or learning styles addressed in placement selection, monitoring, and/or assessment	A2	A2	A2				
	3. Learning Assumptions and Expectations	3.1. Assumptions about students	Building on students' prior knowledge referenced/observed	A7	A7	A7	✔			
		3.2. High academic expectations	High performance standards for all students referenced/observed	A7	A7	A7	✔	Placement website		
			Multiple examples of ways students demonstrate high academic success given							
	4. Multiple Types and Sources of Knowledge	4.1. Academic knowledge	Guided reflection includes reading texts by urban teachers and community members	A9a	A9a	A9a				
		4.2. Faculty/staff knowledge	Teachers/supervisors/other placement site staff mentor participants	A3, A5	A3,A5	A3,A5	✔			
		4.3. Family/community knowledge	Family/community members mentor participants	A5	A5	A5	✔			
	5. Exploration of Identities and Cultures	5.1. Participants explore own identities and cultures	Reflection involves exploration of participants' identities as complex and multidimensional	A9b	A9b	A9b		Reflection prompts, if available		E.g., race, ethnicity, class, gender

Research Questions	Principles	Elements	Possible Indicators	Data Sources					Evidence	Notes re Results
				Partic Ints	Mentor Ints	Prog Staff Int	Observs	Docs		
		5.2. Participants explore others' identities and cultures	Reflection considers histories, contributions, and current status of groups in our society	A9c	A9c	A9c		Reflection prompts, if available		
			Reflection examines participants' attitudes and beliefs about the common group attributes and variability of urban children and families							
	6. University Programs as Multicultural Laboratories	6.1. Choice in placements	Participants have options in early field placement sites	A2	A2	A2				
		6.2. Choice in assessments	Participants help make decisions about how their early field placement performance will be assessed	A8, A9a	A8, A9a	A8, A9a				
			Participants help select texts for guided reflection							
Q2. In what ways do the Program's early field placements reflect three multicultural education principles related to desired outcomes in terms of participants' readiness and commitment to teach in high-need urban schools?	7. Understanding Sociocultural Context of Schooling	7.1. Participants understand power/privilege associated with race, ethnicity, gender, class	Participants do not show favoritism (e.g., race, ethnicity, gender, class)	B1	B1	B1	✔			
		7.2. Participants understand sociocultural context of high-need schools	Participants discuss how society and schools affect academic achievement and equality	B1	B1	B1				
	8. Cultural Competence, Relevance, and Responsiveness	8.1. Participants explore knowledge of students in planning instruction	Participants observe/interact with students in the classroom	A5, B2	A5, B2	A5, B2	✔			
			Participants discuss/show familiarity with students							
			Participants observe/interact with students outside of the classroom							
			Participants							

Research Questions	Principles	Elements	Possible Indicators	Partic Ints	Mentor Ints	Prog Staff Int	Observs	Docs	Evidence	Notes re Results
			consult/observe with other teachers/site staff							
			Participants interact with parents/guardians							
			Participants make home visits							
			Participants interact with community members							
		8.2. Participants use knowledge students bring to school to help them engage and learn	Participants select and use culturally relevant texts	B3	B3	B3	✔			Include example
			Participants design activities that engage students in personally and culturally appropriate ways							Include example
			Participants address multiple learning styles							
			Participants individualize/adapt teaching approach based on student cues							E.g., boredom, confusion
			Participants encourage and respond to student questions							
			Participants show interest and enthusiasm about teaching							E.g., uses students' names
			All/most students participate							
		8.3. Participants use knowledge of students in evaluating instruction	Participants use a variety of assessment strategies	B4	B4	B4	✔			
		8.4. Participants are confident and comfortable about teaching in high-need schools	Participants report confidence about teaching in high-need school	A6	A6	A6				Specify level and areas of ↑↓confidence
		9.1. Participants are	Participants are engaged	B5	B5	B5				

Research Questions	Principles	Elements	Possible Indicators	Data Sources					Evidence	Notes re Results
				Partic Ints	Mentor Ints	Prog Staff Int	Observs	Docs		
	9. Commitment to Educational Equity	committed to social change	in community service							
			Participants are engaged in political activities							
		9.2. Participants are committed to educational equity	Participants express interest in pursuing equity in schools, communities, and /or districts	B6	B6	B6				
			Participants are knowledgeable about the collective nature of teaching							
		9.3. Participants intend to teach in high-need schools	Participants value teaching as an occupation	B7	B7	B7	✓			E.g., "It's a calling," professionally dressed
			Participants report/show strong desire to teach in high-need urban district							

● Evident (at least one notable event/comment, all/most observations/interviews, all participants; OR more than one notable event/comment, most observations/interviews, most participants)
⊙ Partially evident (at least one notable event/comment, all or most participants)
⊘ Not evident/countervailing evidence (more than one notable event/comment that element is not present) (can coexist with other signals)
* Insufficient data

Analytic Matrix Displaying Public Charter School Results

Research Questions	Principles	Elements	Possible Indicators	Evidence (PCS)	Results (PCS)
Q1. In what ways do the Program's early field placements reflect six multicultural education principles related to preservice teacher preparation activities?	*1. Field Experiences Explore Sociocultural Diversity*	1.1. Careful placement planning and monitoring	Participants, site supervisors/mentors, and Program staff communicate before placement	⊙⊘	- Pre-placement communication minimal - Program had direct contact with some mentors through school coordinator prior to placement - Most PCS participants did not feel well informed
			Participants, site supervisors/mentors, and Program staff communicate during placement	⊙	- Routine communication between participants and mentors during school day and some via phone/email preceding days on site - Some last minute plans (e.g., awards ceremony) - Occasional contact between participants and Program (sometimes on matters like course selection), but not coordinated effort
		1.2. Careful preparation for placement	Participants aware of Program educational philosophy before placement	●⊘	- Consistent message: to improve STEM in high-need city schools - Uncertainty about articulating philosophy
			Participants introduced to site context before placement	⊘	- Minimal introductory knowledge of PCS - Variable familiarity with local high-need city schools generally before placement
			Participants are confident about their abilities to meet placement expectations	⊙	-Some differentiation in expectations -Participants described feeling unprepared
		1.3. Placement site focused on culturally responsive teaching	Site supervisors/mentors focused on culturally responsive teaching	●	- Mentor teachers appeared to be focused on culturally responsive teaching.
		1.4. Reflection guided by culturally competent/ relevant/ responsive educators	Participants have guided opportunities to reflect on placement experience	●⊘	- Brief routine check-in onsite with mentor teachers - Mentor teachers observed to be culturally competent/relevant/responsive - Limited use of prompted reflection as teaching tool for PCS placement participants
		1.5. Placements incorporate the community	Placements include community visit(s)	⊘	- Placements do not include formal community connection
			Placements incorporate community-based teacher educators	⊘	- No coordinated involvement from community - Some faculty/staff members live locally

Research Questions	Principles	Elements	Possible Indicators	Evidence (PCS)	Results (PCS)
Q1 (con't). In what ways do the Program's early field placements reflect six multicultural education principles related to preservice teacher preparation activities?	*2. Multicultural Perspectives*	2.1. Coherent Program philosophy of education	Shared understanding of Program philosophy of education	☉⊘	- Spotlight on strong STEM in high-need schools - Responses uncertain and emphasis not coherent
			Site philosophy of education same/similar to Program's	●	- Equivalent focuses on strong academics and college preparation for low-income urban children - PCS motto—Excellence without Exception - PCS college preparatory focus for all students consistently mentioned, observed
		2.2. Themes of culture, instruction, learning, and equity in other Program components	MPTEP principles presented in other Program components	●	- Reference to several MPTEP principles - E.g., variety of activities engaging *Multiple Types/Sources of Knowledge,* including films, speakers at group meetings, individual counseling
		2.3. Participants' backgrounds, abilities, and learning styles considered	Participants' backgrounds, abilities, and/or learning styles addressed in placement selection, monitoring, and/or assessment	●	- Informal consideration, emphasis by Program staff - Participants' unaware of this effort
	3. Learning Assumptions and Expectations	3.1. Assumptions about students	Building on students' prior knowledge referenced/observed	●	- Consistent class period structure observed: "Do Now" review, warm up, lesson, assessment/drill, activity to apply learning - Math teachers stay with students for two years when possible based on staffing
			Specific assumptions re students' knowledge and skills	●	- Participants said PCS students were more engaged, had stronger basic skills, and performed better academically than they had expected
		3.2. High academic expectations	High performance standards for all students referenced/observed	●	- "The expectation has been set" (Mentor teacher) - Expect competitive high school and college - Efforts to challenge and support all students (e.g., differentiated timed drills)
			Multiple examples of ways students demonstrate high academic success given	●	-"Thank you [student name]..." during homework completion check (Mentor teacher) - Perfect papers and high school admissions letters posted
	4. Multiple Types and Sources of Knowledge	4.1. Academic knowledge	Guided reflection includes reading texts by urban teachers and community members	⊘	- No external/formal texts used for reflection for most participants
			Participants use academic content in lesson facilitation	☉	- Some evidence of participants' using math knowledge to plan/implement lessons (note: Researcher not math content expert)
		4.2. Faculty/staff knowledge	Teachers/supervisors/other placement site staff mentor participants	●	- Routine guidance from mentor teachers while increasing responsibility - Interaction with other teachers at mentors' discretion

Research Questions	Principles	Elements	Possible Indicators	Evidence (PCS)	Results (PCS)
		4.3. Family/community knowledge	Family/community members mentor participants	⊘	- Contact limited to occasional parent conference
Q1 (con't). In what ways do the Program's early field placements reflect six multicultural education principles related to preservice teacher preparation activities?	5. *Exploration of identities and cultures*	5.1. Participants explore own identities and cultures	Reflection involves exploration of Participants' identities as complex and multidimensional	⊙⊘	- No formal exploration of identity through PCS placement - Common mention of participants' backgrounds (race, class, schooling experience), sometimes in contrast with students'
		5.2. Participants explore others' identities and cultures	Reflection considers histories, contributions, and current status of groups in our society	⊘	- No external/formal texts used for reflection
			Reflection examines participants' attitudes and beliefs about the common group attributes and variability of urban children and families	⊘	- Reflection specifically focused on lessons, not prompting examination of attitudes/beliefs
	6. *University programs as multicultural laboratories*	6.1. Choice in placements	Participants have options in early field placement sites	●	- Variety of placements referenced - Summer College placement discussed separately
		6.2. Choice in assessments	Participants help make decisions about how their early field placement performance will be assessed	⊘	- PCS placement not formally assessed - Progress discuss informally with mentor teacher - Internal evaluation form implemented spring 2011 by Program
			Participants help select texts for reflection	⊘	- No external/formal texts used for reflection
Q2. In what ways do the Program's early field placements reflect three multicultural education principles related to desired outcomes in terms of participants' readiness and commitment to teach in high-need urban schools?	7. *Understanding sociocultural context of schooling*	7.1. Participants understand power/privilege associated with race, ethnicity, gender, class	Participants do not show favoritism (e.g., race, ethnicity, gender, class)	⊙	- No apparent favoritism in PCS classroom
			Participants demonstrate understanding of unequal power relations	*	- Understanding of power/privilege unclear
		7.2. Participants understand sociocultural context of high-need schools	Participants discuss how society and schools affect academic achievement and equality	⊙	- Notably basic discussion of social context

Research Questions	Principles	Elements	Possible Indicators	Evidence (PCS)	Results (PCS)
Q2 (con't). In what ways do the Program's early field placements reflect three multicultural education principles related to desired outcomes in terms of participants' readiness and commitment to teach in high-need urban schools?	8. Cultural competence, relevance, and responsiveness	8.1. Participants explore knowledge of students in planning instruction	Participants observe/interact with students in the classroom	●	-Ample evidence of attentive observation and individual and group interaction with students
			Participants discuss/show familiarity with students	●⊘	- Some evidence of using student names, building familiarity over time
			Participants observe/interact with students outside of the classroom	●	- Engagement with students outside class (e.g., meetings, lunch), but inconsistent
			Participants consult/observe other teachers/site staff	⊙	- Interaction/observation with other teachers at mentors' discretion - Intentionality/formality for most PCS participants not ascertained
			Participants interact with parents/guardians	⊙	- Limited to a subset of parent-teacher conferences
			Participants make home visits	⊘	- Participants do not make home visits
			Participants interact with community members	⊘	- No evidence of interaction with other community members
		8.2. Participants use knowledge students bring to school to help them engage and learn	Participants select and use culturally relevant texts	*	- Insufficient data regarding lesson planning to draw conclusion
			Participants design activities that engage students in personally and culturally appropriate ways	*	- Insufficient data regarding lesson planning to draw conclusion
			Participants address multiple learning styles	●	- Use of short lecture and discussion, individualized work with assistance, use of physical space (e.g., circle, around the world)
			Participants individualize/adapt teaching approach based on student cues	●	- Multiple explanatory approaches used to assist students in solving, understanding math problems posed - Use of observed behaviors to gauge students' understanding
			Participants show interest and enthusiasm about teaching	●⊘	- Watch students' reactions for understanding, commonly one-on-one - Engagement in classroom tasks most of the time - Use of cellular device in classroom may show ambivalent interest
			Participants encourage and respond to student questions	●	- Assistance to individual students throughout each observation - Responsive to questions during guided lessons
			All/most students participate	●	- For multiple invitations in each period, most students raise their hands - Student responses and questions appear eager

Research Questions	Principles	Elements	Possible Indicators	Evidence (PCS)	Results (PCS)
		8.3. Participants use knowledge of students in evaluating instruction	Participants use a variety of assessment strategies	*	- Insufficient data on Participants' involvement in assessing student learning
		8.4. Participants are confident and comfortable about teaching in high-need schools	Participants report confidence about teaching in high-need school	●	- Report increased confidence in teaching in general, lesson planning and administrative tasks, and comfort in high-need context
			Participants report comfort in a low-income Black schooling context	●	- Most reported increased comfort in low-income Black school - None reported discomfort after PCS placement
	9. Commitment to educational equity	9.1. Participants are committed to social change	Participants are engaged in community service	⊙	- Involvement in activities to serve, build community common
			Participants are engaged in political activities	⊘	- Participants' do not appear to be deeply politically involved
		9.2. Participants are committed to educational equity	Participants are interested in pursuing equity in schools, communities, and /or districts	⊙	- Mentioned importance of providing quality schooling in high-needs contexts - Notably minimal specific, critical attention to "educational equity "
			Participants are knowledgeable about collective nature of teaching	●	- Consistent reference to PCS faculty collaboration to support students - Participants' increasingly routine collaboration with mentors
		9.3. Participants intend to teach in high-need schools	Participants value teaching as an occupation	●	- Observed to be dressed neatly at placement - Variation in source, onset of desire to become teacher
			Participants report/show strong desire to teach in high-need urban district	●⊘	- Reported desire to teach in the city or nearby, perhaps at PCS - Spouse's employment, assigned placement possible barriers

● Evident (at least one notable event/comment, all/most observations/interviews, all participants; OR more than one notable event/comment, most observations/interviews, most participants)
⊙ Partially evident (at least one notable event/comment, all or most participants)
⊘ Not evident/countervailing evidence (more than one notable event/comment that element is not present) (can coexist with other signals)
* Insufficient data

Analytic Matrix Displaying Summer College Results

Research Questions	Principles	Elements	Possible Indicators	Evidence (Summer College)	Results (Summer College)
Q1. In what ways do the Program's early field placements reflect six multicultural education principles related to preservice teacher preparation activities?	*1. Field Experiences Explore Sociocultural Diversity*	1.1. Careful placement planning and monitoring	Participants, site supervisors/mentors, and Program staff communicate before placement	⊙⊘	- Program staff communication with Summer College staff not coordinated or routine -Program staff informed participants of opportunity and general requirements
			Participants, site supervisors/mentors, and Program staff communicate during placement	⊙⊘	- Program staff communication with Summer College staff during summer not mentioned - Communication with supervisors strongly described by some participants as insufficient - Contact with Program staff during placement not coordinated or routine
		1.2 Careful preparation for placement	Participants aware of Program educational philosophy before placement	*	
			Participants introduced to site context before placement	⊙	- Primary context on participants' university campus - Application process reveals student context (e.g., 5-minute classroom lesson)
			Participants are confident about their abilities to meet placement expectations	⊙	- Some Summer College participants did not feel well informed about position expectations - Daytime/residential assignment, made by Summer College staff - Retrospective confidence mixed
		1.3. Placement site focused on culturally responsive teaching	Site supervisors/mentors focused on culturally responsive teaching	*	
		1.4. Reflection guided by culturally competent/ relevant/ responsive educators	Participants have guided opportunities to reflect on placement experience	⊘	- No/limited use of prompted reflection as teaching/staff development tool
		1.5. Placements incorporate the community	Placements include community visit(s)	⊘	- Summer program does not include formal off-campus community connection
			Placements incorporate community-based teacher educators	⊘	- No data to suggest that Summer College personnel include community-based teacher educators

Research Questions	Principles	Elements	Possible Indicators	Evidence (Summer College)	Results (Summer College)
Q1 (con't). In what ways do the Program's early field placements reflect six multicultural education principles related to preservice teacher preparation activities?	*2. Multicultural Perspectives*	2.1. Coherent Program philosophy of education	Shared understanding of Program philosophy of education	⊙⊘	- Spotlight on strong STEM in high-need schools - Responses uncertain and emphasis not coherent (across placements)
			Site philosophy of education same/similar to Program's	●	- Equivalent Summer College focus on academics and college prep for low-income/first-generation urban community consistently mentioned
		2.2. Themes of culture, instruction, learning, and equity in other Program components	MPTEP principles presented in other Program components	●	- Reference to several MPTEP principles - E.g., variety of activities engaging *Multiple Types/Sources of Knowledge,* including films, speakers at group meetings, individual counseling (across placements)
		2.3. Participants' backgrounds, abilities, and learning styles considered	Participants' backgrounds, abilities, and/or learning styles addressed in placement selection, monitoring, and/or assessment	●	- Informal consideration, emphasis by Program staff - Participants' unaware of this effort (across placements)
	3. Learning Assumptions and Expectations	3.1. Assumptions about students	Building on students' prior knowledge referenced/observed	*	- Subdivision of math course by student knowledge
			Specific assumptions re students' knowledge and skills	*	- Some respondents said students sought harder to succeed in academics than expected, in general
		3.2. High academic expectations	High performance standards for all students referenced/observed	⊙	- Implicit expectations for academic success in discussions of calculus, statistics, and college
			Multiple examples of ways students demonstrate high academic success given	*	
	4. Multiple Types and Sources of Knowledge	4.1. Academic knowledge	Guided reflection includes reading texts by urban teachers and community members	⊘	- No external/formal texts used for reflection
			Participants use academic content in lesson facilitation	⊙	- Description of day time tutors using academic knowledge to plan/implement lessons (note: Researcher not math content expert)
		4.2. Faculty/staff knowledge	Teachers/supervisors/other placement site staff mentor participants	⊘	- Constructive mentoring by Summer College leadership strongly in question
		4.3. Family/community knowledge	Family/community members mentor participants	⊘	- Contact limited to occasional passing contact with parents/community members at weekly drop off - One residential counselor mentioned family events
Q1 (con't). In what ways do the Program's early	*5. Exploration of identities and cultures*	5.1. Participants explore own identities and	Reflection involves exploration of participants' identities as complex and multidimensional	⊘	- Common mention of participants' backgrounds (race, class, schooling experience), sometimes in contrast with students'

Research Questions	Principles	Elements	Possible Indicators	Evidence (Summer College)	Results (Summer College)
field placements reflect six multicultural education principles related to preservice teacher preparation activities?		cultures			- No formal exploration of identity through Summer College placement
		5.2. Participants explore others' identities and cultures	Reflection considers histories, contributions, and current status of groups in our society	⊘	- No external/formal texts used for reflection
			Reflection examines participants' attitudes and beliefs about the common group attributes and variability of urban children and families	⊘	- No evidence of reflection focused on prompting examination of attitudes/beliefs
	6. University programs as multicultural laboratories	6.1. Choice in placements	Participants have options in early field placement sites	●	- Variety of placements referenced - PCS placement discussed separately (across placements)
		6.2. Choice in assessments	Participants help make decisions about how their early field placement performance will be assessed	⊘	- Performance assessed by Summer College personnel - Summer college as applied learning placement for Program participants being explored
			Participants help select texts for reflection	⊘	- No external/formal texts used for reflection (across placements)
Q2. In what ways do the Program's early field placements reflect three multicultural education principles related to desired outcomes in terms of participants' readiness and commitment to teach in high-need urban schools?	7. Understanding sociocultural context of schooling	7.1. Participants understand power/privilege associated with race, ethnicity, gender, class	Participants do not show favoritism (e.g., race, ethnicity, gender, class)	*	- No apparent favoritism referenced, but comments not notable
			Participants demonstrate understanding of unequal power relations	*	- Understanding of power/privilege unclear (across placements)
		7.2. Participants understand sociocultural context of high-need schools	Participants discuss how society and schools affect academic achievement and equality	*	- Discussed by only a few Summer College participants - Notably basic discussion of social context (across placements)

Research Questions	Principles	Elements	Possible Indicators	Evidence (Summer College)	Results (Summer College)
Q2 (con't). In what ways do the Program's early field placements reflect three multicultural education principles related to desired outcomes in terms of participants' readiness and commitment to teach in high-need urban schools?	8. Cultural competence, relevance, and responsiveness	8.1. Participants explore knowledge of students in planning instruction	Participants observe/interact with students in the classroom	⊙⊘	- Ample evidence of individual and group interaction with students in classroom among day staff - Limited involvement of residential tutor-counselors with students' academics
			Participants discuss/show familiarity with students	●	- Evidence of using student names, building familiarity over time
			Participants observe/interact with students outside of the classroom	●	- Interaction with students outside classroom among all participants (e.g., meals, dormitory)
			Participants consult/observe other teachers/site staff	⊙	- Discussions within teams (day/residential) common; discussions across teams rare
			Participants interact with parents/guardians	⊙	- Occasional passing contact at weekly drop off
			Participants make home visits	⊘	- Participants did not make home visits
			Participants interact with community members	⊘	- No evidence of interaction with community members
		8.2. Participants use knowledge students bring to school to help them engage and learn	Participants select and use culturally relevant texts	*	
			Participants design activities that engage students in personally and culturally appropriate ways	⊙	- A few specific descriptions of efforts to learn about students and use information to engage them academically
			Participants address multiple learning styles	*	
			Participants show interest and enthusiasm about teaching	●	- All participants described interest in sharing field of study and appeared enthusiastic
			Participants individualize/adapt teaching approach based on student cues	⊙	- General comments among daytime tutor-counselors about breaking down lessons
			Participants encourage and respond to student questions	*	
			All/most students participate	*	
		8.3. Participants use knowledge of students in evaluating instruction	Participants use a variety of assessment strategies	*	
		8.4. Participants are confident and comfortable about	Participants report confidence about teaching in high-need school	⊙	-Summer College day staff report confidence -Still premature for residential staff

Research Questions	Principles	Elements	Possible Indicators	Evidence (Summer College)	Results (Summer College)
		teaching in high-need schools	Participants report comfort in a low-income Black schooling context	⊙	- Most reported increased comfort in low-income Black school - None reported discomfort
		9.1. Participants are committed to social change	Participants are engaged in community service	⊙	- Involvement in activities to serve, build community common (across placements)
			Participants are engaged in political activities	⊘	- Participants' do not appear to be deeply politically involved (across placements)
	9. Commitment to educational equity	9.2. Participants are committed to educational equity	Participants are interested in pursuing equity in schools, communities, and /or districts	⊙	- Mentioned importance of providing quality schooling in high-needs contexts - Notably minimal specific, critical attention to "educational equity " (across placements)
			Participants are knowledgeable about collective nature of teaching	●	- Consistent reference to need for greater Summer College collaboration to support students
		9.3. Participants intend to teach in high-need schools	Participants value teaching as an occupation	●	-All articulated desire to share passion about field of study -Variation in source, onset of desire to become teacher
			Participants report/show strong desire to teach in high-need urban district	⊙	- Reported desire to teach in the city or nearby - Uncertainty expressed given current level of experience

● Evident (at least one notable event/comment, all/most observations/interviews, all participants; OR more than one notable event/comment, most observations/interviews, most participants)
⊙ Partially evident (at least one notable event/comment, all or most participants)
⊘ Not evident/countervailing evidence (more than one notable event/comment that element is not present) (can coexist with other signals)
* Insufficient data

Appendix C: Email notifying prospective subjects about study

Hi [Name],

I am contacting you because you are scheduled to participate in [or supervise] an early urban field experience through [Program name] or previously participated in a similar placement. With the guidance of Professor Steven Selden at the University of Maryland, I am conducting a research project to better understand prospective teachers' experiences in urban field placements. The purpose of the research is not to evaluate you or the students with whom you work. We would like you to participate in this study, starting with an interview at your university [or site, or another metro area location], which will take about an hour. If you are willing to participate, please identify some times during the week of [week in September] when we can conduct the first interview.

I look forward to talking with you.

Thanks!
Eden

Eden H. Segal
Doctoral Candidate, University of Maryland
esegal@umd.edu

Appendix D: Example study consent form

CONSENT FORM
Field Placement Participant Fall 2010

Project Title	Early Urban Field Experiences for Prospective Teachers: A Case Study of Multicultural Field Placements Through a University-based Preservice STEM Teacher Program
Why is this research being done?	This is a research project being conducted by Professor Steven Selden and Doctoral Candidate Eden Segal at the University of Maryland, College Park to better understand prospective teachers' experiences in urban field placements. You are being asked to participate because you are scheduled to participate in a field placement during fall 2010.
What will I be asked to do?	You will be asked to participate in two interviews lasting about one hour each and three to five observations, also lasting about one hour each. Interviews before and after your placement will be conducted at your university and will be audio-recorded, with your consent. During interviews, you will be asked about several topics you expect or observe related to your field placement, including planning, preparation, monitoring and assessment, and the involvement of site faculty and staff, families, and communities. You will also be asked about cultural competence, relevance, and responsiveness, and your views about educational equity. You may also share other views about the placement. Three to five site observations of about one hour each will be conducted to better understand your field placement and will also be audio-recorded, with your consent. The purpose of the observations is not to evaluate you or the students with whom you work. Please do your best to conduct your activities as if the observer were not present.
What about confidentiality?	We will do our best to keep your personal information confidential. To help protect your confidentiality, recordings, notes, and any data that include your name or other identifying characteristics will be stored in password-protected computer files or a locked file cabinet. On all documents other than consent forms, alphanumeric codes will be used in place of participant names and the code key kept in a separate file. Access to files will be limited to the doctoral student collecting the data and the faculty investigator. With your permission, your interviews and observations will be audio-recorded to increase the accuracy of researchers' notes. Those recordings and paper records that contain personal identifiers will be destroyed within one year of the conclusion of this project. This consent form will be securely stored for 10 years. In publications about this research project, your identity will be protected to the maximum extent possible. Your information may be shared with representatives of the University of Maryland, College Park or governmental authorities if you or someone else is in danger or if we are required to do so by law, but your confidentiality will be maintained.

Project Title	Early Urban Field Experiences for Prospective Teachers: A Case Study of Multicultural Field Placements Through a University-based Preservice STEM Teacher Program
What are the risks of this research?	While there is a possibility that data containing names may be accidentally disclosed, security provisions have been made to preserve your confidentiality.
What are the benefits of this research?	This research is not designed to help you personally, but the results may help the investigators learn more about what prospective teachers may learn in urban field placements. Your reflections on your placement experiences during interviews might also support what you learn. We hope that, in the future, other people might benefit from this study through improved understanding of similar placements and how they may affect participants' attitudes about urban children and communities.
Do I have to be in this research? May I stop participating at any time?	Your participation in this research is voluntary. Participation is not a program requirement. You may choose not to take part at all. If you decide to participate in this research, you may stop participating at any time. If you decide not to participate in this study or if you stop participating at any time, you will not be penalized.
What if I have questions?	This research is being conducted by Dr. Steven Selden in the Department of Education Policy Studies at the University of Maryland, College Park. If you have questions about the research study itself, please contact: Dr. Selden at: 301-405-3566, selden@umd.edu, or 3112C Benjamin Building, University of Maryland, College Park, MD 20742-1165. If you have questions about your rights as a research subject or wish to report a research-related injury, please contact: Institutional Review Board Office, University of Maryland, College Park, Maryland, 20742; irb@umd.edu; 301-405-0678.

Statement of Age of Subject and Consent	Your signature indicates that:
	   you are at least 18 years of age;
	   the research has been explained to you;
	   your questions have been fully answered; and
	   you freely and voluntarily choose to participate in this research project.

Signature and Date	 **SIGNATURE** **DATE**
	NAME
Audio-recording	Your initials indicate that you allow your interviews and observations to be audio-recorded. **INITIALS** **DATE**
This research has been reviewed according to the University of Maryland, College Park IRB procedures for research involving human subjects.	

Appendix E: Interview Guide

Part A: Planning, preparation, monitoring, assessment, assumptions, and expectations about participants' early field placements

A1	Tell me about the Program's educational philosophy, if you know. How did you/participant learn about it? In what other contexts is it discussed?
A2	How was your/participant's placement site selected? Did you/participant have other choices? Probe if necessary: Tell me about how your/participant's background and interests were considered.
A3	In what ways have you communicated with the site supervisor/Program staff/participant about the placement? When? How often? About anything in particular?
A4a	Tell me what you know about [placement site]. What is the educational mission or philosophy?
A4b	What do you know about the students? What about their families, and communities?
A5	What kinds of interactions will/do you/participant have with site faculty and staff? With members of students' families or communities?
A6	In what areas did the Program meaningfully prepare you/participant? In what ways did you/participant prepare outside the Program? How confident are you/is participant about teaching at [site]? In a high-need urban school more generally?
A7	Tell me about what students at [site] know about [STEM subject area]. What do you/does participant expect from them? Probe if necessary: Behaviorally? Academically? Anything else? How can/do students demonstrate success?
A8	How is/was your/participant's placement performance assessed? How was it/who decided that this method would be used?
A9	Will/do you/does participant formally reflect on placement experiences? Probe if necessary: What form does it take? By whom (or what, e.g., a portfolio) is it guided? Is there an expected frequency?
A9a	If yes to A9: Will/did you/participant read/observe anything in particular as part of these reflections? Probe if necessary: who chose these texts?
A9b	If yes to A9: Will/did you/participant explore your/participant's identity/ies as part of these reflections (e.g., race, ethnicity, gender, class)? What did you/participant learn about personal identity through these reflections?
A9c	If yes to A9: Will/did you/participant explore others' identities as part of these reflections? What did you learn about getting to know your students as individuals? As members of social/cultural groups, families, and communities through these reflections? Probe, if necessary: what did you learn about race/ethnicity and stereotypes?

Part B: Sociocultural Context of Schooling, Cultural Competence, Relevance, and Responsiveness, and Participants' Views About Social Change Through Educational Equity

B1	Tell me what you/participant know/s the about the roles that identity (e.g., race, ethnicity, gender, class, academic performance) and assumptions about it (e.g., racialization/racism, assignment to remedial/honors classes) play in schooling and academic achievement. What about the role of families and communities? How will/do you/does participant address these issues in the classroom, if at all? Probe if necessary: does participant seem to prefer teaching any particular group?
B2	What have you/has participant learned about understanding students, their cultures, and their academic knowledge? How? Probe if necessary: importance of knowing students in and out of the classroom? Consult with other teachers/site staff? Observe students in and outside the classroom? Visit students' homes/communities? Talk with parents/guardians/community members?
B3	How do you/does participant use what you know/participant knows about students to help them learn? Adapt lessons to a variety of students? Gauge how well students understand the material? To what degree do students participate in class or ask questions? Probe if necessary: How do you/does participant choose texts? Make connections between academic content and students' lives? Address multiple learning styles? Show interest and enthusiasm? Encourage and respond to student questions? Individualize teaching?
B4	How will/did you/participant evaluate or assess students' learning?
B5	Other than this placement, what activities are you/is participant involved in with the Program? What about outside of it? Probe if necessary; any community service or political activities?
B6	What makes someone an excellent [STEM subject] teacher? Probe if necessary: Is this different in a high-need urban school? How important is it [to participant] to pursue educational equity? For teachers to work together?
B7	Tell me what you think/ what participant says about teaching as a career choice. What about in a high-need urban school or district? Probe if needed: to what degree does he/she seem to value teaching as an occupation.

Part C: Other views

C1	Is there anything you would like to add about this field placement that we have not discussed?

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