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Addressing Teacher Shortages in Urban Schools Through Partnerships

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ABSTRACT

Partnerships among professionals within urban school districts and teacher preparation programs are necessary to address teacher shortages through innovative and sustained professional learning from initial clinical experiences through induction (Yendol-Hoppey & Hoppey, 2018). A collaborative model of teacher preparation was envisioned and implemented by faculty and administrators in a large, urban school district to address teacher shortages through continued professional learning, coaching, mentoring, and supports within High Need Schools (HNS). The focus of this manuscript describes an enhanced partnership model and specific programmatic components of a reconceptualized continuum of professional learning and roles by university faculty, supervising teachers, and preservice teachers. Specific impacts from program implementation are shared. Lastly, considerations for enhancement and sustainability of the innovative model are described.

Keywords: Urban Education, Teacher Shortages, Collaboration, Teacher Education, Program Development

Introduction

In the United States, the shortage of teachers has reached critical levels. According to a report by the US Department of Education (https://www.ed.gov/raisethebar/Eliminating-Educator-Shortages-through-Increasing-Educator-Diversity), all states reported difficulties in recruiting and retaining qualified teachers. Additional data further reveal that only 63% of high school mathematics classes and 50% of high school science classes were taught by certified teachers who held a degree in the field (Coffey et al., 2019; Little et al, 2024). Shortages are more severe and projected to worsen in high-poverty urban areas that already struggle to recruit and retain teachers (Podolsky et al., 2016). Urban schools serving predominantly students of Color and students from low-income backgrounds are disproportionately impacted by shortages. In addition, the lack of diversity among mathematics and science teachers remains a significant challenge (Carver-Thomas & Darling Hammond, 2019; Little et al, 2024). As reported, teachers in science, technology, engineering, and mathematics (STEM) content are overwhelmingly white, even in schools with non-white student populations (USDOE, 2020a). This lack of representation creates an additional need to recruit educators who reflect the student body.

Another factor contributing to shortages is retention of teachers, especially in urban schools (Podolsky et al., 2016). Studies show turnover rates ranging from 9% to as high as 20% annually (Sutcher et al., 2016). According to Jones (2023), inadequate support and working conditions significantly affect teachers' professional development opportunities and overall job satisfaction. Overworked teachers also experience burnout due to the excessive responsibilities, paperwork, and stress. Teachers leave the field for better opportunities in education-related fields or in non-teaching professions. To fill vacancies, underqualified or emergency-certified teachers must be hired, but the quality of instruction may suffer (Wiggin et al., 2021), and teachers without the necessary knowledge and experiences affect student learning and outcomes.

The impact of teacher shortages due to this lack of sufficient recruitment and retention of qualified teachers for students is multifaceted and significantly affects their educational experiences and learning outcomes (See et al., 2020). Frequent teacher turnover disrupts

continuity, as students must adapt to new teaching styles and expectations each year. With fewer certified and knowledgeable teachers, schools may struggle to offer a wide range of courses and extracurricular activities. Students might miss out on specialized subjects, advanced classes, or enrichment programs. For example, a shortage of science teachers may result in a lack of courses offered, such as advanced physics or chemistry courses, which limit students' exposure to these critical subjects.

Teacher shortages also often lead to larger class sizes. When classrooms are overcrowded, students may struggle to ask questions, participate actively, or receive timely feedback. Students with disabilities, English learners, and those from low-income backgrounds are disproportionately affected by teacher shortages (Callahan 2016; Carver-Thomas, 2018). Students may not receive the focused, individualized instruction they require because of reduced learning opportunities. Students often require specialized support, which qualified teachers can provide. When shortages occur, these services may be compromised. Teachers also play a crucial role in students' emotional development. A shortage of caring, supportive educators can negatively impact students' mental health. The effects of teacher shortages extend beyond the classroom. Students who miss out on quality education may face challenges in college readiness, career prospects, and overall life outcomes (LPI, 2022). Addressing teacher shortages is essential for building a strong educational foundation for future generations and requires a multifaceted approach that combines targeted recruitment efforts, authentic, supported professional learning, and enhanced opportunities for teachers.

To address issues of recruitment and retention of qualified teachers, the purpose of this article is to describe the key components and results of an innovative teacher preparation program co-constructed, implemented for five years, and evaluated by faculty within a university-based teacher preparation program and a large urban school district in the southeast United States. The goals of this teacher preparation program and research study were to recruit and increase the quantity of diverse teacher candidates, co-construct, implement, and evaluate an enhanced partnership model (EPM) for teacher preparation at urban school sites, and support graduates during induction to retain teachers in high-needs schools (Guha et al., 2017; Lee et al., 2019). Through federal funding of a five-year grant, faculty and administrators from

the urban school district and university co-constructed, implemented, and evaluated a collaborative program. The resulting innovative program addressed the need to better prepare teachers to transform content knowledge into pedagogically powerful instruction to meet students' abilities and backgrounds by providing authentic clinical experiences for prospective teachers in High-Needs Schools (HNS) using robust evaluation designs and methods. This article addresses the program components, implementation, revised roles, and results across multiple measures. Additional descriptions of the program factors, benefits, and results are reported in another article (Little et al, 2024).

Rationale for the Enhanced Partnership Model for Teacher Preparation

Recruitment, teacher preparation, and retention are challenging issues in diverse, urban school districts. Further, current and prospective teachers report limited interaction with students from diverse backgrounds in their preservice practicum experiences and perceive themselves to be ill-prepared to address the needs of diverse populations (Darling-Hammond, 2019). Hence, the need to recruit increased numbers of diverse prospective teachers and prepare teachers to meet the needs of diverse students, specifically in HNS, with culturally responsive teaching practices and social/emotional methods is of the utmost importance (Yendol-Hoppey & Hoppey, 2018) and provided the rationale for the collaborative development of the Enhanced Partnership Model (EPM).

Another significant need to address was to develop and apply strong teaching skills by teachers within the social context in which learning occurs. According to research, teaching that ignores student norms of behavior and communication provokes student resistance, while teaching that is responsive prompts student involvement (Zeichner, 2020). There is growing evidence that strong, continual engagement by diverse students requires a holistic approach—that is, an approach where the how, what, and why of teaching are unified and meaningful. Prospective and current teachers gain valuable insights into the learning and teaching of academic content in authentic classroom environments. Teaching for understanding and use is enhanced if modeled and practiced in an authentic classroom context (Zeichner, 2020). Given the greatest needs for highly effective teachers are in the schools and classrooms with greatest

diversity (USDOE, 2020a), teaching experiences need to be developed within the authentic classrooms of urban HNS settings from elementary through high school. Content in teacher preparation must focus on practices, programs, and resources with strong empirical basis within content areas to teach students in HNS, as well as culturally responsive teaching practices, technology, and interventions to meet and accommodate the needs of all students, including English Learners (ELs) and students with disabilities (SWDs) within inclusive classrooms (Billingsley & Bettini, 2019; CEC, 2020). Also, content needs to incorporate knowledge and skills to analyze and use student achievement data to differentiate instruction for each student to meet individual, diverse learning needs.

Not only was there a critical need for preservice teachers to initially learn and implement instructional practices that meet the rigorous standards in content within authentic urban contexts, but also there was a need for sustained, professional learning for teachers to continuously improve skills to effectively teach all students, including students with diverse backgrounds, disabilities, and diverse learning needs in HNS and retain teachers with continued support. Therefore, a system of continued communities of practice and coaching was needed to bridge university-based and school-based teacher educators within urban schools (Dana & Yendol-Hoppey, 2020). The mentoring and coaching processes balance technical expertise and efficiency with professional supports for solution-finding to develop and enhance experiences, perspectives, and purposes to education through enhanced roles, responsibilities, and reflection.

Specific Components of Program Development

To address the rationale, a collaborative program among faculty and administrators within a university-based teacher preparation program and a large urban school district in the southeast United States was designed to recruit, prepare, and sustain highly effective, diverse teachers with specific foci in STEM and special education to teach and differentiate instruction for students with diverse learning needs in HNS within an Enhanced Partnership Model (EPM). Collaboration among professionals within teacher preparation programs and school districts connects features of theoretical knowledge with job-embedded practices during sustained

professional learning from initial clinical experiences of preservice teacher through induction (Darling-Hammond & Barry, 2019). This collaborative EPM of teacher preparation envisioned and *reconceptualized recruitment*, *professional roles and responsibilities for university faculty and supervising teachers,* and *professional learning to support and retain increased numbers of knowledgeable diverse teachers in HNS within urban settings*. Each of these three key components of the EPM will be described in the next section. Findings from comprehensive implementation of these program components for five years will be shared in the Results section.

Reconceptualizing Recruitment

In order to increase recruitment of teacher candidates into the profession and to teach within HNS, we recognized the need to engage prospective teachers in various service-learning and community-engagement activities within diverse communities Multiple community-engagement and service-learning activities by future teachers' organizations, clubs, and tutoring programs in HNS were initiated to encourage and connect high school students with potential opportunities as teachers through Grow Your Own (GYO) initiatives within diverse communities.

Nationally, GYO teacher programs help address teacher shortages, retention issues, and teacher diversity by engaging in a variety of strategies that aim to recruit teachers from local communities in hopes that the pool of candidates will increase in diversity and will be more likely to stay teaching in the community (Garcia, 2020). GYO programs come in many shapes and sizes in terms of recruitment, financial assistance, curriculum, and support. Some programs recruit prospective teacher candidates from middle and high schools and some from the college level, and others recruit paraprofessionals and college graduates with non-teaching degrees (Skinner et al., 2011). Within this EPM, specific pathways from high school through entrance into the university were created and enacted to include specific courses, sources of financial aid, mentoring, and instructional opportunities.

Reconceptualizing the Role of University Coordinators

From the beginning, there was a clear focus on increased clinical practice and school-university educator partnerships to enhance high-quality educator preparation to rigorously

prepare, develop, and sustain teachers in HNS in urban communities. Within the EPM, the role of university clinical coordinators (called Professors-In-Residence [PIR]) provided the catalyst for re-conceptualized responsibilities and opportunities to guide and support continuous learning within classroom and school settings. The PIRs were clinically focused university professors that served as liaisons between the university and school sites to mentor cohorts of preservice teachers in one school setting for at least twenty percent of their time. The PIRs supported high-quality implementation of instructional practices by supervising teachers and preservice teacher teams, preparing educators within clinical practice settings to demonstrate competencies to meet professional and state certification and licensure requirements to address student, school, and district priorities. In addition, the PIR facilitated professional learning for teacher candidates and supervising teachers through continued, onsite professional development, coaching, demonstration teaching, co-planning, modeling, inquiry, and observations.

The PIRs formed partnerships with faculty to mentor teacher candidates, liaison with GYO initiatives, collaborate with faculty, and actively engage with school functions. The PIR served as a catalyst for learning as each participated as both a teacher and learner. An additional role of the PIR role included opportunities for continued support at the school site for recent graduates from the program as they transitioned into new roles as teachers of record. This support system allowed the preservice and career teachers to continue to ask questions, access resources, and find necessary support during the transition. The multi-dimensional, enhanced roles of the PIR served as the catalyst for continuous learning to enhance pedagogical content knowledge (Billingsley & Bettini, 2019) along the journey of professional careers.

Reconceptualizing the Roles of Supervising Teachers

The roles of the supervising teachers were enhanced with expanded opportunities for professional learning, mentoring, and coaching within classrooms and schools in collaboration with the PIR. As a school-based expert, the supervising teacher contextualized the theoretical knowledge to practical and specific application within the diverse classrooms through authentic clinical practice (Jenlink, 2021). Implementation of instructional practices with diverse groups of

and individual students using available classroom resources provided critical links to bridge theoretical learning with practical., authentic applications. Continuous feedback from observations, discussions, and reflections occurred by the team of the preservice teacher, supervising teacher, and PIR. These discussions provided connections and enhanced learning among each of the members of the team using various models of coaching.

Coaching became an important educational catalyst for professional learning during this process. Support for coaching can be found in research and literature in multiple fields (e.g., Knight et al., 2023). Seminal research (Showers & Joyce, 1996) found professional learning opportunities were reinforced by ongoing coaching and led to 80% to 90% of classroom implementation of new practices by teachers.

Various sustained professional learning opportunities were built into EPM program for teacher candidates, supervising teachers, career teachers, and instructional coaches to collaboratively attend at each of the school sites. At the beginning of each semester, an annual *Teaching Institute* was co-planned and co-facilitated at each of the school sites to establish camaraderie and excitement among teams of PIRs, supervising teachers, teacher candidates, instructional coaches, and school administrators. The *Teaching Institutes* provided a partnership platform where relationships and expectations among the PIRs, supervising teachers, and teacher candidates were shared and discussed in a collaborative space within a welcoming community (Jones & Harris, 2013). Special calendars were shared among the team members to establish a collaborative goal setting platform for mentorship and support for teacher candidates. The discussion of expectations and calendar were some of the components that established an open line of communication and supports among the team members at the outset.

Continuous professional learning facilitated by the teams of educators redefined their work and relationships in a variety of ways to transform teaching into increased learning and leadership roles within authentic classrooms and schools (Darling-Hammond et al., 2019). Teacher leaders can be defined as informal leaders who ‘walk ahead,’ model learning and innovation, and develop relationships and networks to extend their own learning and influence others. Additionally, teacher leaders share their knowledge of pedagogy and classroom

management, are willing to accept leadership opportunities, and routinely go beyond the required duties of a teacher to serve both the school and students (See et al., 2020). As teachers increased their roles as teacher leaders and mentors, they often found their own knowledge deepened and their practice became more reflective (Hallinger, 2011).

These knowledgeable and experienced teachers in the HNS settings slowly emerged as members of the school leadership team and provided professional learning within the school and district (Weiner & Wolfen, 2018). As supervising and career teachers experienced their learning and improved student learning, they slowly transitioned to increased school leadership roles (Dana & Hoppey, 2020). Supervising and career teachers provided resources to teacher candidates and other teachers as they enhanced their roles of teacher leadership within and beyond the classroom. This type of transition for teachers ensured a strong preparation program where teacher candidates saw curriculum building, decision making, research, and school change through enhanced roles of teachers (Cosenza, 2018). School leadership was a starting point and important source of retention of teachers.

This development of teacher leaders was another outcome of the implementation of the EPM at each of the urban school sites. To emphasize the importance of these enhanced roles, the title of *Bridge Fellows* was created for supervising teacher and teacher leaders to highlight reconceptualized leadership roles by career and/or supervising teachers. A *Bridge Fellow* was a supervising and/or career teacher who enhanced their traditional roles to include providing guidance to other supervising teachers at their school site, serving as a liaison to school administration and instructional coaches, collaborating with university faculty to develop and facilitating professional learning within partnership schools, and providing guidance in the needs of the school to the university and other stakeholders.

The development of various roles for Bridge Fellows also provided models for additional supervising and/or career teachers to expand leadership roles within classrooms, schools, and the university. Bridge Fellows served as liaisons in the teacher preparation, induction, and retention within the schools by guiding the weekly professional learning based on the needs of the faculty and preservice teachers. They worked collaboratively with their school-based PIR to plan and host additional professional learning activities such as writing clinics, STEM camps, and

other learning events as identified at the school sites (Jones & Harris, 2013). These authentic professional learning events also included the preservice teachers from the school site to enhance their learning experiences.

The Bridge Fellows also provided induction support for graduates as they transitioned from preservice teachers to early career teachers. Teacher candidates were often hired at the schools they served for internship or other schools that were included in the EPM. The Bridge Fellows served within mentorship roles for the new teachers and often provided check-ins, planning support, or guidance during induction. For example, participants gathered at their school sites to collaborate with faculty at other school locations to develop collaborative resources and share ideas to target specific professional learning and supports for early career teachers, called "Virtual Together" communities of practice. This collaborative structure included supervising teachers, teacher candidates, instructional coaches, and career teacher as team members to build the sense of community and support. Bridge Fellows and PIRs individualized the continuous professional learning based on the conversations and needs of their own schools and aided participants in accessing the collaborative resources built across all school sites. The induction program promoted retention and success among early career teachers and provided sustainability to the EPM. Several Bridge Fellows have transitioned into new leadership roles at their school sites to support induction and retention of teachers in the school. Many have been recognized as leaders by their school administrators and district personnel for their commitment to supporting teacher development and retention.

Continuous Professional Learning through Induction

Continuous professional learning is an important component of a successful university and school district partnership programs. The Enhanced Partnership Model (EPM) revised and enhanced roles for university clinical coordinators and supervising teachers, including ongoing professional development, inquiry, and teacher-initiated workshops. These structures provided opportunities for supervising and career teachers within urban HNS to continually learn, support, and focus on the improvement of their own practice to enhance skills and take on new roles within their schools (Darling-Hammond et al., 2019). These structures have been found to

impact daily incorporation of professional learning, teacher sharing of responsibility, and retention (Lee et al., 2019). Comprehensive systems were put in place in the EPM, including collaborative structures and supports, which led to the development and enhancements of teacher leadership roles among career teachers and instructional coaches.

The collaborative professional learning opportunities facilitated situated, continuous learning through reflection and discussions to create unique solutions to new opportunities, new knowledge, and skills. Guiding, supporting, and sustaining educators as teachers and learners are critical to professional learning throughout educational careers (Cosenza, 2018) as collaborative, solution finding discussions address complex educational challenges. Adaptive challenges require new learning beyond existing knowledge and capacities and present an invitation to further deepen applied learning to new opportunities by expanding perceived boundaries. Actualizing the potentials of professional learning communities of practice (PLC) to address adaptive challenges within classrooms and schools require progressive interactions of adaptive teacher leaders who engage in sensemaking processes of reflection. Progressive interactions maximize quality knowledge and social cohesion within a system.

The knowledge, skills, and relationships of the supervising teachers, preservice teachers, instructional coaches, and university coordinators (PIRs) encouraged progressive, reflective interactions to synergize and develop knowledge and leadership. Through ongoing collaboration and communication, the multiple roles of each team member evolved and varied from initial mentor to clinical coach based upon the situational discussions and presenting opportunities. The initial focus was to enhance and connect the university theory and practice to authentic, urban classroom contexts by the preservice and supervising teachers during internship. As progressive interactions continued and expanded (e.g., grade level, PLC meetings), other educators within the school engaged in the processes. Eventually, a critical mass of developmental teacher leaders within the school learned, used, and shared the new leadership capacities to others to expand the impacts of coaching (Knight et al., 2023). Teachers found meaning by connecting to others, and supported increased well-being and professional satisfaction by making progress on solutions that were important and benefit their students using data-driven decision-making (Little et al., 2024). Within classrooms and schools, opening

doors to new opportunities was created and sustained by a critical mass of developmental teacher leaders who employ and expand reflective, sensemaking practices for continuous learning within supportive, collaborative learning communities.

Results

To address the need to recruit, develop, and retain teachers within high-need, urban schools, an innovative, collaborative EPM of teacher preparation was envisioned, implemented for five years, and evaluated to determine the results of this EPM on *recruitment*, *professional learning, and hiring and retention of teachers within HNS in urban settings*. One of the goals for the EPM was to increase the number and diversity of preservice teachers within the university teacher preparation program. As a result of various Grow Your Own recruitment strategies, a 20% increase in undergraduate students resulted in the university elementary education program in mathematics, science, and special education, with more than 7% of preservice teachers requesting internship placement in HNS. The diversity of preservice teacher candidates increased from 35% to 51% because of efforts within this project. In addition, there was a 243% increase in placements of preservice teachers in High Need Schools (HNS) within the partner urban school district. Specifically, from fall 2015 to the pilot semester of spring 2019, 7% of interns requested placement at a partner high-needs school. Through targeted recruitment efforts made by the project, placement at a partner high-need school increased to 24% of internships. This equates to a placement increase in HNS of 243%. To accommodate the increase in teacher candidates requesting placement in a HMS, additional supervising teachers needed to be recruited. Through this partnership, efforts to help teachers of record meet supervising teacher criteria were developed. During the five years of the EPM and across the nine partner schools, the pool of eligible supervising teachers who met all criteria set by the state and the university increased by 95, from an initial pool of 26 teachers (Fall 2019) to a total of 121 supervising teachers (Fall 2023).

As a result of the revisions and enhancements to the roles, responsibilities, and sustained professional learning of the university clinical coordinators (PIRs) and supervising teachers within the classrooms and schools, ninety-nine percent (99%) of all of the preservice

teachers scored “proficiency” on university competencies and state-administered certification examinations. Observations based upon the implementation of culturally relevant and evidence-based practices in science and mathematics by both supervising teachers and PIRs demonstrated an increase of 75% from the initial year to year 5.

Efforts to employ and retain graduates in high-needs schools’ post-graduation have been successful. Impacts and positive results were also evidenced by an increase in the numbers and diversity of teacher candidates hired within the urban school district. Teacher candidates who became teachers-of-record in the first-year post-graduation and completed the EPM of internship were about 4.5 times more likely to be employed at high-needs schools as compared to traditional teacher candidates. Regarding the three-year retention rates, of the teacher candidates who completed the EPM and became a teacher-of-record in the partner district in their first-year post-graduation, 75% continue to teach in HNS.

Conclusion

Addressing teacher shortages in all areas of education, specifically mathematics, science, and special education, requires collaborative, multifaceted approaches that combines policy changes, collaborative efforts, and a focus on authentic teacher preparation and support. The educational community, policymakers, and stakeholders must work together to ensure that every student has access to high-quality education. The collaboratively developed and implemented Enhanced Partnership Model (EPM) between faculty and administrators of a very large urban school district and university produced outcomes that not only increased the numbers and quality of diverse teachers within HNS, but also increased teacher retention through redesigned roles and responsibilities.

Given the collaboration, innovation, and results across multiple indices and stakeholders, the process and sustainability of the co-constructed innovations from this EPM was evidenced. The goal was to include and sustain the specific components (e.g., professional learning modules, evaluation procedures, products, revised roles of the Professors-In-Residence, school placement processes, etc.) of the EPM within the educational partners of the university and school district to continue to affect the recruitment, development, and retention

of teachers in mathematics, science, and special education to effectively teach the students in High-Need Schools (HNS).

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