# Teacher Inquiry: A Foundation for Mentoring Teachers During Induction and Throughout Their Career

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Public education in the United States is faced with the challenge of keeping its teachers. Attrition rates continue to be disappointing, with 50% of teachers leaving the field by the end of the fifth year (National Center for Educational Statistics, 2001). Of the 3,214,900 public and private school teachers who were teaching during the 2003–04 school year, 22% percent left the profession while 16% moved to another school (Marvel, et al, 2003). These authors also report factors that influence teachers' decisions to leave teaching that included those who stayed working in the field of education. Among these teachers who left private school teaching positions, 51 percent reported that the workload in their new position was more manageable than in teaching. Among the public school teachers, fifty-five percent who left teaching but continued to work in the field of education reported that they had more control over their own work in their new position than in teaching, while 65 percent of public school leavers who worked outside the field of education felt that their workload in their new position was more manageable and that they were better able to balance their personal and work life (Marvel, et al, 2003). These figures and subsequent reasons contribute to the challenges faced by school districts to maintain a stable work force.

Johnson and Birkland (2003) conducted a longitudinal interview study of 50 new teachers in Massachusetts to present their reasons for staying, moving to another school, or leaving the profession. Those who left the profession cited their experiences at the school sites were central in influencing their decisions. Teachers who felt successful with students and whose schools were organized to support them in their teaching; that is, providing collegial interaction, opportunities for growth, appropriate assignments, adequate resources, and school wide structures supporting student learning were more likely to stay in their schools, and in teaching, than teachers whose schools were not so organized.

It is a well-documented fact that novices feel unprepared (Ryan, 1992; Kaff, 2004) and as time passes, their insecurity continues as reported, "feelings of isolation, interest in not abandoning university teacher preparation, and the need to learn from mentoring" (Stanulis, Fallona & Pearson, 2002, p. 79). Among the many strategies used to support teachers, mentoring was introduced in the early 1980s and is now mandated by over 30 states (Feiman-Nemser, 2003), and implemented in some form by at least 47 states (Brown, 2003). Ingersoll and Smith (2004) reported that in 1999-2000, eight out of ten new teachers in the United States participated in induction programs, and about two-thirds worked closely with a mentor. Beginning in 1989, The Council for Exceptional Children (CEC) recommended standards for special educators entering the profession that included a minimum of one-year mentorship during the first year of practice.

Danielson (1999) reported that mentoring has been recognized as "a critical element of a comprehensive approach to teacher development" (para.1). Mentoring is seen as a cost effective way to increase skill, enhance recruitment and retention, and increase job satisfaction (Kerka, 1994). The professional literature heartily supports the use of mentoring (Anderson & Shannon, 1998; Boyer & Gillespie, 2000; Bronwell & Smith, 1992; Ganzer, et al., 1998; Griffin, 1985; Odell & Ferraro, 1992; White & Mason, 2001, Cochran-Smith, 2012). It includes critical elements of mentoring programs for program to consider (Blank & Sindelar, 1992; Danielson, 2002; Darling-Hammond, 1998; Feiman-Nemser, 2003; Hope, 1999). Hargreaves and Fullan (2000); Rowley (1999), Marable and Raimondi (2007b), define qualities of an effective mentor to further delineate critical elements of successful mentoring programs. Billingsly, Carlson and Klein (2004) provide descriptions of working conditions and induction supports for early career teachers to ensure adequate support while Brindley, Fleeger, and Graves (2000); Whitaker (2001) discuss perceived quality programs to offer ways to define experiences and critical support structures.

Recently, Cochran-Smith (2012) emphasized the need to create a variety of supports to better ensure that teachers stay in the profession. She describes the importance of the mentor-intern match, the need for professional learning communities, and the critical elements of perceived "safety" to ask questions, admit uncertainties, and embrace continued learning. These findings resonate with those of a similar study (Marable & Raimondi, 2007a) and intersect with initiatives of the US Department of Education Office of Special Education's 325T Grant (H325T110018). The Justice for Underserved Students: Teacher preparations in Inclusive Classroom Environments (The JUSTICE Project) goals and objectives for years three and four (2014-2015) emphasize teacher induction programming, along with professional development. Literature has suggested embedding sustained, professional learning in PLCs is most effective in meeting students' needs (DuFour, 2014). Cochran-Smith and Lytle (2009) emphasized the need for PLCs immersed in teacher inquiry to ask questions, admit uncertainties, and embrace continued learning as relevant elements in a mentoring program.

During the 2013-2014 academic year, the JUSTICE Project funded a professional development (PD) series on co-teaching. The conceptual framework for the PD series included recommendations from the grant's advisory council as well as a review of literature. The series foundation included four key components that inspired the conception of a mentoring model. Inquiry as stance, PLCs, evidence based practice (EBP) and data-based decision making served as the basis for the series and also provided a comprehensive approach to mentoring teachers.

Inquiry as stance (Cochran-Smith, 2012) empowers teachers to systematically review their practice judiciously, examine possible teaching and intervention strategies, and analyze the results using data. Topics relevant to co-teaching served as the vantage point as teachers considered the inquiry process. That is, they were challenged to look critically at their teaching and use data to investigate interventions that would improve outcomes for children. Each session introduced the most current co-teaching strategies and techniques grounded in research. Teachers were required to consider new information as they analyzed their own practice. Project Directors worked with teachers at the beginning and end of each session to introduce the inquiry process in a sequenced developmental approach. These included identifying and formalizing a problem statement, summarizing the setting and subjects, choosing an instructional or behavioral intervention to use within the co-teaching model, identifying roles, and describing what will be

measured and how. Finally, participants conducted investigations during a specific timeframe. This provided sufficient time to reflect, discuss, and present findings with respect to the school calendar.

Emphasizing evidence based practice imposed a high standard on teachers to plan, implement and measure the effect of research based strategies based on substantiated facts. Additional resources were provided for examination beyond the PD sessions. Teachers were encouraged to review articles relevant to the topics. They were required to utilize EBPs to improve outcomes and use practice based evidence to make decisions. Practice based evidence refers to a collection and analysis of classroom data to determine if there is a relationship between teachers' instructional practice and students' academic, behavioral, and social development (Fink-Chorzempa, Maheady &Salend, 2012). Maheady, Smith, and Jabot (2013) assert that practice based evidence may complement EBPs in that if teachers can substantiate the use of certain interventions and find they improve student outcomes, they may be more inclined to investigate the use of other EBPs in their classroom.

Participants were organized to form PLCs (Cochran-Smith, 2009) initially to support each other in learning about inquiry. That is, reserved seating facilitated discussion during each PD session for those who conducted the teacher inquiry research project (TIRP). A web-based platform allowed for posed questions, discussion and reflection between sessions. Project directors monitored the discussion forum to offer guidance and support as appropriate. As time progressed, smaller groups formed based on shared complexities. The larger group met after each PD session to discuss new information about the inquiry process and then broke into 'common issues' PLCs. While some teachers worked in the same building, others were alone, and thus, the PLC framework allowed for support and discussion during each PD session. Further, the web-based discussion forum allowed participants to question, share knowledge, and support each other's work regardless of proximity.

Using empirically supported interventions in more natural settings imposes collecting progress monitoring data to determine selected practices' effect on outcomes for children (Maheady, et al., 2013). Making data-based decisions imposed a reach back to college classes for some veteran teachers. While their experience reflected many informal evaluations, the more rigorous process of data collection, analysis, summarization and presentation compelled a more formal approach. Methods were clarified at each session and clear, reliable data sources were identified. A session on single-case design required participants to document their findings and facilitated data-based deliberations. This allowed participants to validate their results and provide a visual presentation of their conclusions. Finally, a template provided by Project Directors served as the framework for a poster presentation of TIRPs.

Current undergraduate and graduate students were invited to join teachers and administrators in the five part PD series spanning the school year. A cooperative agreement established with a local urban district's Teacher Center promoted teacher attendance as well as a process for participants to earn district credit for completing the TIRP. The co-teaching theme addressed topics such as models; communication; challenges and strategies found successful by veteran teams; and assessment and data analysis. Each session lasted 2.5 hours and was held after school hours. All teachers worked in an urban setting, serving children with mild disabilities. Eighty teachers attended each offering, and 25 participated in the TIRP. At the end of each session, the 25 participants worked together with JUSTICE project directors to study the

entire inquiry process. This allowed for a developmental, sequential approach to inquiry and facilitated rich discussion among participants, project directors, and school district staff. As the academic year progressed, the large PLC met to discuss global issues related to inquiry and then smaller PLCs formed based on mutual interest and shared experiences. Both formats served to support the teachers' ability to reflect and to empower them to make their own decisions based on the data they collected.

A pilot study examined the impact of the paradigm. Specifically, the researchers were interested in learning about the pros and cons of the model, and participants' perceptions of the experience. Given today's climate of attention to student outcomes, the TIRP participants entered this experience hoping it could be a means to improve their practice and undoubtedly the success of their students.

## Methodology

This study deployed qualitative research methods to observe, describe, and analyze participant perception of the TIRP. The questions guiding the research probed the structure of meaningful professional learning opportunities; teacher inquiry's role in the PLC; and the process of implementing EBPs into instructional procedures. Data related to these questions were collected after each PD session. As the TIRP progressed, observations were recorded, responses to inquiry questions were read, and final projects were examined.

At the end of the poster session, participants answered an online survey documenting their perception of the experience. Two weeks later, the participants returned to contribute in a focus group interview, thus allowing them to elaborate on their responses, and to add additional thoughts developed over time.

Qualitative data were collected in the form of interview and focus group procedures. All participants received an implied consent form prior to the focus group interview and were allowed to ask relevant questions regarding their role. Each was assured that confidentiality would be respected and information would be reported with anonymity. Further, researchers employed member checking (Lincoln & Guba, 1985) during the interview and at the end of the analysis increase the credibility and validity of the study. The researchers built rapport with the participants in order to obtain honest and open responses. During each interview, the researchers restated or summarized information and then questioned the participant to determine accuracy. Each was provided with the findings section and allowed to question any part of the report. These member checking strategies (Lincoln & Guba, 1985) provide trustworthiness to the analysis and ensure content validity. Data were independently coded by each of the researchers and themes provided the framework for subsequent analysis. Findings reflect data that were triangulated in a variety of ways.

Through the interview process, the researchers ascertained and explored views from the teachers' and administrators' perspective of their TIRP and the entire PD experience. The researchers systematically evaluated data collected throughout the year using thematic coding. Iterative analyses of the data identified important and sometimes unexpected themes that emerged. Data were derived from structured interviews among higher education faculty and the practitioners. Data collected also included anecdotal notes from practitioners (i.e., discussion forum entries, conversations). Participants completed the online survey immediately after their

poster presentation and were allowed to elaborate on their answers in a subsequent focus group meeting.

After all interviews were transcribed and checked for accuracy, the researchers read them individually. Each developed a list of themes identified during this first reading. Next, they shared lists to ascertain similarities and differences. Codes were agreed upon, some were combined that were synonymous, and an outline with multiple levels emerged. Finally, they re-read the transcripts and coded data adhering to the outline. Again, similarities and disagreements were addressed, codes were narrowed, and various sources considered. Themes were included in the final analysis if they represented unanimous agreement among the researchers, were evident across multiple sources, and were triangulated across data sources. No apriori design was defined; that is, themes emerged as a result of data analysis.

## Findings

Researchers evaluated the data to understand how participants applied the knowledge and skills gained to improve practice. Data analysis has been conducted from the pilot study and continues to be collected in the second year of the research study. Initial examination reveals general themes relevant to professional development, teacher inquiry, and mentoring.

Consensus among participants regarding professional development supports their preference for practical, hands-on interventions that they could choose to replicate in their classroom. Most cited the interventions addressing student behavior, opportunities to respond, and parent engagement strategies as the evidence based practice they would want to replicate. Thus, providing a menu of options that illustrate EBPs to solve a variety of classroom issues served the participants well, according to their responses. The PD Series in general and the TIRP in particular promoted professional growth opportunities for participants to focus on improving student outcomes that they personally found to be challenging in their classroom. After receiving training to implement and exploring the evidence demonstrating the effect of a variety of interventions, participants were empowered to make choices of interventions that would meet the needs of their students.

The findings related to teacher inquiry and mentoring seemed to overlap in several dimensions. Since the TIRP imposed inquiry as stance on the participants, many suggested the need for continued and sustained support during the process. The PD Series provided an online platform to pose problems and discuss issues, but some participants preferred the face to face support in their school building. Regardless of their years of experience as teachers, this new process required significant support from the participants' perspective. Many participants cited the need for more time to plan for the TIRP, more support in intervention, data collection, and suggested a coach or expert onsite in their school to assist them in the process.

While not in the control of the researchers, many cited the lack of resources available to them in their schools. For example, some felt they should not have to invest their personal money to purchase supplies needed for the interventions, yet they emphasized their frustration in administration for not providing necessary supplies. Further, some suggested the need for the researchers to intervene regarding personal relationships among and between the teachers/participants. Again, not under the control of the researchers, these issues bring light to

the need for extensive training regarding co-teaching and that perhaps pairs need a process to address tensions or other issues they may encounter in the classroom.

The findings provided insight on how to structure teacher inquiry to move evidence-based practices (EBPs) into everyday practice. Second, it analyzed how teacher inquiry was used to improve student outcomes by providing participants a support system to develop TIRPs. With a guided model, PD training, and the support of a PLC, participants were able to address a problem within their classroom, implement a study, and analyze the results to improve student learning. A collaborative reflective process facilitated a deeper understanding of teacher practice, facilitated relationships among most participants, and served as a support system for participants.

Finally, the participants reported overwhelming feelings of pride, increased professionalism and empowerment. A poster session allowing each participant to visually present and speak about their TIRP celebrated the projects' completion. School administrators, teachers, and college faculty were invited to the research showcase. Participants reported feelings of deep satisfaction, pride, and a sense of accomplishment rarely felt in their teaching career. A few suggested this was the highlight of their career, and many reported that this achievement inspired them to return next year. Some requested an opportunity to present at the district's Teacher Center, implying their perception of the pride associated with their TIRP.

Rather than utilizing a top-down or novice- expert system of problem solving (teachers pose problems solved by professors), the PLC and TIRP facilitated a process of increased responsibility, accountability, and satisfaction in finding solutions in the classroom setting. In summary, the TIRPs demonstrated the practical implications research has for teachers in the classroom. Participants gained valuable insight from the research process by reflecting on and answering inquiry-based questions. Data analysis for this pilot supports the interest to utilize the model for teacher induction and mentoring and provides a model to serve as the foundation.

## Discussion

Findings from a pilot study using TIRP, PLCs and professional development as the basis to improve teacher practice show promise to serve as a mentoring-induction model for new teachers. A year-long PD series infused with the inquiry process taught teachers to utilize new information learned to apply to problems and challenges they faced in their classroom. Further, it may foster the continued use of EBPs after seeing success initially. A large PLC addressing the steps of inquiry evolved into smaller, topic specific PLCs that allowed teachers to support one another in the process. Finally, each participant conducted an inquiry project in their classroom and reported findings at a poster session held on the college campus. Feelings of empowerment, increased professionalism, and increased confidence were reported by all participants. These results indicate the model may be beneficial to utilize in a mentor program.

## Implications for Further Research

Initial findings show promise for a model that infuses professional development with teacher inquiry. Further study in several areas seems appropriate. First, dynamics of teacher pairing may need further study to allow for the most productive co-teaching models. Second, the need for support during the inquiry process may be addressed by requiring more than one TIRP

in each building for those participants who prefer face-to-face support rather than an online application. Pairing participants may also facilitate the fidelity checking procedure so that while supporting each other, team members can also conduct observations to monitor the intervention's fidelity. Finally, more data must be conducted from participants in the TIRP to allow for a more deep and broad analysis of their perceptions.

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