Moving Towards Proficiency: A Grounded Theory Study of Early Childhood Teacher Candidates and Professional Development Schools

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Abstract

Demands placed on early childhood teacher development, teacher candidates, and professionals who prepare future teachers, continue to increase. Although inquiry addresses high-stakes teacher development, research on programs in early childhood professional development schools as a pathway to mediate the increased demand is needed. The purpose of this study is to develop a framework to evaluate teacher candidate development that is aligned with state measures of teacher effectiveness in a professional development school. Constructivist grounded theory (Charmaz, Constructing grounded theory, Sage, 2014) guided the collection and analysis of forty-three semi-structured interviews. A theoretical framework of three interrelated categories was identified: *Engaged Teacher Candidate, Professional Teacher Candidate, and Reflective Teacher Candidate*. Even further, seven interrelated sub-categories in the teacher candidates' development were identified: establish relationships, classroom management, technical aspects of teaching, teacher quality standards, professional dispositions, self-reflection, and goal setting. The overarching framework was named *Proficient Teacher Candidate*. The framework will be evaluated against a taxonomy of development in relation to a professional development school.

Keywords Early childhood education · Teacher preparation · Professional development schools

Introduction

Professional development schools (PDSs) are known to provide key learning opportunities for teacher candidate (TC) development (NAPDS, 2008); however, not all classroom experiences or settings are similar, varying across social, cultural, and developmental contexts (Bornfreund, 2011; Lim et al., 2009; Ret al.,lick & Miller, 2010). Furthermore, teacher candidates (TCs) often claim they were "born to be a teacher" or that they "love working with children." However, teaching is not necessarily innate but is rather a highly specialized skill that must be developed over time (Ball & Forzani, 2009; Grossman, et al., 2009). Teaching is also a human-oriented endeavor that can be highly unpredictable (Vartuli et al., 2016). Professional organizations call on teacher preparation programs to prepare early childhood teachers who are skillful and who work to dismantle inequities and achievement gaps (AACTE, 2018; NAEYC, 2009). The challenge for early childhood teacher development programs is to make visible a framework that facilitates teacher development within these demands while maintaining the constructivist values of the early childhood profession. The purpose of this study is to develop a framework to evaluate TC development that is aligned with state measures of teacher effectiveness in a professional development school. Highlighting PDSs as a pathway for mediating these high-stakes demands can bring a voice to the rigor of the profession and strengthen teacher preparation in early childhood education.

Professional Development Schools

PDSs, ultimately dedicated to improving TC learning, are partnerships between universities and P-12 schools (Garin et al., 2018; NAPDS, 2008). The National Association of Professional Development Schools (2008) outlined a set of fundamental qualities referred to as the "nine essential elements" that guide strategic planning of school-university partnerships. These elements provide a common lexicon for the PDS community and allow for consistent expectations

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that consider the highly dynamic nature of our public school system and university interpretations of quality development. Over a 10-year span, the PDS community has moved from identifying basic structures of a PDSs (2008) to examining the impact of PDSs on teacher development (Castle et al., 2009; Clift & Brady, 2005; Darling-Hammond & Oakes, 2019) to the usefulness of the common lexicon (Latham & Vogt, 2007; Lewis et al., 2020) while some scholars have suggested that PDSs might offer a solution to the national teacher shortage (Sebald et al., 2019). Although PDSs are innovative exemplars for preparing high quality teachers and offer a perspective of teacher reform through the work of simultaneous renewal (Goodlad, 1994), much work needs to be done to better understand how PDSs are being implemented and more outcome data is needed.

Clinical Practice

A variety of terms has been used to define the guided, hands-on teacher development that occurs in professional development programming (i.e., clinical practice, field experience, practicum, internships, and residency). The present study places emphasis on clinical practice. Clinical practice can best be defined as an experimental process for TCs to rehearse and refine professional skills through a deepened theory to practice connection (Burn & Mutton, 2015). The Holmes Group (1990) pioneered efforts to improve clinical practice in the 1980s, and the PDS model that grew from the Holmes work has since been internationally recognized as a the gold standard for teacher preparation (NCATE, 2008; NCATE, 2010). It is widely accepted that the more practice TCs have with real-time, complex interactions the better the skillset of teaching can be sharpened (Grossman, 2010). This includes the TC's ability to articulate pedagogical choices using real-time data (Kriewaldt & Turnidge, 2013). Some of the suggested factors of successful placements are that each placement is carefully identified and represent a variety of social and cultural contexts (Retallick & Miller, 2010; Zeichner, 2010). Specific to early childhood teacher development, it is suggested that clinical practice placements follow the scope and sequence of early childhood development (Beers, 2017). Another key layer to consider is the use of co-teaching in PDSs. Although co-teaching is not the central process being examined in this study, it is a key component to the TC experience in this study.

Co-teaching

Co-teaching is a model of teacher preparation that assists the mentor teacher and TC in the planning, instruction, assessment, and sharing of the classroom space (Bacharach & Heck, 2012; Bacharach et al., 2010). Co-teaching is not a new phenomenon with nearly 20 years of documented use (Sebald et al., 2021; Weinberg et al., 2020) and has roots in special education (Cook & Friend, 1995). In 2011, The Renaissance Group and St. Cloud University formed a relationship that has propelled the use and research of co-teaching. The consensus is that co-teaching supports well-prepared teachers and overall professional growth while simultaneously having a positive impact on student learning (Bacharach et al., 2010; Roth & Tobin, 2004; Sebald et al., 2019). It has also been argued that co-teaching allows for a shared level of expertise between the mentor teacher and TC (Beers, 2018; La Paro et al, 2018; Zeichner, 2010), further transforming the role of the TC in the classroom and their relationship with the learning community. There are seven co-teaching strategies available (Sebald et al., 2021; St. Cloud University) and have been noted as promising practices for the field of teacher preparation (AACTE, 2018; NCATE, 2010). Most of the research is focused on co-teaching during student teaching. This study offers insight to the practice of co-teaching during phase III of a four-phase early childhood teacher development program.

The added value of PDSs and clinical practice are twofold. First, an alignment of measures of teacher effectiveness between agency requirements and teacher preparation programs sets high expectations for the TCs and supports the coherence of teacher development, and in this study, the added coherence of co-teaching. Second, teacher preparation programs cannot necessarily control for the professional development school experience—nor should they, but PDSs and teacher preparation programs can work within the rigor of teacher quality standards and professional dispositions to mediate the learning needs of the TC and the complexities of daily classroom life. Although clinical practice is mandated by teacher development governing agencies and a vast body of research highlighting the importance of clinical practice in teacher development exists (Beers, 2018; Bornfreund, 2011; Darling-Hammond, 2006; Goodlad, 1994; Grossman, 2010; Hammerness et al., 2005; Korth & Baum, 2011; La Paro et al., 2018; NCATE, 2010; Retallick & Miller, 2010; Whitebook et al., 2012; Zeichner, 2010), little attention has been paid to clinical practice and PDSs in early childhood education (Beers, 2018; Cohen et al., 2013; Ritblatt et al., 2013). With the support of constructivist grounded theory (Charmaz, 2014), the aim of the study is to offer critical insights into the process of early childhood teacher development that is aligned with State measures of teacher effectiveness in a professional development school. In the next section, I will describe the model of early childhood teacher development associated with the TCs in this study and the theories that guide their development.

One University's Model of Teacher Preparation

The TCs in this study participate in a birth through third-grade professional development school model. The model follows the scope and sequence of early childhood development to support the TCs life-span perspective of human development. For example, phase I of the professional education courses is embedded in infant, toddler, and preschool settings, phase II is embedded in infant—preschool and kindergarten—first grade, and phase III is embedded in second and third grade settings. Each PDS represents a variety of social and cultural contexts, and each TC is carefully placed in consultation with the early childhood program coordinator, the course instructor, and the school leadership. Each course is also facilitated by a licensed teacher. Clinical practice experiences are carefully aligned with the course learning outcomes, State teacher quality standards, and an educator effectiveness evaluation framework. At the time of the study, there were five teacher-quality standards and included an average of three elements. See Fig. 1. TC development is also supported by professional dispositions identified at the university department level (Frederiksen et al., 2011). See Fig. 1. Both evaluation tools operate on a developmental continuum (e.g. Emergent, Developing, Proficient, and Accomplished) to maintain reciprocal professional development at the school site within the TC-mentor teacher relationship.

Theories that Guide Teacher Candidate Development

This model of early childhood teacher preparation requires a scope and sequence of development that is rigorous yet flexible to accommodate individual TC needs and the diverse and dynamic professional development school contexts. The theoretical perspective of knowing and understanding in the present study is influenced by Bloom's Taxonomy of

Fig. 1 Teacher quality standards and professional dispositions

cognitive development (2001) and Wiggins and McTighe's (2005) framework for understanding. Beginning with Bloom's Taxonomy, TC cognitive development has been identified as an important factor in designing optimal clinical practice experiences in professional development school settings. Bloom's original taxonomy (1956) evolved from a positivist interpretation of development to a more dynamic classification of cognitive development that offers measurable and actionable outcomes along a continuum of foundational knowledge to more complex understandings (Anderson & Krathwohl, 2001). These categories include remembering, understanding, applying, analyzing, evaluating, and creating. The updated Taxonomy (2001) also includes factual knowledge, conceptual knowledge, procedural knowledge, and metacognitive knowledge. These categories of cognitive development are used to explain the observable and measurable student learning outcomes for the primary course domains. For example, teacher educators can use the category application to assess TC understanding of content, methods, and classroom management, and overtime, monitor progress towards synthesis, evaluation, and creation.

To emphasize the crucial shift of teacher development beyond foundational knowledge to more complex understandings, the teacher development program in this study also applies Understanding by Design (Wiggins & McTighe, 2005). The Understanding by Design (UbD) framework is a "backward design" of curriculum, assessment, and instruction (Bowen, 2017; Sample, 2011; Wiggins & McTighe, 2005, 2012). The framework recommends Six Facets of Understanding that serve as measurable and actionable outcomes for the anticipated continuum of development. These include the TCs capacity to explain, interpret, apply, shift perspective, empathize, and self-assess. The intent in applying the updated Bloom's Taxonomy and Six Facets of Understanding is to create a robust taxonomy of development to be used for authentic assessment. Applying this perspective of knowing and understanding also supports teacher educators in planning, delivering, and organizing effective instructional strategies that align with real-time skill levels and the learning context (Anderson & Krathwohl, 2001; Bowen, 2017; Sample, 2011; Wiggins & McTighe, 1998, 2005, 2012).

It is important to note that I do not view either Bloom's Taxonomy or the Six Facets of Understanding as linear or hierarchical, but rather as iterative and episodic. Within such a perspective, I acknowledge the Piagetian-like stages of teacher development and the parallel to constructivism. I define constructivism as an active, complex meaning-making process of new knowledge and skills that rely on guided instruction and on-going assessment based on the individual needs of the learner (Copple & Bredekamp, 2009; Dewey, 1938; NAEYC, 2009). With the support of constructivist
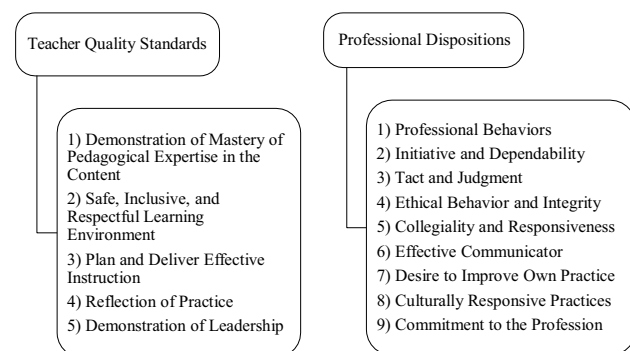
grounded theory, the complex epistemological processes of knowing and understanding within the broader ontological framework of PDSs are made visible.

Methods

The present qualitative study of early childhood teacher development in a professional development school is informed by Charmaz's (2014) constructivist grounded theory approach. This method was selected to develop a detailed understanding of the process TCs move through as they make meaning of their growing pedagogical practice in connection to professional development school. Emphasis is placed on the meaning ascribed by participants of their experience (Charmaz, 2014; Merriam, 2009). The study began with sensitizing concepts found in the study's teacher development program (Piagetian-like development, carefully aligned clinical practice). While these concepts helped get the research started, the interviewing process remained opened to the TC's own responses.

Study Site

The professional development school in the study serves preschool through fifth-grade students and is a Science, Technology, Engineering, and Math (STEM) school. The professional education course embedded in this site is in Phase III and designed to address content, methods, and classroom management with a specialization in Kindergarten through third grade. A minimum of two TCs were placed with one mentor teacher (co-teaching triads). TCs worked in classrooms 6 h per week every Monday and Wednesday for 16 weeks. Lecture occurred on-site prior to the start of the school day. The course is co-taught by a university instructor and a licensed classroom teacher, both participated in the "Train the Trainer" co-teaching workshop hosted at St. Cloud University. The co-teaching triads employ a shared level of expertise that is supported by the alignment with State measures of teacher effectiveness.

Participants

Purposeful sampling of an accredited, completive entry birth through third-grade early childhood teacher education and licensure program located in the Rocky Mountain region of the United States was employed. Informed consent was obtained from 50 TCs (2017 n = 24 and 2018 n = 26); however, seven of the audio files were not transcribed due to background noise in the recordings made at a school site. Of the 43 TCs, 95% identified as Caucasian, 4% identified as multiple races, and 1% identified as Hispanic. All participants were given pseudonyms.

Data Collection

With IRB approval and informed consent obtained, data were collected using semi-structured interviews. Participants had prior access to the interview questions with each question focused on TC self-assessment. For example, TCs were asked to reflect on their understanding and use of the State's teacher quality standards and the program's professional dispositions. The semi-structured interview protocol remained the same for each participant to maintain validity of the interview process yet allow for flexibility and individual responses within the interviews (Merriam, 2009). TCs were also asked to produce evidence that aligned with their self-assessment. Evidence included photographs, written reflections, parent communication documents, lesson plans, and observation forms completed by their mentor teacher or university instructor. These were not analyzed, but rather the meaning participants ascribed in relation to their personal development was of interest. Each TC was interviewed once over a 2-year period and averaged 30 min in duration. Starting with the prompt: "This time is yours. Take it away and lead the conversation." More details were elicited while paying attention to individual responses of the TC. Interviews were audio-recorded and transcribed verbatim by a transcriptionist. The transcripts include natural pauses and interjections such as "uhs" and "ums." To ensure accuracy and familiarity with the data, I listened to the audio recordings while reading the transcripts.

Researcher Positionality

I serve as an assistant professor of early childhood education for the teacher development program in this study. The participants in this study were former students of mine during the first two phases of the professional education courses, therefore it is important to address potential bias and the researcher-TC relationship. My approach to teacher development includes an inquiry-oriented, reflective pedagogical stance to support developing TCs and the young children in their care. This pedagogical stance lends to my own perspectives of teacher development. Although my position allowed for an insider perspective, I adhered to the criteria of evaluating the established theory outlined by Charmaz (2014). This evaluation process was supported by data triangulation and consultations with colleagues for feedback on my interpretations of the data. Finally, I evaluated the established theory against existing empirical literature and a taxonomy of development.
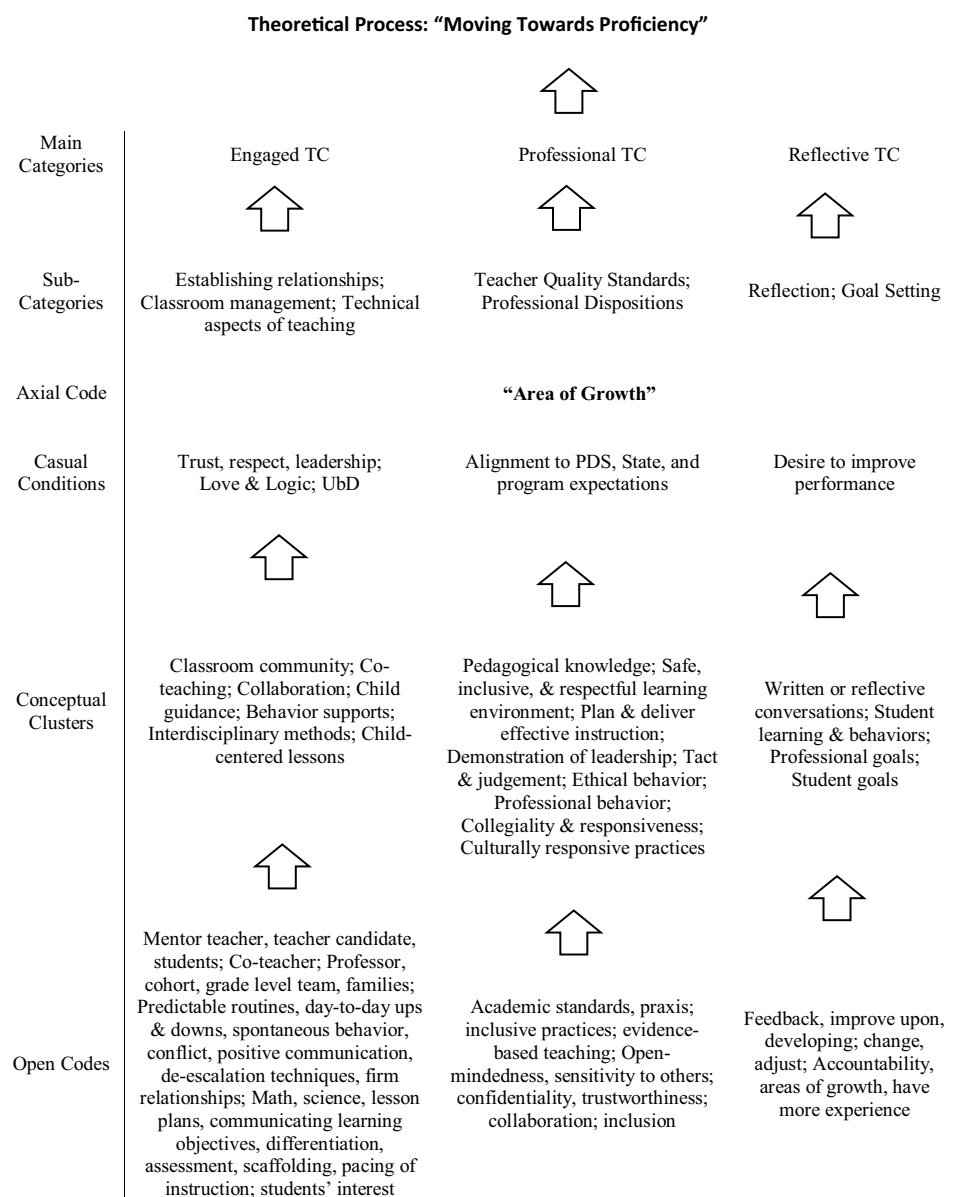
Data Analysis

I employed the constant comparative method (Glaser & Strauss, 1967) to guide three phases of analysis: (1) open

read of the dataset, (2) consecutive, multiple reads of the dataset, and (3) a comparison of the findings to existing literature. This method allowed me to compare data within and between each interview and to sort data into relevant codes, conceptual clusters, and categories until saturation of the data occurred and a theoretical process was identified. During the first phase of analysis I conducted an open read of the dataset and identified 42 open codes. See Fig. 2. I accomplished this by reading the dataset line by line and made note of any relevant data with a focus on the TC's own words and phrases. These initial codes informed the direction of analysis for the second round of interviews. During a second read of the dataset, I made note of gaps or redundancy of identified open codes by comparing them against relevant segments of data. Next, transcripts were uploaded

to the qualitative data analysis software NVivo 12.0 to assist with further organizing of the data. Open codes that best represented the raw data were grouped together based on word counts and organized into 20 conceptual clusters. Open codes and the corresponding conceptual clusters are indicated using a semi-colon. See Fig. 2. For example, I grouped the open codes "math," "science," and "lesson plans" to the conceptual cluster "interdisciplinary methods." This conceptual cluster was then used to re-examine the data for further abstraction of related causal, intersecting conditions (e.g., "Understanding by Design"). Then I assigned these codes and conceptual cluster to the sub-category "technical aspects of teaching." See Fig. 2.

The procedure of moving from open codes to conceptual clusters was inductive and involved multiple reads of

Fig. 2 Analytic process for "Moving Towards Proficiency"

Theoretical Process: "Moving Towards Proficiency"

	Engaged TC	Professional TC	Reflective TC
Main Categories	Engaged TC	Professional TC	Reflective TC
Sub-Categories	Establishing relationships; Classroom management; Technical aspects of teaching	Teacher Quality Standards; Professional Dispositions	Reflection; Goal Setting
Axial Code	**"Area of Growth"**		
Casual Conditions	Trust, respect, leadership; Love & Logic; UbD	Alignment to PDS, State, and program expectations	Desire to improve performance
Conceptual Clusters	Classroom community; Co-teaching; Collaboration; Child guidance; Behavior supports; Interdisciplinary methods; Child-centered lessons	Pedagogical knowledge; Safe, inclusive, & respectful learning environment; Plan & deliver effective instruction; Demonstration of leadership; Tact & judgement; Ethical behavior; Professional behavior; Collegiality & responsiveness; Culturally responsive practices	Written or reflective conversations; Student learning & behaviors; Professional goals; Student goals
Open Codes	Mentor teacher, teacher candidate, students; Co-teacher; Professor, cohort, grade level team, families; Predictable routines, day-to-day ups & downs, spontaneous behavior, conflict, positive communication, de-escalation techniques, firm relationships; Math, science, lesson plans, communicating learning objectives, differentiation, assessment, scaffolding, pacing of instruction; students' interest	Academic standards, praxis; inclusive practices; evidence-based teaching; Open-mindedness, sensitivity to others; confidentiality, trustworthiness; collaboration; inclusion	Feedback, improve upon, developing; change, adjust; Accountability, areas of growth, have more experience

the data. Through this constant comparison and sorting of open codes and conceptual clusters I teased out seven sub-categories: *establish relationships, classroom management, technical aspects of teaching, teacher quality standards, professional dispositions, reflection, and goal setting*. Another analytic example is the process I used for identifying the sub-category of "professional dispositions". The open codes for this sub-category included "open-mindedness", "sensitivity to others", "confidentiality", "collaboration", and "inclusion". Causal conditions related to professional dispositions was the alignment to program expectations. See Fig. 2. A third example is the sub-category of "reflection." Examples of the open codes that represented reflection using the TC's language are "feedback", "adjust", "improve upon", and "developing". The causal condition that aligns to the category of reflection is the "desire to improve performance". See Fig. 2. All identified codes, conceptual clusters, casual conditions, and categories are active representations the TCs' description of their experience and understanding of their own development.

For example, the axial code of "area of growth" was identified using the TCs' overall description of their experience and clarifies the iterative process of development. See Fig. 2. By placing "area of growth" at the center of my analysis, I was able to study the initial codes and raise analytic questions such as, "Why do TCs keep returning to the concept of"growth?" I also wondered how the identified causal conditions influenced the sub-categories in the context of "growth". See Fig. 2. By actively processing through these analytic questions and returning to the data, three main inter-related categories were identified: *engaged TC, professional TC, reflective TC*. Each of these interrelated categories point to a theoretical process of development that I labeled *Preparing a Proficient TC*. See Fig. 2. During the final phase of analysis, I compared the findings to empirical data on early childhood teacher preparation (e.g., ERIC, full-text collections) and a taxonomy of cognitive development (Anderson & Krathwohl, 2001; Wiggins & McTighe, 2005).

Findings

Overarching Theoretical Process: Proficient Teacher Candidate

The theoretical framework of *Proficient TC* was identified after multiple readings of the data and is the result of synthesizing three main categories and seven sub-categories. The main category of moving TCs from foundational knowledge of professional practice to deeper understanding included: *Engaged TC, Professional TC, Reflective TC*. Further, the seven interrelated sub-categories identified as critical for sustaining the iterative process of knowing and understanding are: *establish relationships, classroom management,*

technical aspects of teaching, teacher quality standards, professional dispositions, reflection, and goal setting. At the center of this framework is the meaning TCs ascribed to "area of growth" that was supported by a commitment to "improving" or "having more experience" with the identified categories.

This framework was co-constructed within the context of the participant–researcher–professional development school triad with a focus on the TC voice. Therefore, the TCs were viewed as experts of their position. I portray the framework within a series of triangles to represent the interrelated, often shifting, categories and sub-categories of teacher development. See Fig. 3. The size of the triangle and weight of the line signifies the emphasis TCs place on an idea or topic in the dataset with the outer triangle representing the TCs background knowledge and philosophy of teaching (i.e., expert of their own position). At the center of the triangle is the main category of "engaged TC" which requires enhanced effort and persistence with the sub-categories. The second main category of "professional TC" indicates a greater repetition and increased complexity with measures of effectiveness, and the third main category of "reflective TC" is the most complex of the categories and necessary to the overall TC experience and requires greater effort over an extended period of time. Together, these interrelated, shifting categories support movement towards proficiency. The theoretical framework further highlights the complexities of teacher preparation and suggests a series of highly specialized requisite skills that are intended to be transferable across curriculum, content, and routines.

A proficient TC was viewed as one who understood the teaching and learning process beyond foundational coverage of content knowledge and who provided evidence for classroom-based decisions, relating them directly to teaching
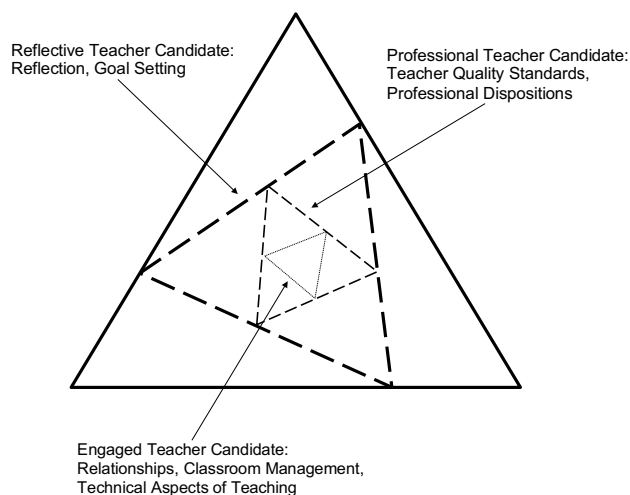
Fig. 3 Theoretical framework for TC development in professional development schools

and K-3 student learning. In general, TCs referred to their professional development school as a space to "practice" the science and art of teaching. TCs reported that their role in the classroom was to "provide support" to the students, to their mentor teacher, and to overall daily classroom life. Simply stated,

> "I provided another consistent role in the classroom, which was so important, and just helped things run more smoothly." (Tracy)

Not only were the processes of phase III TC preparation made visible, but I developed a deeper understanding of my role as a guide in a constructivist teacher preparation program from the perspective of the TCs as each uncovered new knowledge and skills of teaching in their professional development school site that lead to heightened levels of engagement, professionalism, and reflection.

Engaged Teacher Candidate

Engaged Teacher Candidate was identified as critical for preparing a Proficient TC. The category made visible in the range of experiences TCs had undergone within their professional development school setting and was comprised of three sub-categories. The sub-categories required enhanced TC engagement in establishing relationships with the overall professional development school community, classroom management, and technical aspects of teaching. Compared to the categories outlined below (professional TC, reflective TC), I interpreted the category Engaged TC to be the foundation for developing a Proficient TC, requiring enhanced effort and persistence.

The concept of engaged TC was first identified in relation to "establishing relationships" with TCs individual mentor teachers, cohort members, and students in their classrooms. In relation to establishing relationships with their mentor teacher, TCs reported feeling "trusted" and "valued" by their mentor teacher and described the mentor-TC relationship as a source of "inspiration." The TCs also described their relationship with their grade level team, cohort members, and professors as "collaborative" and as a "community". Such relationships were important in terms of asking for "advice" or "getting input" regarding lessons, classroom management, and student achievement. This was present in the TCs experience with co-teaching and taking on a "leadership role" in the classroom.

> "I've learned a lot from the co-teaching piece and the collaboration piece. It was awesome for each of us to take on a leadership role." (Morgan)

TCs also felt they were able to establish relationships with the K-3 students in a "relatively short amount of time" and felt a sense of "respect" for the students.

Having consistent and mediated exposure to daily classroom life in the context of establishing relationships were identified as critical for preparing a proficient TC. The emphasis on building relationships was placed on the K-3 students. The following quote showed the importance of this interconnection:

> "I created a lot of relationships with the students in my class. Setting solid expectations with students and having those firm relationships were super helpful this semester." (Shawn)

The emphasis on establishing relationships with the students was viewed as a pathway to enhanced engagement with "classroom management." This included enhanced engagement with establishing "predictable routines" and "setting expectations for students." Love and Logic (Fay & Funk, 1995; Wong & Wong, 2009) stood as an important thread, with a focus on "positive communication" and "enforceable statements." Enhanced engagement with classroom management highlighted the need for TCs to have more exposure to the spontaneous and diverse nature of student behavior. For example, TCs explained that at the beginning of the semester, they felt "so uncomfortable intervening" or worried that "everything would fall apart" if they took action in supporting student social and emotional behavior. Over time, the TCs increased engagement with "de-escalation techniques" or "managing day-to-day ups and downs in the classroom" was viewed as important to overall development.

Finally, given the enhanced level of TC engagement in establishing relationships and classroom management, the sub-category of "technical aspects of teaching" was identified. The sub-category was identified in relation to established "firm relationships". For example, TCs placed emphasis on "getting to know [K-3] students' interests and background knowledge to create something educational." Having exposure to more elusive aspects of teaching, such as pacing of instruction, and in-the-moment teaching adjustments was also relevant. Moreover, TCs connected "technical aspects of teaching" to "having the standards fit the classroom instead of the classroom to fit the standards." Such connections were also linked to "interdisciplinary methods" and "communicating learning objectives clearly". Last, a key factor in enhanced engagement was exposure to real-time assessment and scaffolding of student growth over time, as shown in the quote below:

> "It's been interesting seeing student growth as a whole. This semester was a really great opportunity to evaluate students' work and give them feedback … and to see that I can get my students to those standards. It was like the coolest feeling I've ever had." (Morgan)

Professional Teacher Candidate

The category *Professional Teacher Candidate* was viewed as critical for preparing a Proficient TC. The category involved two sub-categories: teacher quality standards and professional dispositions. It entailed pedagogical knowledge, commitment to the values of evidence-based teaching, and commitment to the improvement of practice. The artifacts TCs produced as evidence for individual development included but were not limited to photographs, written reflections, parent communication documents, lesson plans, and observation forms completed by their mentor teacher or university instructor. In relation to the previous category of Engaged TC, the second category of Professional TC requires greater repetition, thus increasing its complexity and importance.

> "I was working on getting more exposure to how to develop as a professional, hold myself accountable and to make sure that I'm still moving towards knowing what kind of educator I want to be." (Dante)

For example, three of the five teacher-quality standards and a range of professional dispositions were identified in the dataset. In general, TCs focused on Standard One (pedagogical expertise), Standard Two (safe, inclusive, and respectful learning environment), and Standard Three (plan and deliver effective instruction). The fourth teacher quality standard of reflection was critical and served as the final category, while Standard Five (demonstration of leadership) seemed to be the least explored. TCs overwhelmingly identified knowledge of the content, academic standards, and interdisciplinary lesson plans as essential to their development (standard one).

> "It's really important for me to demonstrate the knowledge of content and to really understand and focus on all of the aspects of education, including language arts, math, and science, and really being able to implement those and intertwine them into interdisciplinary lessons." (Tracy)

Similarly, the TCs addressed each of the professional dispositions, however, emphasized Tact and Judgement (open-mindedness, professional dress, positivity and respect, sensitivity to others), Ethical Behavior (confidentiality, trustworthiness), Collegiality and Responsiveness (collaboration), and Culturally Responsive Practices (inclusive behavior, effective instructional delivery). The following quote highlighted the TC's interpretation of professional dispositions.

> "I think professional behaviors are really important and set the groundwork for everything else to be built on. I think it is about really just holding myself to higher standards and making sure that I'm respectful

and I'm acting professionally at all times and really taking advantage of this opportunity that we have." (Shawn)

In general, TCs ranked their ability to enact teacher quality standards and professional dispositions as "developing." This self-evaluative piece led me to identify the third category of Reflective TC.

> "I continuously try to evaluate myself, and then intentionally become either more involved or practice what it means to be a professional, and what it looks like to be a teacher." (Morgan)

Reflective Teacher Candidate

Last, the category *Reflective TC* was critical for preparing a *Proficient TC*. I interpreted the category as the outside structure for preparing a proficient TC and requires the most practice and effort over an extended period of time, making *Reflective TC* the most complex of the three categories. The category also comprised goal-setting. This category involved the TC's ability to "see" themselves as teachers and to consider the impact of their practice on student learning and behavior. Identifying "areas of growth," so that they could "change" or "adjust" their practice was also embedded in their ability to "see" themselves as teachers. TCs overwhelmingly viewed reflection as "important" and "valuable", as illustrated in the next quote.

> "Reflecting as a developing teacher is so important because we're really shaping what we want our philosophies to be and what we want to practice as teachers and without that reflection piece, it's really hard to build on that." (Dante)

Demonstrating the ability to reflect meant being able "to take in various forms of feedback" as well as having the ability to make necessary adjustments to their practice. TCs acknowledged the important role of reflection and viewed feedback back as "the biggest highlight" of their professional development school experience as noted in the following quote.

> "… after we did our next lesson, we looked at each other and we were like, that was a lot better. Documenting the lessons and using the reflection, whether it's just self-reflection or if it's a reflection from either a mentor or someone who is observing me … just to get their input and unbiased opinion of how well am I doing on these certain aspects, and then seeing the progression I made was so impactful." (Tracy)

Interestingly, goal-setting was interpreted in two ways. One interpretation was goal-setting for the individual TC in the context of teacher quality standards and professional

dispositions. The second interpretation was goal-setting for K-3 student achievement. Overall, goal-setting was interpreted by the TCs as intended to "improve" or "have more experience" with a specific teacher quality standard or professional disposition as stated in this quote.

> "My goal is to just keep going step by step and taking each lesson as it comes, slowly becoming a better at all of it." (Shawn)

Discussion

In the final stage of this constructivist grounded theory study, the proposed theoretical framework for preparing a proficient TC is evaluated against a taxonomy of development (Anderson & Krathwohl, 2001; Wiggins & McTighe, 2005). The preparation of a *"Proficient Teacher Candidate"* in this study arguably is situated in the taxonomy of knowledge-comprehension-application as TCs became successful in their "ability to use learned material in new and concrete situations" (Anderson & Krathwohl, 2001). During Phase III, the TCs showed an important shift in their development specific to application in the category of *Engaged TC* and *Professional TC*, while a major shift toward synthesis, evaluation, and creation was aligned to *Reflective TC*. Each will be discussed in turn.

The first category of Engaged TC highlights the importance of making use of and applying pedagogical content knowledge in a real-time classroom setting (Anderson & Krathwohl, 2001; Aydin et al., 2015; Beers, 2018). Earlier studies also emphasize the importance of a supportive relationship between the TC and mentor teacher as a pathway to scaffold TC application of requisite skills (Cohen et al., 2013; La Paro et al, 2018; Maynard et al., 2014; O'Brian et al., 2007). The TC-mentor teacher relationship is viewed as a central element of teacher development, as TCs are constantly receiving information from observation and interaction with the mentor teacher (Korth & Baum, 2011; La Paro et al., 2018; Maynard et al, 2014). The present study expands the concept of "relationships" to include the unique experience embedded in the professional development school (cohort, mentor teacher, grade-level team, university instructor, and most importantly, the K-3 students) with the added layer of co-teaching. The role of establishing relationships seems to support enhanced TC engagement. PDSs in this sense provide wrap-around services for TCs in the context of "establishing relationships."

The second category, Professional TC, highlights the importance of TCs making use of and applying teacher quality standards and professional dispositions in a real-time classroom setting (Anderson & Krathwohl, 2001). In alignment with earlier studies, findings from this study highlight the importance of setting clear measures of effectiveness to mediate TC learning (Beers, 2018; Cohen et al., 2013). Because the teacher development program in this study is accredited and operates in a professional development school model, the TCs and mentor teachers are working toward the same professional goals, thus making the teacher quality standards simultaneously accessible (Goodlad, 1994). Moreover, findings from this study emphasize the importance of applying professional dispositions in meaningful ways beyond university instruction (Baum & Swick, 2008; Da Ros Voseles & Moss 2007, Wilkerson & Lang, 2007). The TCs in this study not only highlight how they operationalized measures of teacher effectiveness but also highlight the how PDSs can mediate the complexity of meeting these measures in the context of daily classroom life.

The last category, Reflective TC, highlights the importance of having the opportunity to synthesize, evaluate, and create new understandings of the teaching and learning process (Anderson & Krathwohl, 2001). This category also makes visible two major assumptions regarding the benefit of reflection. First, reflection provided TCs an opportunity to analyze the consequences of their practices in relation to the aims and goals of the teacher development program and student learning outcomes (Hedges & Gibbs, 2005; Hedges & Lee, 2010). Second, reflection captures the many ways TCs internalized new understandings from in-the-moment feedback that led to changed behavior or the creation of new practice (Boud et al., 1985; Nolan & Sim, 2011). The present study expands key elements of synthesis, evaluation, and creation in relation to PDSs. Learning to become a reflective TC in a PDS assisted the TCs in the ability to examine the knowledge received through professional education coursework in relation to clinical practice experiences. The result in a growing self-knowledge of their own practice (La Paro et al., 2018).

Limitations

One of the limitations of this study is the interview process. Although the semi-structured interview protocol remained the same for each TC, the responses to the TCs focused on the emerging conversation, the details of their experiences and the meaning they attached to their experience. Nevertheless, the data pointed to possible codes and categories to illustrate the process of early childhood teacher development in a professional development school aligned to State measures of effectiveness. Another limitation of this study is the lack of diversity represented in the participant population. The gap in diversity is not new to the field of early childhood education and is indicative of systemic issues that extend beyond the scope of the present study. Additionally, seven

of the audio files were not transcribed due to background noise at the PDS site which could have led to missing details.

Further Direction for Research

The next steps for the evaluation framework of movement toward proficiency purposed in this study includes an expanded range of categories and causal conditions related to the TCs experience and to advance the identified framework to other teacher development programs. Data from this study could also be used to examine the quality of feedback provided to TCs and how feedback impacts the process of reflection and further examine the impact of co-teaching in phases of development other than student teaching. As noted in the study, there is a need for further research in clinical practice and TC development that is aligned with state measures of teacher effectiveness in PDSs. This includes the investigation of individual phases of teacher preparation to better study incremental growth overtime and its impact on birth—third grade development and learning. Diversifying the field of early childhood education must also be addressed.

Conclusion

The theoretical framework for preparing a Proficient TC can be useful for examining early childhood teacher development embedded in PDSs. It allows for the exploration of measures of teacher effectiveness and TCs understanding across curricula, age ranges, and routines. The central contributions are drawn from the emphasis TCs placed on engagement, professionalism, and reflection. Because the categories of preparing a proficient TC are interrelated, the overarching process must be viewed as iterative and flexible with multiple entry points for development (establish relationships, classroom management, technical aspects of teaching, teacher quality standards, professional dispositions, self-reflection, goal-setting).

The framework also requires an image of TCs as experts of their own position, and views reflection as necessary for re-authoring new understandings about the teaching and learning process (see taxonomy of development). Particularly in re-authoring the claim that they were "born to be a teacher" or "love working with children." TCs learned to see and experience the complexities of daily classroom life with the support of the professional development school site. As an extension of this concept, I offer the facet of "experimentation" to Wiggins & McTighe's Facets of Understanding for clearer alignment to the constructivist nature of early childhood development and teacher

preparation (La Paro et al, 2018; Ret al.,lick & Miller, 2010). One could argue as TCs move towards proficiency, they are simultaneously experimenting with professional practice. In other words, PDSs provide space for TCs to "mess about" (Cruickshank et al., 2015) with theory and practice inside a "wild triangle of relations" (McDonald, 1992). The theoretical framework employed here makes an important contribution to early childhood teacher development and to the relationship-rich experience of PDSs.

Declarations

Conflict of interest The author has no known conflict of interest or funding to disclose.

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