GROWING NEW TEACHERS: THE RELATIONSHIP AMONG PROFESSIONAL
DEVELOPMENT, EFFICACY BELIEFS, AND CLASSROOM PRACTICES

by

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Abstract

The connection between teacher practices and efficacy beliefs and the connection between teacher practices and professional development has been explored empirically (Allinder, 1994; Boardman & Woodruff, 2004; Cohen & Hill, 2001). However, there is a need to examine how mentoring and professional development opportunities for novice teachers function in relation to their efficacy beliefs and teaching practices. This study contributes to the novice teacher literature by examining the interrelations among these constructs. Data for this study were collected from 81 first-year teachers across seven school districts. Data were collected during the fall, winter, and spring using a classroom observation rubric, interviews, and a survey measure. Data were analyzed to look for relationships among teachers' perceptions of their mentoring and professional development experiences, actual classroom practices, and their efficacy beliefs. Results indicated considerable differences in mentoring for teachers in K-2, 3-5, and 6-8; they also indicated grade-level trends on the focus of professional development activities. Findings suggest the stability of teacher efficacy beliefs across the school year. For some districts, there appeared to be a relationship between efficacy scores and the frequency with which teachers reported meeting with their mentors. Lastly, findings suggest that mentors and professional development play important roles at the beginning of the school year. Results also suggest a relationship between teaching practices at the beginning of the school year and efficacy beliefs at the end of the school year for some teachers and districts.

CHAPTER ONE

INTRODUCTION

Thesis Statement

Novice teachers come from a variety of backgrounds. Some are the traditional new teacher—young, fresh out of a four-year undergraduate teacher education program; others have a degree in an unrelated field but have received a teaching certificate; and some have been hired to teach their first year while simultaneously working toward certification.

Despite their varied origins, novice teachers resemble each other in several ways. Each has made a commitment to the education of children; most of them are new to their school environment and do not have extended knowledge about the cultural norms and expectations; and their toolbox of skills in curriculum building, instruction, assessment, and classroom management is sparsely filled compared to their more-experienced counterparts. For the most prepared novice teachers, support and guidance provided by mentors and professional development programs is a valuable tool for developing the confidence and self-reflection that facilitates continued growth. For teachers who find themselves less prepared upon entering the classroom, the professional support they receive in the first few years provides the necessary training and skill development that may mean the difference between a long-term commitment to the profession or the decision to leave the field.

Statement of the Problem

The connection between teacher practices and efficacy beliefs and the connection between teacher practices and professional development has been explored empirically (Allinder, 1994; Stein & Wang, 1988; Boardman & Woodruff, 2004; Cohen & Hill, 2001). However, there is a need to examine how mentoring and professional development opportunities for novice teachers function in relation to their efficacy beliefs and teaching practices. This study contributes to the novice teacher literature by examining the interrelations among these constructs in attempt to better understand how the type of supports to which teachers have access impacts their teaching practices and efficacy beliefs.

Terminology Definitions

For continuity throughout the discussion, a brief definition of major terminology is provided here. The definition of terminology that is used infrequently will be embedded within the text.

Novice Teachers

In this data set first-year teachers are defined as teachers who, prior to participating in this project, had less than six months of teaching experience. Thus, teachers who were hired to begin teaching in January of the previous school year were eligible for this study. Participant eligibility was decided this way because, in most cases, teachers who began teaching part way through the school year did not attend the professional development activities or (in some cases) have a mentor during their initial

semester. These teachers attended the new teacher orientations and professional development activities offered by their district the following fall.

However, extant literature has a flexible definition of "novice," with the term being used through teachers' fifth year of teaching (National Commission on Teaching and America's Future, 2003; Ingersoll, 2001; MetLife Survey of the American Teacher 2004-2005). This inconsistency must be taken into consideration when reading the review of relevant literature, as not all research on "novice" teachers focuses exclusively on first-year teachers.

Professional Development

In an effort to accommodate the new focus on educational standards, and to comply with the No Child Left Behind (NCLB, 2001) mandate to have highly qualified teachers in every classroom, many districts and schools have begun to use professional development as a mediating tool between teacher practice and student achievement (Boardman & Woodruff, 2004). Professional development has been a part of teaching for several generations of teachers. However, it is only within the last decade that the professional development structure has shifted from a patchwork assortment of workshops and lectures selected by teachers to a more structured aspect of their learning (Guskey, 1997), with methodological goals and assessments. For novice teachers, professional development provides opportunities to advance teaching and administrative skills that cannot be fully developed until they enter their own classroom. Professional development also can work to ensure that novice teachers remain focused on the goals of their school and district, rather than becoming bogged down in the daily navigation of

classroom life (Fuller, 1969). The importance of professional development is further

highlighted by a study from the New Teacher Center at Santa Cruz, where researchers

found that a two-year comprehensive induction program pays $1.37 for every dollar

invested (Villar, 2004).

Ironically, despite the long-standing use of professional development, it's

inclusion in the NCLB language, and specific requirements by the state, it is widely

undefined—the literature uses implicit definitions that suggest those who work within

professional development should know it when they see it.

As part of a state's plan, NCLB indicates that:

> Such a plan shall establish annual measurable objectives for each local
>
> educational agency and school that, at a minimum….shall include an annual
>
> increase in the percentage of teachers who are receiving high quality professional
>
> development to enable such teachers to become highly qualified and successful
>
> classroom teachers...(No Child Left Behind, section 1111).

NCLB leaves "high quality," "professional development", and "highly qualified"

undefined, transferring those responsibilities to states.

In Arizona, some clarifications of the characteristics of professional development

are provided by the RMC Research Corporation and posted on the Arizona Department

of Education (ADE) website (www.ade.az.gov/azlearns/Presentations/PD2.pdf). They

define the characteristics of professional development in the following way:

- It engages educators in concrete tasks of teaching, assessment, observation, and

  reflection to understand the process of learning.

- It is collaborative, engaging colleagues in shared knowledge, and providing opportunities to draw on the expertise of others in the professional community.

- It is grounded in knowledge about teaching and learning.

- It is grounded in inquiry, reflection, and experimentation.

- It is sustained, ongoing, intensive, and supported by modeling, coaching, and collective problem solving to develop a strong sense of efficacy.

- It provides sufficient time and follow-up and practice to assimilate new learning.

- It demonstrates respect for teachers as adult learners.

- It offers intellectual, social, and emotional engagement with ideas, materials, and colleagues.

- It incorporates knowledge of the change process.

- It is both content and context specific: it takes into account the skills, understandings, knowledge, and attitudes of the learner.

- It is supported by school and district leadership that establishes professional growth and problem solving as a priority supported by rewards and incentives.

- It focuses on teachers as central to student learning, yet includes all other members of the school community.

- It reflects the best available research and practice in teaching and learning leadership.

- It is evaluated based on its impact on teacher effectiveness and student learning; this guides subsequent professional development efforts.

Despite such a detailed list of goals to implement professional development, no explicit definition of professional development is provided. However, according to the Arizona Department of Education (ADE), "high quality" professional development training should meet two criteria. First, it should represent professional growth related to education or a subject area taught in public schools. Second, it should represent development demonstrated by improved teaching or administrative skills. For the purpose of this paper I will use these criteria as a definition.

Levels of Professional Development

In this manuscript I discuss professional development at three levels: district, school, and classroom. My working definitions are provided here; however, it is important to note that except for mentoring, research has not examined the level at which professional development occurs. In chapter five I will suggest a starting point for defining and conceptualizing professional development from a multi-level perspective.

District. District-level professional development for new teachers is defined as new teacher orientations (prior to the start of the school year), new teacher trainings (which take place at intermittent times during the school year), and sheltered English immersion (SEI) training (15 mandatory hours in the first year of teaching as determined by the state of Arizona). Collectively, these learning opportunities are called "induction".

No satisfactory definition of induction has surfaced in part, I suspect, because the professional development field is only beginning to conceptualize induction as something *more than* mentoring. It is different from pre-service training, which refers to preparation prior to employment, and in-service training, which refers to periodic on-the-job training

during employment (Smith & Ingersoll, 2004). According to Smith and Ingersoll (2004), induction programs "are not additional training per se…[but] are a bridge enabling the 'student of teaching' to become a 'teacher of students'" (p. 683).

For the purpose of this paper I define induction as professional development opportunities designed specifically to support novice teachers. Induction practices include mentoring, workshops, informal evaluations, observations, and other support services. Induction can vary in length, depth, and requirements.

New teachers may also take part in district-sponsored activities that are not restricted to first-year teachers. Such activities included math, reading workshops, and technology workshops. In this study, some type of induction was mandatory for most first-year teachers and the other district-wide opportunities were voluntary.

School. School-level professional development is defined as trainings, workshops, or professional learning groups that are designed to enhance the skills and knowledge of teachers at a specific school-site. School-level professional development is only for teachers at a specific school, and is often the result of requests from teachers and/or committees designed to improve specific aspects of the school. It may also occur as part of the adoption of a particular curriculum program (e.g., Reading up a STORM).

Classroom. Classroom-level professional development is defined as personalized support for a specific teacher—in this case novice teachers. It includes mentoring (formal and informal), coaching (cognitive and literacy coaches), or any other highly personalized form of learning (e.g., professional learning communities, peer coaching). This paper focuses on the most common form of classroom-level professional

development, mentoring. It includes but is not limited to developing lessons, reflecting

and evaluating lessons, learning administrative techniques (e.g., how to set up an efficient

grade book, how to talk to parents, when specific forms must be turned in to the district,

etc.). Meetings and observations can be formal or informal, depending on teachers and

district requirements. Because mentors are theoretically the closest available professional

resource, and because one focus of this study is to examine teachers' experiences with

their mentor, the following chapters refer to all classroom-level professional development

as mentoring, different from the group trainings offered by district- or school-level

professional development.

Teacher Efficacy

Self-efficacy is a personal belief about one's ability to complete a task

successfully (Bandura, 1977). Teacher efficacy is an educational adaptation of self-

efficacy and is defined as a teacher's judgment about his or her teaching capability in a

particular context based on an assessment of internal strengths and deficits (Armor et al.,

1976; Gibson & Dembo, 1984; Tschannen-Moran & Hoy, 2007).

Teaching Practices

Teaching practices refer to the skills teachers use to engage students in learning.

These skills are often divided into categories of assessment practices (e.g., formative and

summative assessment), classroom management practices (e.g., proactive routines), and

instructional practices (e.g., student engagement in the curriculum) (Brophy, 2006;

Reynolds, 1992).

Research Questions

Demming (1986) assessed that in business "nearly 94 percent of the barriers to improvement reside in the organization's structure and process, not the performance of individuals (cited in Sparks & Hirsch, 1997, p. 12). The message that an organization's structure can impact improvement is easily extrapolated to educational contexts. Here, it creates an argument for considering the structure and process of professional development at the district-, school-, and classroom-levels in relationship to the teaching skills of novice teachers. I begin to explore these organizational structures and their relationship to first-year teachers through the following questions:

1. How do novice teachers reportedly perceive their experiences with professional development (including mentoring)? What themes emerge from interviews? Are there relationships among themes? Among teachers within grade-levels or districts?

2. Are responses to the mentoring and professional development interviews related to observed teachers' classroom practices? If so, in what ways?

3. Are responses to the mentoring and professional development interviews related to teachers' reported self-efficacy? If so, in what ways?

4. Is there a relationship between teachers' efficacy beliefs, classroom practices, and the type of professional development and mentoring they describe? If so, what is that relationship?

Overview of the Research Project

Chapter two reviews extant literature about professional development, novice teacher efficacy beliefs, and novice teacher classroom practices. Chapter three focuses on the research methodology of the study; it includes a discussion of the process of data collection in seven school districts in southwest Arizona. Chapter four explores the results of the data analyses, and chapter five concludes the study by interpreting the results and examining the limitations and contributions of the study to extant literature. Next steps in research are also suggested as well as an alternative model for the professional development of novice teachers.

CHAPTER TWO

REVIEW OF THE LITERATURE

Overview

Research on novice teachers is especially important in our current educational climate. There is an exodus of baby-boomers who are retiring from the profession and leaving many teaching positions vacant. More alarmingly, newly-trained teachers entering the profession are not staying; nearly half of new teachers will leave the profession within five years (National Commission on Teaching and America's Future, 2003; Ingersoll, 2001). There are likely a multitude of factors that contribute to teachers' decision to leave the field, but their experiences within the district, school, and classroom settings influence that decision (Luekens, Lyter, & Fox, 2004). Professional development (specifically new teacher induction) is a support upon which teaching and learning experiences are mediated. In the best scenario it supports the development of reflective teaching (Schön, 1983; 1987), whereby teachers explore the interconnectedness of teacher and student behaviors. It can promote professional growth and student learning. Yet without systematic support, guidance, and continued education, novice teachers may feel disconnected from other teachers and their school community (Johnson & Birkeland, 2003; Kardos & Johnson, 2007); they may become disheartened when faced with new challenges and lack resources for overcoming obstacles (Rosenholtz, 1989). Without proper support, novice teacher may feel abandoned—in a position where leaving the profession is more reasonable than staying.

The structure of the review of literature is analogous to a tree; first, the roots are examined. In what ways do districts support new teachers through induction and professional development opportunities? How do schools support the professional development of new teachers? How are new teachers supported within their own classroom? From the roots grows the trunk—personal beliefs that affect the strength and direction of future growth. What beliefs do teachers hold about themselves as teachers? What beliefs do teachers hold about the profession? From the trunk spread the branches—growing in response to their environment. How do new teachers teach? Lastly, what do we know about how these systems work together to create both the strength and flexibility needed to survive the first few years? The review seeks to identify what, if any, connections between novice-teacher support, practices, and efficacy beliefs have been made within the existing literature and where contributions from future research are needed.

Methods

The literature discussed in this chapter is a mix of empirical research, literature reviews, government reports, private foundation reports, position statements, and information found on state and federal websites. Because it examines the connections between three branches of the study—novice-teacher support, novice-teacher practice, and efficacy beliefs—the review is not exhaustive. Rather, the focus of the review is to provide a synopsis of findings from each branch and to emphasize where connections between them have been made.

Literature discussed in this review was selected based on the general criteria of relevance, scholarship, empirical status, and quality. In order for literature to be judged *relevant*, it had to provide insight into professional development, the classroom practices of novice teachers, or teacher efficacy. Literature written during NCLB implementation was given priority in order to recognize a potential shift in the focus of professional development—namely, high-stakes assessment and highly-qualified teachers. Literature that strengthened existing arguments or linked existing concepts, including reviews of literature, also were given priority. *Scholarship* was determined through the selection of peer-reviewed journals and organization publications. Dissertations, books, book chapters, and monographs containing empirical evidence and analysis were included, as were relevant literature reviews and meta-analyses. Literature that was frequently cited while "reading around" the topics was included if it contributed to a theoretical foundation. *Empirical* readings offered qualitative and/or quantitative evidence for drawing conclusions. Not all of the literature reviewed was empirical, but it created the primary structure. Articles, books, and monographs that were considered to be rigorous in *quality* were reviewed. For empirical readings, the research design had to be judged appropriate for the study, the focus had to be relevant to my research questions, and the interpretation of the findings needed to be well supported. Quantitative studies were included based on sample size and reliability and validity of the measurement tools. Qualitative studies were included based on the relevance of the question, the similarity of the sample to participants in my study, the judged appropriate use of qualitative measures, and evidence to support the conclusions. Literature reviews and meta-analyses

were included based on the strength of their contribution to the field, identified by frequent citing in topically-related literature.

Article searches were run through the Academic Search Premiere, Academic Search Complete, ERIC, and PsychInfo databases. Keywords used were: mentoring, highly qualified, staff development, professional development, cognitive coaching, induction, novice teacher, efficacy, peer coaching, and teacher.

Literature that focused on college, work, nursing, pre-service teaching, and professional development schools was excluded. Literature pertaining to non-Western cultures was also excluded.

<div align="center">Professional Development</div>

The use of professional development activities for teachers did not begin to build momentum until the mid-1980s, and research studying it moved slowly. Little's (1990) literature review was the first work to assess the status of the field. Professional development became widespread during the 1990s and a substantial body of empirical research has yielded a solid foundation of information since then. Further, the more recent implementation of No Child Left Behind (2001) and its focus on teacher accountability brought issues of professional development to the forefront (e.g., National Society for the Study of Education Yearbook, 2006).

Historically, professional development opportunities have been of the "sit and get" (Garet et al., 2001) variety. Teachers attended seminars or workshops where they would get information on a specific topic (e.g., classroom management) or a specific method of teaching (e.g., four-square story development). After the information had been

dispersed, teachers would return to their classrooms and attempt to implement the ideas in isolation. The sessions usually lacked any follow-up on the implementation or usefulness of the development activity (Sparks & Hirsh, 1997) and were not designed to be aligned across curriculums or grade-levels. This is still too often the case, despite indications that such development practices are highly ineffective and rarely produce long-term change (Ingvarson, Meiers, & Beavis, 2005; Garet, et al., 2001).

Guskey (1997) indicated that a lack of definitive findings about the effectiveness of professional development was due to confusion about the criteria of effectiveness, a misguided search for main effects, and the neglect of important educational issues (e.g., is raising student achievement the same as increasing student learning?). The lack of definitive answers may be exacerbated because there is little research that specifically attends to the professional development of novice teachers. Research in this area focuses primarily on induction and mentoring. In many cases the terms "induction" and "mentoring" are used interchangeably—signifying that mentoring is the primary form of induction for novice teachers (Smith & Ingersoll, 2004; Fideler & Haselkorn, 1999). While a plethora of research exists examining professional development—from methods of delivery and implementation to specific program evaluations, teacher change, and student outcomes—research primarily neglects to differentiate findings for novice teachers and more experienced teachers. I address this in my study by focusing solely on first-year teachers. Here, I turn my attention to literature specific to novice teacher induction, and then I address the more global construct of professional development.

Novice teacher induction

Novice teacher induction serves three purposes: (1) to help new teachers acquire knowledge about their school community; (2) to bridge the gap between educational theory and classroom practices; and (3) to increase teacher retention (Wilson, Bell, Galosy, & Shouse, 2006). Wilson et al. (2006) argued that little is known about the impact of induction programs and which features are tied to teaching practices and student learning. Indeed, my search of the topic only yielded one article that met my criteria for inclusion in the discussion of induction did not solely define induction *as* mentoring.

Smith and Ingersoll (2004) used data from the 1999-2000 Schools and Staffing Survey (National Center for Education Statistics) to analyze characteristics of practices that increased novice teacher retention. Their study showed a steady increase in the prevalence of induction programs between 1990-1991 and 1999-2000. During the 1999-2000 school year, 83% of new teachers in public schools were involved in some type of induction program. Of those public school teachers who reported participating in some type of induction, 70% indicated that they had a mentor and 68% reported that they participated in group induction activities such as beginners' seminars, cooperative planning time, and a teachers' network. However, less than 10% of those teachers reported having a reduced schedule or fewer preparations. When the authors examined induction activities in relationship to retention, they found that for teachers who had common planning time with other teachers and had collaborative input on issues of instruction, the risk of leaving the field was reduced by 43%. This study is the most

comprehensive analyses available of new teacher induction, mentoring, and retention.

However, the results are from survey data alone and do not examine actual teaching

practices or teachers' beliefs about their teaching as a result of induction.

Because there is little definitive empirical research available concerning induction

programs for novice teachers I turn my attention to the broader topic of professional

development.

Professional Development and Student Achievement

Increasingly, professional development is situated in the context of student

achievement defined by high-stakes testing. This context can produce confounding

effects for the goals of professional development. Boardman & Woodruff (2004) used

observations, interviews, and teacher logs to examine the implementation of a literacy-

based professional development initiative in 20 fourth and fifth-grade classrooms in three

schools in Texas. They found:

> The majority of teachers felt that the new practice needed to conform to their
>
> perceived requirements for preparing for standardized assessment in order to raise
>
> students' test scores…the less that teachers viewed [the program] as supportive of
>
> the test and the more they felt constrained by the test, the less likely they were to
>
> implement the new practice to the extent that it was intended. (p.555)

Cohen and Hill (2001) found similar patterns of implementation practices in a

statewide study of teachers in California. They found that teachers whose professional

development content focused directly on the curriculum they would be teaching were

more likely to implement the practices. When they could see a connection between the

content and curriculum, there was buy-in. However, when the link was less evident (e.g., reflecting on beliefs about reading), teachers were less likely to pursue the practices. This finding is important to take into consideration for emergent professional development initiatives. It demonstrates that teacher beliefs play a role in the effectiveness of any professional development initiative; teachers want to see a connection between what they learn and what they teach in the classroom. Without that connection, it is harder for some teachers to understand the relevance of the initiatives.

The importance of teacher beliefs is illustrated in the Reading Instruction Study (see Richardson, 1994), in which researchers used an inquiry approach that allowed teachers (n=39) to direct the professional development sessions. Initial sessions were spent identifying personal beliefs about what is reading comprehension. As teachers probed their own beliefs and practices they began to implement alternate techniques discussed during the professional development sessions. Follow-up interviews three years later revealed that teachers' shifts in reading comprehension beliefs and practices were still evident and had continued to evolve. This supports Boardman & Woodruff's (2004) and Cohen and Hill's (2001) findings about the importance of alignment of teacher beliefs with program strategies and implementation. It exemplifies that when teacher beliefs are aligned with strategies teachers are more likely to implement and maintain those strategies. The belief-program-implementation cycle is a useful tool to use when considering the reasons why teachers vary in their reported responsiveness to professional development initiatives.

Recent empirical findings indicate that the most effective professional development strategies for increasing teachers' knowledge, skills, and improving practices: "1) focus on subject matter content and how students learn that content, 2) are ongoing and sustained throughout the year, 3) are consistent with other activities, and 4) provide teachers with opportunities to actively interact and engage with each other around curriculum and instruction [e.g., Desimone, Porter, Garet, Yoon, & Birman, 2002; Garet, Birman, Porter, Yoon & Desimone, 2001; McLaughlin & Talbert, 2001]" (Desimone, Smith, & Phillips, 2007, pp. 1087-1088). In many educational settings the "sit and get" method has been replaced by professional development practices such as professional learning communities, curriculum structured professional development (e.g., Six Traits Writing, Success for All, Reading First). Many novice teachers have extended new-teacher inductions that establish a baseline for what all teachers within a district need to know. The following review of related literature examines research within the levels of district, school, and classroom and identifies the models that are most prevalent. Within each level, research suggests that successful, longitudinal change is improved by several key elements.

District-Level Professional Development

There is a scarcity of research studies that have explored a distinction between professional development that is driven by the district and professional development that is driven by site needs, either determined by the principal, vice-principal, or a teacher committee. While there is much research on mentoring, it is most often grouped with other forms of new teacher induction (or in some cases is the only form of induction).

Perhaps because of this, mentoring has not been studied in terms of its relationship to other forms of induction activities or professional development at the school or district level. Because little research is devoted specifically to district-level professional development, research presented in this section examines the broad elements of successful professional development, and it will be discussed in terms of the potential implications for districts.

It is unclear whether or not district-driven professional development provides a foundation on which school sites and mentors can help develop the skills of novice teachers. However, it is possible that the more coherent the district plan (e.g., to get all teachers to identify themselves as reading teachers), the more equipped schools can be to support and reinforce that plan. For districts, it is likely that setting clear goals and following through on professional development implementation allows for changes in student learning to be assessed.

For example, Garet et al. (2001) collected self-report information from a national sample of math and science teachers (n=1,027) who had attended one of many activities supported by the Eisenhower Professional Development Program. Activities varied in content, presentation, and duration. They asked teachers to report to what extent their knowledge had increased as a result of the professional development activity, and to what extent it had changed their classroom teaching practices. The study determined that teachers reported an increase in knowledge, skills, and classroom practice when professional development was focused on: (1) content knowledge (in contrast to general concepts); (2) opportunities for active learning (e.g., in-class activities, observing other

teachers, and being observed); and (3) coherency with other leaning goals and activities at the school and district level. The results suggest that district professional development goals that focus on increasing content knowledge, provide a forum for active learning, and are aligned with other goals are more likely to increase self-perceived changes in teachers' knowledge and classroom practices. Notably however, this study was not restricted to novice teachers and included only self-report measures.

Ingvarson et al. (2005) produced similar findings in an examination of four studies in Australia. Survey data was collected from 3,250 teachers who had completed some form of professional development at least three months prior to data collection. Researchers found that the implementation and success of professional development initiatives were dependent on a clear content focus, active learning, and follow-up on the knowledge that was provided to teachers.

School-Level Professional Development

School-level professional development can serve several purposes—to support the district's vision of skill development, enhance the district's professional development, or focus on site-specific needs. The Met-Life Survey of the American Teacher 2004-2005 (*n*=800) found that only half of teachers in their first five years of teaching felt that they were extremely or very prepared to get the support they needed from other teachers in the school, and only 46% reported they were extremely or very prepared to get needed support from their principals. This survey supports earlier findings (Lortie, 1975; Rosenholtz, 1989). The beliefs reported by new teachers in the study appear to reflect the position of many principals. While 78% of the principals surveyed reported that first-time

teachers need a specialized professional development program, only 29% reported that they should be chiefly responsible for it. Rather, 58% reported that the responsibility should rest with the district administration. Despite the hands-off approach that has been reported, in 2004 the Alliance for Excellent Education published a report promoting principal leadership, arguing that it may play an important role in developing high-quality teachers and retaining them.

Rosenholtz, Bassler, & Hoover-Dempsey (1986) surveyed 1,213 teachers (unspecified years in the field) in 78 schools to identify teachers' perceptions of school-level organizational features that promote professional development opportunities. They found that principal actions such as collegiality, the recruitment and socialization of new entrants, principals' evaluation practices, instructional coordination and goal setting within the school, school-level management of student behavior, and teachers' collaboration with colleagues accounted for 67% of the variance in teachers' perceptions of skill acquisition. The principal was instrumental in the implementation of professional development, from hiring teachers whose personal beliefs would match the school and district values, to offering advice and encouragement to teachers. Successful principals demonstrated and reinforced instructional purposes of professional development; they created atmospheres focused on learning, not management; and used clear evaluations and guidelines for teachers and students. Within these overarching themes, principals developed school-wide organization and adherence to a plan at each grade-level.

Smith & Rowley (2005) examined the National Center for Educational Statistics' Schools And Staffing Survey (SASS) from the 1999-2000 school year (n=39,109

teachers). They found that school level organizational factors such as teachers'

perceptions of their influence over school policy influenced participation in professional

development activities, which, in turn, influenced teacher retention. Desimone, Smith and

Phillips (2007) used a restricted sample of math and science teachers from the same

SASS database (n=2,008, n=1,819 respectively). They found that teacher authority

(teachers' influence over school policy and input into professional development) and

teacher stability (retention) were associated with professional development that focused

on subject matter, instructional strategies, and teacher interaction around curriculum and

instruction. These findings from the 1999-2000 SASS data suggest that the quality of the

school environment can play a significant role in determining the quantity and quality of

professional development activities in which teachers participate.

      While research indicates that high quality professional development focuses on

subject matter content, it may also be important to consider context-specific professional

development. In a qualitative study of class-size reduction (Graue et al., 2007), teachers

commented that they desired but lacked professional development training about their

reduced class-size program. According to one teacher, "we didn't get any training on

[class-size reduction]…we never really talked about how we could do things differently

now" (p. 693).

One district administrator pointed out the multiplicity of programs and practices in

existence in a school at any given time:

      We don't talk much about [reduced class-size] itself. [It] isn't a thing. It's a

      funding source that helps support where we want to go. So what we talk about is

the achievement gap, and we talk about the logistics of how it's working and do

you have enough classrooms and how are the teachers. (Graue et al., 2007, p. 694)

The Graue et al. (2007) study illustrates how lack of communication about program goals

or classroom practices between the teacher and the school can stifle alignment of goals

and practices between teachers and administration.

Taken together, these findings suggest the importance of creating a cohesive,

collaborative school environment whereby teachers identify learning as a collective

process through which they can capitalize on their existing knowledge and the knowledge

of others. In best practice, professional development allows teachers to develop a critical

dialogue focused on the improvement of teaching and learning. Because it encompasses

the entire teaching staff, professional development can open the door for professional

communication between teachers that is frequently shut due to the isolating nature of the

work (Little, Gearhart, Curry, & Kafka, 2003).

Classroom-Level Professional Development (i.e., Mentoring)

In a recent survey of 362 new teachers in Georgia, four of the top five strategies

that teachers reported as being most useful involved opportunities to work with other

teachers (giving new teachers the opportunity to observe other teachers, assigning

mentors to new teachers, providing them with co-planning time with other teachers, and

providing feedback based on classroom observations). Varied types of classroom-level

professional development are described briefly, but for the purpose of the study, the main

emphasis is on mentoring and cognitive coaching. The study focuses on mentoring

because the majority of districts in which data were collected provided a formal mentor

for new teachers. The one district that did not provide mentors used an on-site cognitive coach and literacy coach to provide support for new teachers.

Mentoring. The basic role of a mentor is to guide beginning teachers during their induction year. Beyond that general definition, there is much debate about what role the mentor should or does play for a novice teacher. Some believe that the relationship should be reflective and focus on the cognitive development of the teacher within classroom contexts (Achinstein & Barrett, 2004; Barnett, 1995; Costa & Garmston, 1994; Collins, Brown, & Newman, 1989). Other research indicates that the mentor role is a supportive part of induction—focused primarily on acclimating new teachers to their school and their job (Gagen & Bowie, 2005; Pickett & Fraser, 2002; Little 1990).

Mentoring programs vary widely across and within districts in definition and structure. Thus, mentoring can be a more or less critical part of the professional development framework. Novice teachers frequently are overwhelmed with the multiple roles they must learn (manager, evaluator, counselor, diagnostician, etc.), and are often consumed by self-focused survival (Kajs, 2002; Fuller, 1969). Good mentor teachers can help redirect that focus on a daily or weekly basis, helping novice teachers develop and maintain educational goals that foster student learning. The Met-Life Study (2004-2005) found that although 80% of new teachers were matched with a more experienced mentor teacher, 16% of those teachers believed that their mentors were not helpful. When combined with the 20% of teachers who were not matched with a mentor, this suggests that roughly one-third of new teachers are without a helpful mentoring experience. This

report is contrary to common (mis)conceptions and to the results of some smaller studies (Fletcher & Barrett, 2004; Marable & Raimondi, 2007).

More typically, however, teachers report mentoring is extremely helpful. Marable & Raimondi (2007) compared teachers who had been matched with a mentor during their first year of teaching with teachers who were not. Teachers who had received mentoring cited it as their most significant source of support in their first year teaching. The New Teacher Center at the University of California at Santa Cruz found that over 90 percent of new teachers in one district reported their mentors had been helpful in improving instructional skills, classroom management, and working effectively with diverse learners (Fletcher & Barrett, 2004). Little (1990) argued that many factors contribute to the success of a mentor-mentee relationship. She indicated that positive results can be undermined by a lenient mentor selection process, ambiguous mentoring guidelines, and the one-directionality of perceived expertise in the mentor-mentee relationship.

Kajs (2002) suggests four major components in developing constructive mentoring relationships: (1) make sure that the mentor and the novice have compatible personalities and educational philosophies; (2) provide clear roles for the mentor and the novice, with a focus on clear communication and expectations; (3) develop a support team that includes other school, district, and university members so that the novice can get input from a variety of sources and the demand on the mentor is reduced; and (4) ensure that accountability-appropriate pedagogy is modeled and practiced by the mentor, the novice teacher is evaluated on instructional practices, and discussions center on

reflective self-assessment. It is this self-reflective assessment, Kajs argues, that allows teachers to focus on student achievement.

Cognitive coaching. Some districts have replaced the traditional mentor teacher with a "cognitive coach" (Costa & Garmston, 1994), who helps teachers to develop self-reflection about their teaching practices. Note that cognitive coaching includes the self-reflection suggested by Kajs (2002), but lacks the other three components he proposed.

Usually, a cognitive coach is a teacher at the school site and is responsible for observing and meeting with new teachers periodically. "Cognitive coaching," as trademarked by Costa, is widely unresearched. Most literature on the system is unpublished, master's theses, doctoral dissertations, and personal accounts of success with the program. Despite a considerable search I was unable to locate any literature that met my qualifications. This is significant because one of the school districts in the proposed study uses this model. While the importance of self-reflection is critical for professional growth, the lack of empirical evidence suggests cautious interpretation of espoused benefits. However, the idea of self-reflection has moved forward under the title of "peer coaching," and has been subject to peer review and empirical research.

Peer coaching. While a novice-mentor relationship is common in the first years of teaching, beyond the second or third year few mentor relationships are maintained. Peer coaching is an alternative to the novice-mentor relationship. Vygotsky (1978) indicated that development within the zone of proximal development can occur *in collaboration with more capable peers.* Thus, for experienced teachers looking to further develop their skills, peer mentors (also called peer coaches) provide a valuable resource. Different from

a novice-mentor relationship, where the mentor is the designated expert, a peer coaching relationship is reciprocal, in the sense that both teachers bring strengths and challenges to the relationship.

Slater & Simmons (2001) conducted a study of peer coaching at the high school level (*n*=17). Training sessions included examples of peer coaching models, an overview of observation instruments used in coaching, factors that influence peer coaching relationships, and the development of pre-and post-conferencing skills. The program was implemented during the spring semester, and each coaching pair was encouraged to engage in four observations. Data were collected at the end of the semester using three survey instruments: the evaluative teacher interview questions, the participation survey for peer coaches, and the peer coaching program evaluation.

Results indicated that 90% of participants strongly agreed or agreed that peer coaching improved their teaching skills. Comments that the participants made were also reflective of their sense of personal teaching development: "More aware, higher expectations, understanding of why I teach and what I teach"; "I've moved from being subject-centered more toward being student-centered, still striving to maintain accountability by each student." (p.73)

Because peer coaching is non-evaluative, relationships can be cultivated in such a way that teachers build a trusting relationship with their partners (Slater & Simmons, 2001). This trust can transcend issues teachers may often try to hide or ignore on their own. Because of this reflective relationship, teachers have the potential to develop their actual knowledge much more efficiently than if they were working alone.

Professional learning communities. Another trend is professional learning communities (Meyer, 2002; Schmoker, 2004) comprised of teachers in various grades, disciplines, and schools. In an example provided by a study of novice teachers, Meyer (2002) found that the group (determined by their status as "novices" in their first and second year of teaching) was able to promote critical thinking about their teaching practices. The teachers described feeling empowered in the process of their pedagogical development because they determined the frequency and agenda of the meetings and used specific videotaped examples to lead discussion. Additionally, teachers mentioned that because the group was constructed of teachers outside of their individual schools, they felt as though they could take risks in challenging each other without having to worry about collegial relationships. While learning communities such as the one described above are not as profuse as the use of mentoring programs, they do provide an individual-centered process (versus "community-centered" process) focused on developing a deeper level of inquiry about student learning.

Conclusion

The empirical research presented in this section creates a strong argument for professional development opportunities for novice teachers. The literature suggests that it is less important the form of the development—group induction, mentoring, peer coaching—than the quality of the work that goes on within the development process—helping teachers to become better at self-reflection, understanding student learning, and implementing curriculum. Such professional development is designed to help teachers

move their own learning forward and is evidenced by their classroom practices, which is where we now turn our attention.

<div align="center">Classroom Practices of Novice Teachers</div>

In the current climate of teacher accountability it would be misguided to discuss the teaching practices of novice teachers without first describing the landscape of the profession they have entered. Professional development has come to the forefront of educational concerns in large part due to NCLB's mandate for highly qualified teachers in every classroom. The terms "highly qualified" and "high quality" are arguably different. However, the accountability to which teachers are held in regard to student test scores has pushed districts to address both issues. This is especially the case in schools serving students of poverty where teachers may face termination based on student test scores.

Highly Qualified Teachers

The current influence of state standards and high-stakes testing has created a catalyst for reform within professional development programs. One provision of the NCLB act is that every classroom must have a highly qualified teacher in order for the state to receive federal funds. In Arizona, requirements for an elementary school teacher (K-8, self-contained) to be highly qualified include: a bachelor's degree *and* a valid state teaching certificate *and* passing score on the Arizona Educator Proficiency Assessment (AEPA) in the content area. Teacher requirements in middle school, junior high, and high school (departmentalized, 7th grade and higher) include: a bachelor's degree *and* a valid

state teaching certificate, *and one of the following*: passing score on the AEPA in the content area, an advanced degree in the content area, National Board Certification in the content area, a major or 24 credit hours in the content area.

Arizona differentiates "certification" from "highly qualified" in that the focus of certification is on the evaluation of teachers' pedagogical and content knowledge. The highly-qualified focus is only on demonstration content knowledge through the three requirements listed above. Thus, a teacher may be certified but not be highly qualified. In order to help districts meet the highly qualified deadline, Arizona mandated that 5% of district Title I funds be set aside to assist teachers and paraprofessionals in becoming highly qualified; if a district is in improvement status, 10% of the Title I allocation must be set aside for professional development.

This structure represents an underlying assumption that having the right credentials is a reliable indicator for identifying competent and knowledgeable teachers. However, research results suggest otherwise. Kane and Staiger (2005) and Gordon, Kane, and Staiger (2006) reported no statistically significant difference in achievement for students assigned to uncertified and certified teachers in the Los Angeles Unified School District. However, they did find that there were dramatic differences within the groups in student achievement. Further, findings revealed that "the average student assigned to a teacher who was in the bottom quartile during his or her first two years of teaching lost on average 5 percentile points…in contrast, the average student assigned to a top-quartile teacher gained 5 percentile points…therefore, the average difference between being assigned a top-quartile or a bottom-quartile teacher is 10 percentile points" (Gordon,

Kane, & Staiger, 2006, p. 8). These results are consistent with results from other samples as well (Rockoff, 2004; Nye, Konstantopoulos, & Hedges, 2004). Such findings illustrate that individual teacher differences may not be mitigated by certification or qualification alone. NCLB's attempt to address student achievement through such a direct line of reasoning may be too simplistic, but the focus on the teacher is on the right track. According to Good et al. (2006):

> One essential and evidential claim that we can make is that teachers make a difference in student learning. There is strong research evidence and social consensus that teachers make a difference in student achievement. Research consistently suggests that among the educational variables that can influence student achievement, the quality of teaching is the most important (Good, Grouws, & Ebmeier, 1983; Nye, Konstantopoulos, & Hedges, 2004; Rowan, Correnti, & Miller, 2002). (p. 412)

The remainder of this section explores what is believed about the teaching practices of novice teachers and what classroom based research has found about those teaching practices.

Novice Teacher Perceptions and Practices

Reynolds (1995) reviewed five Educational Testing Service studies that surveyed practitioner beliefs about the array and quality of beginning teacher practices. Results indicated that educational practitioners believed that newly licensed teachers should be able to perform teaching tasks competently, have command over pedagogical principles that will be used to enhance their teaching, a deep level of content knowledge, and clear

communication skills. In short, Reynolds argued that educators believe new teachers should have basically the same skill set that experienced teachers bring to the classroom. Others have argued that this is an unrealistic expectation (Good & Brophy, 2003). Indeed, Reynolds (1995) found that, in practice, new teachers have trouble identifying pedagogical implications for individual students, do not know their subject in a way that they can communicate to students, and had less-focused self-reflections than experienced teachers. One major weakness of Reynolds' analysis, however, is that these studies were based on *reports* of teaching practice, and not actual *observations* of that practice.

Novice teachers' perceptions of their teaching difficulties indicate that they do not feel confident in many of their abilities. Veenman (1984) found that the eight problems perceived most often in novice teachers' classrooms were: discipline, motivating students, dealing with individual differences, assessing students' work, relationships with parents, organization of class work, insufficient and/or inadequate teaching materials and supplies, and dealing with problems of individual students. How teacher beliefs are assessed may play a role as well. For example, Onafowora (2004) found that teachers reported higher efficacy beliefs in a written format than when they responded to similar questions in a discussion-style format. In discussion, teachers frequently indicated they were less confident, especially when facing issues of classroom discipline.

Low perceptions, however, do not always indicate low teaching ability (Evans & Tribble, 1986). In an observational study of 63 first year teachers, Tsang (2003) found that most new teachers demonstrated satisfactory skills in lesson planning, classroom management, and instruction. Teachers trained in non-traditional settings, however, had

more trouble with classroom management—especially in middle school. Good et al. (2006) replicated these findings with 320 first-year teachers. Their results also revealed that elementary-level teachers were observed to have more effective classroom management practices than middle-school or high-school teachers. Tsang (2003) also found that while most teachers exhibited good management skills, they frequently cited classroom management as an area where they wanted more assistance. When faced with the reality and complexity of running their own classrooms, some teachers may underestimate their ability.

It is possible that perceived difficulties with classroom management may be the result of an incomplete instructional set rather than an inability to manage students. Teachers who report management problems may, in fact, lack the fundamental skills for developing lessons that inherently engage students, which can reduce classroom management and student motivation problems that crop up when students perceive activities as boring, overly challenging, or confusing (Kauffman et al., 2002).

Teacher Efficacy

In addition to the external support provided by professional development and classroom experiences, teacher efficacy beliefs are likely an additional important source of motivation to help students learn and to remain in teaching. Teacher efficacy refers to teachers' situation-specific beliefs that they can help students learn (Ashton & Webb, 1986); the relationship between efficacy beliefs and behavior is reciprocal, with one influencing the other (Bandura, 1978).

Several types of efficacy have been proposed by researchers within the social cognitive tradition. General and personal efficacy beliefs are beliefs individual teachers hold (Armor et al., 1976; Gibson & Dembo, 1984; Ashton & Webb, 1986). The former refers to teachers' expectations that teaching, as a profession, can influence student learning—teachers make a difference. The later refers to teachers' beliefs in their perceived individual abilities and competence to do so—I am a teacher who can make a difference. Collective efficacy (Goddard, Hoy, & Hoy, 2000) is the belief that a particular group can bring about a desired result—teachers in our school can raise student test scores. It has been suggested that collective efficacy might affect novice teachers' beliefs as they are socialized into the profession (Tschannen-Moran, Hoy, & Hoy, 1998).

Researchers generally agree on the theoretical construct differences. However, accurate measurement of the constructs is an ongoing struggle. Some researchers have raised issue with the validity of measures used to separate general and personal efficacy (Tschannen-Moran, Hoy, & Hoy, 1998), and not all researchers make the distinction within their work. Further, terminology varies among researchers. For example, Gibson & Dembo (1984) explicitly describe personal and general efficacy; Ashton & Webb (1986) identify general efficacy as a teacher efficacy, and others refer to teachers' self-efficacy (Stein & Wang, 1988, Tschannen-Moran & Hoy, 2006). I have attempted to follow the language of the researchers in this review. However, the language inconsistency has been noted by other researchers (Coladarci, 1992) and is an issue that warrants further examination within the field of efficacy research.

Efficacy and Teacher Retention

Coladarci (1992) found that both general and personal teaching efficacy was positively related to teachers' commitment to teaching. Evans and Tribble (1986) found similar results. Additionally, Coladarci (1992) found that general teaching efficacy was the strongest predictor of retention among seven independent variables (teaching efficacy, teaching experience, teacher-student ratio, school climate for principals and teachers, salary, and gender). Glickman and Tamashiro (1982) examined the efficacy levels of teachers who had left the field (*n*=30) and current teachers (*n*=49). They found that teachers who had left the field reported significantly lower teacher-efficacy beliefs than did teachers who were still teaching. Teacher efficacy also is related to student achievement (Armor et al., 1976, Ashton & Webb, 1986) and social support for teachers (Kruger, 1997).

Efficacy and Teacher Behaviors

Within the classroom, a variety of teacher behaviors are influenced by teachers' sense of efficacy. Teachers with a high sense of teacher efficacy are more likely to persist longer when confronted with challenge (Bandura, 1981; Guskey, 1984), are more resilient when faced with setbacks, have a greater enthusiasm for teaching (Guskey, 1984; Hall, Burley, Villeme, & Brockmeier, 1992), and are more likely to use whole class instruction (instead of small group instruction) (Gibson & Dembo, 1984). They are also more likely to exhibit warmth toward their students and be accepting of student initiative (Ashton & Webb, 1986) and to be less critical of students who are struggling (Gibson & Dembo, 1984).

Ashton and Webb (1986) found that teachers with high personal teaching efficacy were more likely to engage in dialogue with students, make decisions that promote mutual respect, provide challenging opportunities for students, and welcome questions and verbal feedback from students. In contrast, teachers with low personal teaching efficacy believed that their attempts did little to make a difference in student learning; they ignored students whose needs were believed to be beyond their skill, and blamed students for emerging problems while consistently doubting their own effectiveness. Abramson et al. (1978) also found that low-efficacy teachers experienced feelings of personal helplessness concerning their ability to help students learn.

In their study of middle school and high school basic skills teachers, Ashton and Webb (1986) found that low general-efficacy teachers attributed lack of achievement to students' own lack of ability, insufficient motivation, character deficiencies, or poor home environments. Such explanations freed teachers from personal responsibility for student learning because they thought these problems were out of their control (see Rotter, 1966). Low general-efficacy teachers in the study were untroubled by low-achieving students because they were sure that there was nothing they, or any other teacher, could do to improve their learning. This was emphasized often in the classroom by ignoring the low-achievers or even dismissing them from the room while the teacher worked with high-achievers.

Conversely, high general-efficacy teachers were more likely to view low-achieving students in a more positive light. They saw learning potential in every student, and took pride in reaching students with learning difficulties. These teachers ran their

classrooms in ways that promoted shared goals, responsibilities, and accomplishments. They recognized that they could not change factors outside the classroom, but did not use it an excuse to give up. These teachers worked with all of their students with a determination not to accept failure (Ashton & Webb, 1986).

Efficacy and Teaching Practices

Importantly, teaching efficacy also is related to specific teaching practices. Allinder (1994) found that teachers with high general-efficacy put more effort into planning and organizing lessons than did lower general-efficacy teachers, and teachers with high general-efficacy set higher goals for themselves than did teachers with lower efficacy. In a study of implementation of instructional programs Stein and Wang (1988) found that elementary school teachers (*n*=14) with high levels of teacher efficacy and high perceived value of an instructional program were most likely to successfully implement the program.

In a study of 139 first-year teachers, Bozack, McCaslin and Good (2006) found that the efficacy beliefs of teachers in elementary grades were significantly more stable over time than was the reported efficacy of middle-school and high-school teachers. However, the relationship between efficacy beliefs and teaching practices was inconsistent. For third-grade teachers, efficacy beliefs held at the beginning of the year did not correlate with any teaching practices over the course of the year. Fourth-grade teachers' beliefs at the beginning of the year were inversely related to instruction at the end of the year (*r*= -.762, *p* < .05), and fifth-grade teachers' efficacy beliefs at the beginning of the year were positively correlated to assessment practices (*r*=.818, *p* <.05),

classroom management ($r=.880, p <.01$), and instruction ($r=.994, p < .001$) at the end of the year (Bozack, McCaslin, & Good, 2006).

A follow-up study confirmed the stability of teachers' efficacy beliefs over the course of the school year, but failed to replicate the finding that for some teachers, efficacy beliefs at the beginning of the year correlate with instructional practices at the end of the year. However, for a small number of teachers from the original cohort who where followed into their second year of teaching (N=10), instructional practices earlier in the year were more likely to correlate with efficacy beliefs at the end of the year, supporting Bandura's (1986) position that efficacy beliefs and instructional practices act reciprocally, and caution should be used when considering efficacy only as a *predictor* of behavior (Bozack, McCaslin, & Good, 2007). Results suggest that the relationship between teacher efficacy and teaching practice is a complex one.

Professional Peer Relationships and Efficacy

The aforementioned literature strongly suggests the important role teaching efficacy plays in the beliefs and behaviors of teachers. This section brings the literature full circle, examining what role collegial relationships play in sustaining efficacy beliefs.

In his seminal work *School-Teacher*, Lortie (1975) found that teachers are generally uncertain about their effectiveness, and that group/collegial support may help teachers cope with the professional uncertainty endemic to the teaching profession. Rosenholtz, Bassler, and Hoover-Dempsey (1986) and Rosenholtz (1989) found that, in addition to teacher isolation and lack of contact with colleagues, the environmental aspects of faculty cohesiveness, buffering, goal setting, instructional coordination,

homogeneity and shared values, decision-making participation, satisfaction and commitment, organizational rigidity, collaboration, and managing student behavior affect teachers' perception of their work. More recently, Kauffman et al. (2002) found that beginning teachers in Massachusetts were left on their own to struggle with understanding and implementing a curriculum focused on the state's standards and assessments. The authors suggested the idea that teachers who could have succeeded with more support may leave teaching as a result of their struggles. Their study suggests that the issues raised by Lortie (1975) and Rosenholtz (1989) still persist for beginning teachers.

In sum, the literature proposes that teachers who can work together, share values and goals, and participate in collaboration create an environment that facilitates a strong sense of efficacy. This support may help teachers persist even when they encounter difficulties in their classroom. In contrast, teachers who have negative feelings concerning these environmental aspects may feel isolated and unable to sustain a high sense of efficacy on their own.

In relation to school organization, team teaching appears to serve as a way to increase teacher efficacy and diminish the sense of isolation some teachers feel (Ashton and Webb, 1986; Warren & Payne, 1997). Importantly, Warren and Payne (1997) found that interdisciplinary teaching teams with common planning time had significantly higher perceptions of personal teaching efficacy than did teams without common planning time. They argued that "this opportunity for teachers to address their students' needs collaboratively will enhance their belief that they have the ability to affect student

performance in the classroom, as well as eliminate the isolation many teachers feel" (p.302).

The connection between efficacy and professional relationships is empirically grounded. However, I was unable to find literature that examines how the professional development/induction of novice teachers functions in relation to their efficacy beliefs, and how the two constructs relate to teaching practices. The study presented here contributes to the novice teacher literature by examining the interrelationship among these three constructs in an attempt to better understand how the types of supports, beliefs, and practices of new teachers may impact teacher quality and teacher retention.

CHAPTER THREE

METHOD

First-Year Teacher Observation Project Background

The First Year Teacher Observation Project (FYTOP) originated at the University of Arizona during 2001 and 2002 as a collaborative effort between then doctoral student Henry Tsang and then University President Peter Likens. The project developed out of concern that the University of Arizona's (UA) College of Education had developed an unwarranted reputation for producing under-prepared and under-qualified teachers. To investigate the merit of the claims, Tsang's (2003) dissertation research centered on examining the teaching practices of first-year teachers from the UA and comparing them to the teaching practices of first year teachers from other learning institutions or certification programs.

Using a single interview/observation approach, Tsang collected data from 69 teachers in local school districts during the fall of their first year of teaching. Data were collected using the *Tsang-Hester Observation Rubric (THOR)*, a modified version of the Danielson (1996) rubric used by Educational Testing Services. Tsang's findings suggested that UA College of Education graduates were as effective as their peers from other institutions, and that teachers who graduated from alternatively certified programs and who taught in middle school struggled more than other teachers (Tsang, 2003).

The office of the president and all college deans associated with education continued to support FYTOP research for a second year. The primary goals were three-fold; first, to replicate the rubric; second, to add a spring semester observation to examine

change over time; and third, to improve sample representation. Findings from the second year (N = 131) indicated that elementary school teachers' practices were scored higher on classroom management, teacher enthusiasm, and student engagement than were middle- or high-school teachers' practices. Analyses of fall and spring observation data indicated teacher improvement over time (Hester, 2004; Good et al., 2006).

Funding continued into years three, four, and five (N = 139, N = 88 N = 87 respectively). In year three, instrument changes were made to reflect what was learned from the first two years of data collection. For example, the lesson-planning portion of the rubric, based on teacher self-report, often did not accurately reflect the quality of the observed lesson. Some teachers had very detailed plans that were poorly implemented, while other teachers had no written plans but produced highly effective lessons. This information helped the team to think critically about ways to better represent the practices of first-year teachers.

Study goals also expanded. Observations were extended to fall, winter, and spring; participation was obtained from all eight Tucson-area school districts, including the largest urban district in the area (which was non-participating in year two); a longitudinal study was started to examine teaching practices, student achievement, and attrition rates of novice teachers now in their second year of teaching; and several surveys and questionnaires were developed to examine teacher beliefs (including a teacher efficacy scale, teacher preparation program interview, mentoring interview, and professional development interview). Year four FYTOP data (2005-2006) are the focus of this study.

Methodology

Data Collection Procedures

Teachers who participated in FYTOP were observed in the fall, winter, and spring. Fall data collection took place in October-November, winter data collection took place in February-March, and spring data collection took place in April-May. Data collection included observation of a 45-minute lesson using the *Revised 2004 THOR,* a short interview, and survey measures.

In a 15-20 minute interview before or after the observation teachers answered questions about their assessment practices, teacher education, mentoring, and professional development. Most teachers were sent the survey measures in the mail and completed them prior to the observation, at which point they were collected. In total, teachers spent about three hours participating in FYTOP during their first year of teaching.

Instruments

Interviews

Procedures. Interviews conducted for FYTOP encompassed three topic areas: teacher education, mentoring, and professional development. Each semi-structured interview was designed to take approximately 5 to 10 minutes to conduct and took place before or after the scheduled observation depending on teacher availability. Only the mentoring and professional development interviews were analyzed in this study.

Coders read each interview question verbatim. However, if a teacher did not correctly interpret the question or did not fully answer the question, coders were

encouraged to ask clarifying questions to help teachers elaborate. Responses were typed

by each observer and placed in the teacher's file.

Mentoring. During the winter observation cycle, coders interviewed teachers

about the mentoring support they received at their school (see Appendix A). This

interview was designed to identify if teachers received individual (i.e. classroom) support

from another teacher at their school, if teachers were part of the decision-making process,

and to identify the nature of the relationship between novice teachers and their mentors.

This interview was scheduled during the winter observation cycle under the assumption

that during the beginning of the school year, mentors might be primarily used for

administrative and school navigation purposes. At the end of the year I believed that

teachers were more likely to be self-reliant. Thus, during the winter observation, I

believed teachers might have a more dynamic relationship with their mentor than at the

beginning or end of the year.

Professional development. During the spring observation cycle (April-May),

observers interviewed teachers about their feelings related to the professional

development provided from the district and their own school site (see Appendix B). The

questions were designed to provide information about the type of professional

development that took place, teachers' perceptions about the quality of that development,

and what development might have been helpful but was not offered. Additionally,

teachers were asked to differentiate between professional development opportunities

offered by the district and professional development opportunities offered specifically for

teachers at their school site. This differentiation was to help me better understand the

within-district connections of professional development. The decision was made to wait until the final observation to obtain this interview based on the belief that professional development was ongoing throughout the school year and that teachers would be better able to reflect on skills learned and implemented at the end of the year.

Observation

     Procedures. The *Revised 2004 THOR* was designed for use in a 45-minute lesson, with coding divided into three 15-minute intervals. Coders observed a lesson for 10 minutes and then scored the codes for five minutes based on their observations. The interval-level coding was designed to reflect any changes that might have occurred in the "flow" of the lesson across time.

     Revised 2004 THOR. The *Revised 2004 THOR* (Good & McCaslin, 2006; see Appendix C) is a 24-item classroom observation scale originally designed to capture teacher performance in the areas of *student assessment* (five items), *classroom management* (five items), and *implementation of instruction* (14 items) on a five-point continuum (Tsang, 2003), and is largely based on Danielson's *Framework for Teaching* (1996). Wiley (2008), however, found that a four-factor model was a better fit for the scale than Tsang's original three-factor model. Additionally, Wiley advocated for the removal of several items due to inconsistent coding criteria across years and/or a prevalence of not applicable scores. Based on Wiley's findings, I used the suggested four factors of *assessment* (three items)*, management of students* (two items)*, management of instruction* (five items), and *instructional design* (five items) and eliminated several items based on low reliability (see Table 3.1). Issues of reliability will be discussed later.

Table 3.1

Standardized Loadings for the Four-Factor Model of the Revised 2004 THOR

	2005-2006
Factor 1. Assessment	
V1. Providing in-class feeback and informal assessment to students	0.94
V2. Faireness and consistency of formal and/or informal assessment	0.94
V12. Quality of questions	0.82
Factor 2. Management of Students	
V4. Appropriate behavior is understood and followed by students	0.97
V5. Monitors student behavior and provides feedback	0.99
Factor 3. Management of Instruction	
V3. Teacher interaction with students	0.86
V10. Displays energy and conviction for the content being taught	0.76
V11. Uses clear, accurate, and expressive oral communication	0.75
V13. Student engagement and interest in lesson	0.87
V16. Pacing of lesson	0.89
Factor 4. Instructional Design	
V6. Instructional activities are congruent with goals and lead to accomplishing goals	0.92
V7. Giving directions and explanations to students are congruent with learning goals	0.79
V8. Makes effective use of learning materials to achieve learning goals	0.88
V14. Importance and value of content presented	0.89
V15. Structure of lesson	0.74

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Wiley, C. R. H. (2007). *Teaching dimensions of first-year teachers*. Paper proposal.

Survey Measure

 Procedures. Prior to the fall, winter, and spring observations, teachers were sent

several short survey measures in the mail, including the Teacher Efficacy Scale. The

Teacher Efficacy Scale is a nine-item measure that required teachers to rate their level of

agreement with statements about teaching on a four-point Likert-type scale. The survey
measures were collected at the time of each observation.

Teacher efficacy scale. The nine-item Teacher Efficacy Scale was developed from
a 64-item scale based on the combined work of Gibson and Dembo (1984), Ashton and
Webb (1986), and Rosenholtz (1989). The 64-item scale was developed for a master's
thesis (Rabidue, 2003) that included items measuring general teaching efficacy, personal
teaching efficacy, and professional relationships. An inter-item correlation from that data
set revealed that general teacher efficacy and personal efficacy were distinct but
correlated constructs. Five general efficacy items were significantly correlated, and four
personal efficacy items were significantly correlated. Three of the general efficacy items
were also significantly correlated with the personal efficacy items (see Rabidue, 2003).
For the FYTOP study, items that did not significantly correlate to other general or
personal efficacy items were omitted. The remaining nine items became the FYTOP
Teacher Efficacy Scale (see Appendix D).

Observation and Interview Training

Observation Training

Training procedures. Training took place prior to the fall observation cycle. Data
were collected by seven graduate students, all of whom were trained on the observation
instrument and interview procedures. One additional graduate student was trained on the
system for emergency situations and so that she could better understand data entry
procedures for the rubric. Coders trained on the *Revised 2004 THOR* by watching

videotapes of first-year teachers, coding according to the guidelines of the coding manual

(Bozack & Wiley, 2004), and resolving coding differences through discussion. Coders

learned the system on nine 30-45 minute videos. Once coders believed they understood

the scale and how to code, six videos were watched to determine interrater agreement. In

total, approximately 30 hours were spent in training.

Interrater agreement. Videotaped observations proved to be a challenging vehicle

for obtaining interrater agreement. In part, this was due to the fact that the videos

captured only portions of the lesson or classroom that the camera person thought were

important. In live observations coders can selectively attend to aspects of the lesson that

are important to the coding system. However, in video training, coders had to infer some

information that may have been more obvious in a live observation.

For the 24-item scale, agreement within one point on the five-point scale was 66%

overall. However, the reliability improved when specific items were excluded and

remaining items were examined within a four-factor structure as suggested by Wiley

(2008) (see Table 3.2). Agreement within one point was 80% on the *assessment* and

management of students factors; 78% on the *management of instruction* factor; and 52%

on the *Instructional design* factor. For the *Instructional design* factor, 80% agreement

was reached within two points. One possible reason that this factor was difficult to obtain

agreement on could be that it contains two item codes that are decidedly subjective: (1)

the importance and value of the content and (2) instructional activities are congruent with

learning goals. The first item required coders to make value judgments about what is

important and valuable in learning—a continuing point of contention among eight

coders! And the second item required coders to figure out what was the learning goal. In live observations, the learning goals were often posted on the board at the front of the room—but this was not necessarily evident in videos, making the goals much more difficult to ascertain.

Table 3.2
Interrater Agreements

	Whole Instrument	Assessment	Mgt of Students	Mgt of Instruction	Instructional Design
Exact agreement	20%	26%	19%	15%	2%
Within 1	46%	54%	62%	63%	50%
Within 2	17%	20%	17%	14%	28%
Within 3	7%	-	3%	8%	3%
Presence/Absence	10%	-	-	-	17%

Whole instrument coding intervals N = 354

Four factor coding intervals N= 300

Coders were assigned to observe teachers in specific grade groups as much as was possible. Coders with an interest in early childhood education were assigned to grades K-2 classrooms. Coders who had previous experience observing in grades 3-5 classrooms were assigned to those grades. Coders whose personal work and research focused on adolescents were assigned to teachers in grades 6-8. Assignments also varied according to the time commitment each coder made to the project. Coders with more available time crossed grade-group assignments to cover observations that could not be done by coders with less available time. During each observation cycle, some coders observed as few as five teachers, while others observed as many as 30. Most coders were assigned between 10-15 observations per observation cycle.

Interview Training

Coders trained for the interviews by watching the two FYTOP project managers role-play an interview. Discussion about the quality of the interview took place following the role-playing interview. Because teachers' schedules were so busy, the amount of information coders could obtain during an interview varied according to the amount of time a teacher had available (e.g., 15 minutes between classes, unlimited time after school) and the environment in which the interview took place (e.g., on a playground during recess duty, alone in the classroom during a planning period). Occasionally, due to scheduling difficulties, interviews were conducted at school on a different day than the observation or over the phone.

Study Participation

District. Eight Tucson-area school districts participate in FYTOP. Teacher participation was voluntary in four districts and mandatory in four districts. During the 2005-2006 school year one school district did not have any new teachers, so the sample consisted of teachers from seven school districts (three mandatory and four voluntary). The districts represent a range of demographic diversity in size, socio-economic status, and student achievement (see Table 3.3). Districts implemented a variety of mentoring practices, including cognitive coaching, school mentors, and district mentors. Districts' professional development also varied. Districts in this sample used new teacher induction plans, MELOP, SIOP, and SEI training—English language learning programs, Essential Elements of Instruction, Teacher Training Institutes for math and reading, and new teacher orientations. To ensure confidentiality, school districts will only be referred to through numeric identifiers.

Table 3.3
Characteristics of Districts

District Features	Environment	Size stability[a]	Enrollment[b]	F/R lunch[c]	AYP[d]	N Teachers	Participation
District							
1	Urban	Stable	17,000	46%	Not met	15	Voluntary
2	Suburban	Stable	5,000	N/A	Not met	3	Voluntary
3	Urban	Stable	6,000	65%	Not met	14	Mandatory
4	Suburban	Growing	13,000	32%	Not met	16	Voluntary
5	Urban	Growing	16,500	82%	Met	31	Mandatory
6	Urban	Shrinking	59,500	62%	Met	3	Voluntary
7	Rural	Growing	7,000	19%	Not met	7	Mandatory

[a]Based on reported district size for the last five years (Arizona Department of Education).

[b]For 2005-2006, rounded to the nearest 500 (Arizona Department of Education).

[c]cFor 2005-2006. This figure is based on information reported to the Arizona Department of Education on the Free and Reduced Percentage Report SY2004-2005. Individual school reports were averaged by district.

[d]For 2005-2006 (Arizona Department of Education).

Teachers. Teachers who participated in FYTOP and were in their first year of teaching during the 2005-2006 school year were considered eligible for this study (N=89). However, of the eligible teachers, eight were removed because they did not participate in an observation (i.e., requested to participate only through surveys) or they did not participate in at least one of the interviews. The final number of participants in this study is 81. Observations were more prevalent in mandatory participation districts (58.4%) than in voluntary participation districts (41.6%). See Tables 2-4 for information on the number of observations per district, grade-level, and subject. See Table 5 for the number of efficacy scales and interviews available for analyses.

Data Analyses

The study used a mixed-methods, exploratory approach to data analysis. Interviews were analyzed as an instrumental case study (Johnson & Christensen, 2004). They were categorized by responses, numerically coded, entered and analyzed in the SPSS statistical analysis software program. Where useful, examples of specific responses were used to support the numeric analysis. *Revised THOR* scores and *Teacher Efficacy Scale* scores were analyzed using SPSS statistical analysis software program.

Interview Analysis. A coding system was drafted to analyze each question on the mentoring and professional development interviews. Interviews were coded based on the presence or absence of teacher responses mentioning specific topics. Response options were hypothesized based on responses from data not used in this study. A random sample of 10 interviews from the unused data was selected and coded using the initial draft. During coding, response options were added and decision rules were made about single

and multiple response options. This revision process occurred two times prior to the final draft.

Two coders (the researcher and another graduate student) then independently coded two randomly selected mentoring interviews and two randomly selected professional development interviews from the actual data. The mentoring scale was coded at 87% agreement (32 of 37 exact agreements). After discussion about two ambiguous responses coding agreement rose to 92% (34 of 37 exact agreements).The professional development scale was coded with 93% agreement (27/29). All coding disagreements were resolved through discussion, and the process helped clarify the codes. Several codes were added to the scale to reflect coding issues as well. Both coders agreed that this was necessary. Final agreement was 100% for all items on both scales. The primary investigator coded all interview data upon establishing sufficient reliability.

After all interviews were coded by the primary investigator, the reliability coder coded one mentoring interview and one professional development interview from the sample to check for coder drift. Her codes were compared to the primary investigator's codes. Results indicated 75% agreement (15/20) on the mentoring interview and 85% agreement (11/13) on the professional development interview. A review of the disagreements revealed that the reliability coder was more likely to make inferences in coding reported information that was unclear and use general codes instead of multiple specific codes when a large amount of information was present. Given that several months had passed since her training on the instrument, the lower reliability was not surprising. Both coders agreed that the primary investigators codes were correct upon

discussion. Refer to Appendix E for the mentoring and professional development interview coding sheet.

Analysis of the Revised 2004 THOR. The *Revised 2004 THOR* four-factor model suggested by Wiley (2008) was used to analyze the teaching practices of *assessment, management of students, management of instruction*, and *instructional design*. Teachers were observed in the fall, winter, and spring. Mean factor scores were used to examine any relationships between types of teaching practices, mentoring and professional development experiences, and efficacy beliefs.

Analysis of the teacher efficacy scale. The teacher efficacy scale was administered three times during the school year. Analyses in grades 3-5 over two consecutive years indicated no significant change in teachers' efficacy scores between points in time (Bozack, McCaslin, & Good, 2006; Bozack, McCaslin, & Good, 2007). This seems to suggest that efficacy research questions could be addressed using the efficacy scores from one point in time. However, the current sample includes teachers in grades K-8, and other longitudinal research found a change over time in the efficacy beliefs of novice teachers (Lynch, 2007). Therefore, analyses were run using all three time point measures of efficacy beliefs.

Conclusion

Data for this study were collected from 84 first-year teachers across seven school districts. Data were collected during the fall, winter, and spring using a classroom observation rubric, interviews, and a survey measure. Data were analyzed to look for

relationships among teachers' perceptions of their mentoring and professional

development experiences, actual classroom practices, and their efficacy beliefs. Chapter

Four discusses the analyses and findings.

CHAPTER FOUR

RESULTS

This chapter addresses the findings from the research questions identified in

chapter one. Some participants have missing data as a result of the inability to schedule

an observation, failure to complete a survey, or lack of time for an interview. Because of

this, the sample size for interviews, surveys, and observations are slightly different. No

individual teacher analyses are explored; rather, group relationships are examined.

Statistical analyses p-values for significance are set at alpha = .05. Table 4.1 shows the

sample size of each data set used to answer the research questions.

Table
4.1
Sample Size

	Mentoring Interview	Prof. Dev. Interview	Teacher Efficacy Scale T1	Teacher Efficacy Scale T2	Teacher Efficacy Scale T3	Revised THOR T1	Revised THOR T2	Revised THOR T3
Grade Group								
K-2	14	16	18	10	14	18	14	16
3-5	30	31	30	25	28	33	30	30
6-8	32	31	27	23	25	33	32	30
District								
1	25	27	27	19	22	30	26	26
2	12	11	11	6	10	13	11	10
3	2	3	3	2	2	3	2	3
4	7	7	7	5	6	7	7	7
5	2	3	3	5	3	3	2	3
6	14	14	12	11	11	14	14	13
7	14	13	12	13	13	14	14	14
Total								
N	76	78	75	58	67	84	76	76

RQ 1: *How do novice teachers perceive their experiences with mentoring and professional development training? What themes emerge from the interviews? Are there relationships among the themes and/or among teachers within grade-levels or districts?*

Interview questions about teachers' mentoring and professional development experiences allowed for open-ended responses. The responses were then coded by question. Each interview response was coded for the presence or absence of specific information. Sometimes teachers did not indicate a response, such as how a mentor was assigned, and all response options were coded as absent. In other cases, teachers provided multiple responses, such as what they worked on with their mentors; those responses were then coded as present (see chapter three for more details). Thus, the percentages discussed below represent the percentage of responses coded as present for each question based on the number of teachers in each group. Whole sample percentages for the mentoring interview used an N of 76; whole sample percentages for the professional development interview used an N of 78. Grade-group and district Ns for each interview are presented in Table 4.1.

<div align="center">Mentoring Interview</div>

Whole Sample Results

Mentors. Seventy-six teachers were interviewed about their mentoring experiences. Of those teachers, 51.3% (n=39) indicated that they had mentors provided by the school only; 9.2% (n=7) indicated that they had a district mentor but not a mentor at the school site, and 30.2% (n=23) indicated that they had a school and district mentor.

Additionally, 13.1% (n=10) indicated someone other than an official mentor served in an advisory capacity (e.g., instructional coach). Most teachers indicated that their mentors were assigned to them (88.1%, n = 67) as opposed to having a choice in choosing the mentor (9.2%, n = 7). Teachers reported that the assignments tended to be based on teaching the same grade and/or being a member of the same teaching team (15.8%, n = 12), or a combination of grade, subject, and career ladder (14.5%, n = 11). Only 2.6% (n = 2) of teachers indicated that either they or their mentor had requested the match. See Appendix F for the complete response set.

Mentor meetings. Reported frequency of teacher-mentor meetings varied widely, with teachers indicating that they met formally as needed (14.5%, n = 11), a few times a semester (13.2%, n = 10), a few times a month (11.8%, n = 9), and once a week or more (21%, n = 16). Combined, 10.6% of teachers reported rarely or never meeting formally (n =4), or once or twice a year (n = 4). Informally, 15.8% of teachers indicated that they met as needed (n = 12) and 23.7% indicated they met once a week or more (n = 18). Despite such variation in responses, most teachers indicated that they felt the amount of time spent with their mentor was adequate (75%, n = 57). Of the remaining teachers, 17.1% (n = 13) indicated that the amount of time had been inadequate or they were unsure of the adequacy. Some indicated that they would have liked to meet more often (14.5%, n = 11).

Role of mentor. Most teachers indicated that the role of the mentor was to be a general resource providing help and guidance (71.1%, n = 54). More specific responses indicated that mentors were an instructional model or observer for the teacher (32.9%, n = 25), they helped with curricular support—mainly lesson planning (31.6%, n = 24), and

provided help with administrative issues such as paperwork and report cards (21.1%, n = 16). Less frequently mentioned were teaching feedback, classroom management support and social/emotional support (11.8%, n = 9 for each response option), and help with parental communication (5.3%, n = 4).

When the teacher and mentor worked together, teachers indicated they most frequently worked on issues of curriculum (i.e., lesson planning; 55.3%, n = 42). They also indicated working on issues of classroom management and student behavior (34.2%, n = 26), administrative tasks (26.3%, n = 20), and personal teaching improvement (23.7%, n = 18). Teachers infrequently mentioned working on issues of assessment and testing (13.2%, n = 10), teacher-student communication (1.3%, n = 1), or student performance (2.6%, n = 2), indicating that the focus was one of successfully navigating and surviving each day rather than on continued education or self-reflection in relation to student understanding or achievement.

Teachers frequently reported that mentoring was helpful as a general resource (64.5%, n = 49), with curricular help and administrative help also mentioned (14.5%, n = 11; and 11.8%, n = 9, respectively). Some teachers indicated that they could not identify any potential changes they would make to their mentoring program (38.2%, n = 29); however, 14.5% mentioned they would like more formally structured meetings with their mentor (n = 11) and 11.8% mentioned a more formally structured mentoring program (n = 9).

Informal mentors. Teachers also indicated that they had informal mentors that they relied on. Many teachers indicated that a teacher in their same grade or subject

helped them (65.8%, n = 50); 26.3% (n = 20) indicated other teachers at the school, and 19.7% (n = 15) mentioned the principal or assistant principal as an informal mentor. Teachers indicated that these informal mentors most often provided general help and guidance (36.8%, n = 28) and curriculum support (27.6%, n = 21).

Teacher tone. In 52.6% of the interviews, teachers indicated a neutral tone about the mentoring experience (n = 40)—neither particularly positive nor negative. In 34.2% of the interviews teachers were perceived as being positive about the mentoring experience (n = 26), and 13.2% of the interviews indicated a negative tone (n = 10). Teachers whose tone was identified as positive indicated, among other things, a "perfect" amount of time with mentors, great support, and being understood. Teachers whose tone was identified as negative indicated, among other things, infrequent meetings, lack of feedback, and low mentor investment.

Grade Group Results

Grade-group results were calculated using the number of teacher interviews per grade-group. There were 14 interviews in grades K-2; 30 interviews in grades 3-5; and 32 in grades 6-8.

Mentors. All groups of teachers reported a high frequency of mentors at the school site. Teachers in K-2 reported slightly lower percentages (71.4%, n = 10) than did their peers in grades 3-5 (83.3%, n = 25) and 6-8 (84.4%, n = 27). District mentors were slightly more prevalent in K-2 (42.9%, n= 6) and 3-5 (46.7%, n = 14) than in grades 6-8 (31.3%, n = 10). Not surprisingly, K-2 and 3-5 teachers more frequently indicated that the mentor assignment was based on grade (21.4%, n = 3; and 26.7%, n = 8, respectively)

than 6-8 teachers, who reported assignments based on subject (15.6%, n= 5). See Appendix F for the complete response set.

Mentor meetings. As seen in the whole sample data, teacher reports of formal meetings with mentors were diffuse. This trend was reflected in K-2 teachers, whose responses varied widely (see table 4.3). Teachers in grades 3-5 were more likely to indicate that they met once a week or more (23.3%, n = 7) than their peers in K-2 (21.4%, n = 3) and 6-8 (18.8%, n = 6), suggesting that they received the most support. Teachers in 6-8 were more likely to indicate that they met with their mentor "as needed" (28.1%, n = 9) than their peers in K-2 (14.3%, n = 2) and 3-5 (0%). This may suggest that they were less dependent on their mentors or that their mentors were less available to them, requiring strategically planned meetings. A similar trend was found in the reported informal meetings. Teachers in grades 3-5 were the most likely to indicate that they met with their mentor once a week or more (36.7%, n = 11), and teachers in 6-8 reported the fewest weekly informal meetings (12.5%, n = 4). When 6-8 teachers reported informal meetings, they were most likely to be reported "as needed" (55.5%, n = 5). Teachers across all grade groups indicated that they felt the time they spent with their mentor was adequate. However, teachers in grades 3-5 most frequently expressed that they were not sure if the amount of time was adequate (16.7%, n = 5), despite the frequency with which they reported meeting.

Role of the mentor. Teachers across grade groups were most likely to see the mentor role as one of a general resource for help and guidance. Curricular support and instructional model/observer were also consistently reported across grade groups (see

Appendix F). However, teachers in grades 3-5 indicated that the mentor served these roles (36.7%, n = 11; and 40%, n = 12, respectively) more frequently than teachers in K-2 and 6-8. Administrative help was indicated more often for teachers in K-2 (21.4%, n = 3) and 6-8 (31.3%, n = 10) than for 3-5 teachers (10%, n = 3). K-2 teachers also indicated that the mentor's role was to help with classroom management (21.4%, n = 3) more often than 3-5 (10%, n = 3) or 6-8 (9.4%, n = 3) teachers.

Teachers in all grade groups indicated that when they worked with their mentor they worked on administrative tasks, classroom management, and curriculum (i.e., lesson plans). However, teachers in 6-8 reported more often than other grades also working on student needs and issues (25%, n = 8) and on their own personal teaching improvement (31.3%, n = 10). Teachers in grades 3-5 were less likely to report these (16.6%, n = 5; and 20%, n = 6, respectively), and K-2 teachers reported them least often (14.3% each, n = 2).

Teachers across grade groups described the general help and guidance provided by mentoring as helpful. However, K-2 teachers most frequently reported the administrative help as being important (35.7%, n = 5); 3-5 teachers most frequently reported curricular help as being important (23.3%, n = 7). Teachers in K-2 were most likely to report that there were no changes that should be made to the mentoring program (57.1%, n = 8), as opposed to 40% in grades 3-5 (n = 12) and 28.1% in grades 6-8 (n = 9). Teachers in grades 3-5 were more likely to suggest activities such as more observations, more time to meet, and meeting prior to the start of the school year.

Teachers in grades 3-5 and 6-8 indicated the need for more formally structured meetings, and a more formally structured mentor program.

Informal mentors. Teachers in all grade groups indicated that they had informal mentors who helped them. Teachers frequently reported that their informal mentors were teachers who taught the same grade or subject as themselves. Teachers in grades 3-5 indicated this in 90% of the responses (n = 27). They were also most likely to report the principal or assistant principal as an informal mentor (33.3%, n = 10), compared to only 14.3% (n = 2) in K-2 and 9.4% (n = 3) in grades 6-8. General help and guidance were the most frequent roles indicated for informal mentors, but 3-5 teachers also frequently reported that the informal mentors provided curricular support (43.3%, n = 13).

Teacher tone. There were no observable differences between grade groups on the tone of the mentoring experience. Most teachers seemed neutral or positive about the experience. Interviews with teachers in grades 6-8, however, were more likely to include a negative tone (21.9%, n = 7) than were interviews with their peers in K-2 (14.3%, n = 2) and 3-5 (3.3%, n = 1).

District Results

Descriptive results by district were difficult to interpret because the variation in number of participants within districts (ranging from two to 25) made response trends hard to identify. However, when viewed through the lenses of classroom practices and efficacy beliefs, district responses play a role. Those findings are discussed subsequently in this chapter.

Global Considerations

From these analyses it appears that teachers in each grade group have slightly different experiences. Teachers in K-2 reported neither the most nor the least meetings with their mentors, they reported working on general questions, classroom management, curriculum, and administrative issues, and generally did not identify any potential changes to improve the mentoring program they were a part of. These teachers could be described as being *satisfied* with their experiences. No teachers in K-2 suggested any changes to the mentoring program, which may indicate that these teachers were not thinking critically about their experiences (and perhaps they did not need to).

In contrast, teachers in grades 3-5 indicated they had frequent formal and informal meetings with their mentors and indicated that they were unsure if the amount of time was adequate. They used the mentor for curricular help and as an instructional model/observer, and also worked on classroom management and administrative issues. They were most likely to indicate the importance of help with the curriculum, and desired more opportunities for observations (perhaps indicating insecurity in their teaching practices and/or the difficulty of the grade-levels). They also had a strong informal support network that they additionally used for curricular support. The finding that teachers in grades 3-5 were receiving much support—yet indicating that they wanted more—suggests that they had difficulty feeling that they possessed competencies. They could be described as *appreciative of the help, but wanting more* from their experiences. These teachers seemed to be grasping at all available resources in order to find their way—especially in the area of curriculum development.

Alternatively, teachers in grades 6-8 appeared much more independent than their peers. They met with their mentor "as needed," and tended to identify the role of the formal and informal mentor as one of a general resource. They were also most likely to reflect on their personal teaching practices with their mentor and to focus on student needs and issues. At first glance, these findings describe teachers who appear satisfied with their experiences. However, these teachers also most frequently expressed dissatisfaction with their mentoring program; 18.8% (n = 6) indicated that they did not spend enough time with their mentor and 43% (n = 14) of the suggestions for improving the mentoring program centered on formalizing the program and mentor meetings. It is possible that teachers in grades 6-8 are more isolated from mentors than their counterparts in elementary school settings. Subject specialization may also limit the type of support a mentor can provide if their expertise is in another subject. Such responses cause this researcher to wonder if these teachers are more *unsatisfied* with their experiences than they may initially seem.

<div align="center">Professional Development Interview</div>

Whole Sample Results

Seventy-eight interviews about professional development were analyzed. Teachers were asked to recall what professional development activities they had participated in over the course of their first year. This seemingly simple question yielded a variety of responses from the teachers. For example, one teacher might indicate that s/he participated in new teacher induction, while another listed all of the components of induction, such as classroom management training, 6-traits training, and observations.

Thus, it is important to remember that information obtained from these teachers is based on their interpretation of the question and their recollection.

Professional development activities. Teachers most commonly indicated that they had participated in some form of new teacher training or induction (60.3%, n = 47) and in some sort of English-language-learning program (29.5%, n = 23). Interestingly, when teachers were asked which activities were most and least helpful, they indicted most frequently that the new teacher training/induction was most helpful (25.6%, n = 20) and least helpful (15.4%, n = 12). Such individual differences were also present in the other most frequently mentioned activity, English-language-learning programs (14.1%, n = 11; 11.7%, n = 9, respectively). Notably, 32.1% of teachers indicated that all of their professional development activities had been helpful (n = 25). When asked if they would have liked other activities offered, 37.2% indicated that there were no other activities they would want (n = 29). Some teachers identified possible changes; 17.9% reported they would have liked more training on administrative tasks (n = 14), and 12.8% indicated they wanted more training on classroom management (n = 10). See Appendix G for the complete response set.

Site-specific professional development. Many teachers indicated that they also received professional development at their school site (80.8%, n = 63). These teachers indicated that the development included curriculum program implementation (14.1%, n = 11), staff meetings (21.8%, n = 17), and work on reading strategies (15.4%, n = 12) and writing strategies (14.1%, n = 11). When asked which level of professional development was most helpful, 15.4% of teachers indicated that the school-level was most helpful (n =

12), 21.8% indicated that the district-level was most helpful (n = 17), and 28.2%

indicated that they were both helpful (n = 22).

Teachers who indicated that the school-level professional development was most

helpful cited reasons such as the school gearing development toward its own needs,

splitting up development training by grade levels, and receiving more individual

attention. Teachers who indicated that the district-level professional development was

most helpful cited reasons such as greater organization and preparation. Teachers who

believed both were beneficial indicated the need for solid foundations provided by the

district and the individualized focus of school needs provided at school-level.

Teacher tone. On the topic of professional development, 61.5% (n = 48) of the

interviews indicated a neutral tone towards the experience; 32.1% (n = 25) indicated a

positive tone about the experience; and 6.4% (n = 5) indicated a negative tone. Teachers

whose tone was positive mentioned, among other things, the usefulness of professional

development that they directly implemented with their students, quality trainers, exposure

to information that was missing in teacher training programs, and a variety of

professional development choices. Teachers whose tone was negative mentioned, among

other things, information that was not applicable to particular grades or subjects, lack of

school-level professional development, and needed information that was not provided.

Grade Group Results

Grade-group results were calculated using the number of teacher interviews per

grade-group. There were 16 interviews in grades K-2; 31 interviews in grades 3-5; and 31

in grades 6-8.

Professional development activities. One quarter of teachers in grades 3-5 indicated that they had taken part in development addressing classroom management (n = 8); no K-2 teachers mentioned this, and less than 10% of 6-8 teachers indicated they had received development in this area (n = 3). In terms of curriculum, only 6.3% of K-2 teachers indicated that they took part in math training (n = 1), while 19.4% of 3-5 teachers (n = 6) and 16.1% of 6-8 teachers (n = 5) indicated that they had done so. However, 18.8% of K-2 (n = 3) and 22.6% of 3-8 teachers (n = 7) had taken part in reading/writing training. No teachers in 6-8 reported this. It is not surprising that 3-5 teachers reported receiving the most training in math and reading/writing given the start of high-stakes testing in third-grade. The appearance that teachers in grades 3-5 are spread thinly across multiple responsibilities (professional development in reading and math, time spent with a mentor) and expectations (high student achievement) may play a role in explaining why teachers in these grades seem so uncertain of their skills.

Teachers in K-2 most frequently reported their English-language-learning training to have been the most helpful (18.8%, n = 3). They cited reasons such as the training helping them to relate to the students' feelings and being able to apply strategies and activities in their classrooms. Teachers in grades 3-5 most frequently indicated that the classroom management training was most helpful (22.6%, n =7). They reported not receiving much classroom management training in college. Teachers in grades 6-8 frequently mentioned their new teacher induction and Essential Elements of Instruction (a year-long induction program) as being most helpful (22.6% [n = 7], and 16.1% [n = 5], respectively). They cited reasons such as learning how to implement differentiated

learning strategies, being able to see how strategies work in their own classrooms, and building on prior knowledge. However, as mentioned previously, teachers across all grades also indicated that all professional development was helpful.

While many teachers in grades K-2 and 6-8 indicated that they would not have liked any additional training offered (43.8% and 45.2%), only 25.8% of teachers in 3-5 responded similarly (n = 8). Teachers in grades 3-5 had diverse ideas about additional development, ranging from more observations, more classroom management training, and curriculum and assessment strategies; but 29% (n = 9) of these teachers agreed that they wanted more training in the administrative tasks of teaching (as opposed to only 12.5% [n = 2] and 9.7% [n = 3] in K-2 and 6-8). When teachers in K-2 indicated a need for additional training, they most frequently mentioned curriculum strategies; grades 6-8 teachers most frequently mentioned classroom management.

Site-specific professional development. Most teachers indicated that they received professional development at their school as well as from their district. Teachers in K-2 and 3-5 most frequently mentioned development in reading and writing strategies (43.8% [n = 7] and 32.2% [n = 10], respectively); teachers in 3-5 also frequently mentioned training in implementing the school's curriculum program (22.6% [n = 7]; e.g., Success For All, Harcourt Reading, etc.). Teachers in grades 6-8 were more likely to mention staff meetings as containing professional development information (32.3%, n = 10) and a focus on reading strategies (16.1%, n = 5). Notably, the focus on mathematics at the school-level is low across grades—6.3%, 6.5%, and 9.7% (n = 1, n = 2, n = 3, respectively).

Teacher tone. Most interviews contained a neutral or positive connotation; however, teachers in grades 6-8 indicated a slightly higher rate of dissatisfaction with their professional development.

District Results

Most district differences in teacher responses were a result of the type of professional development offered at the district. For example, district 1 implemented the Essential Elements of Instruction, but also a voluntary "Teacher Training Institute," that offered math or reading professional development. District 7 also implemented Essential Elements of Instruction; district 6 implemented Creating Independence through Student-owned Strategies (CRISS) program, a primarily language-arts focused program designed to help students integrate and retain information. Districts 2, 3, and 4 had non-specific induction, and district 5 did not have any formal program for new teachers. Because of this variation it was hard to compare districts on their response patterns only.

Global Considerations

Generally, teachers across grade groups have access to professional development from their district and at their school. Teachers in grades 3-5 are more likely to have development on classroom management, mathematics, and reading/writing strategies from the district. However, teachers across all grades reported that their schools placed an emphasis on reading, but not on mathematics. Teachers in grades 3-5 reported the most professional development opportunities, and yet most frequently indicated that they would have liked more opportunities offered. This response pattern is similar to their response pattern for mentoring as well.

RQ 2: Are responses to the mentoring and professional development interviews related to observed teachers' classroom practices, and if so, in what ways?

<div align="center">Teaching Practices</div>

Teaching practices were observed and scored using the Revised THOR in the fall, winter, and spring. All observations were scheduled with the teacher, most observations lasted 45-minutes and took place during one lesson (e.g., math or reading or science).

Grade Group Results

Within grade-group differences. A repeated measures ANOVA was conducted to identify changes over time within grade-group for scores on the four factors of *assessment, management of students, management of instruction*, and *instructional design*. No significant differences were found within grade-group; no significant grade-group/factor interactions were found. Further repeated measures analyses were run to determine if any significant differences existed between scores in the fall and spring within each grade-group across factors. These analyses indicated that for teachers in K-2 there was a nearly significant difference in *assessment* between the fall and spring, $F(1, 16) = 4.51, p = .051$. Assessment scores in the spring ($M = 4.07, SD = .55$) were higher than fall scores ($M = 3.54, SD = .59$). While it is not surprising that the spring scores are higher, it is surprising that significance was approached (and not reached) for only one grade-group on only one factor. Intuition suggests that teachers across grades would demonstrate improvement across the school year as their experience increased; however, this was not the case.

Between grade-group differences. A one-way analysis of variance for each observation revealed several grade-group differences for the teaching practices factors. There were no significant differences among grade-groups in the fall and winter for *assessment*; however, significant differences were found in the spring $F(2, 76) = 4.50$, $p = .014$. Post hoc analyses using the Tukey HSD post hoc criterion for significance indicated that mean score for assessment for teachers in K-2 was significantly higher ($M = 3.95$, $SD = .72$) than the mean scores for 6-8 teachers ($M = 3.33$, $SD = .59$).

Significant differences were also found for the *management of students* factor for the winter observation $F(2,76) = 3.72$, $p = .03$. The Tukey HSD post hoc indicated that 3-5 teachers scored significantly higher ($M = 4.19$, $SD = .89$) than 6-8 teachers ($M = 3.64$, $SD = .76$).

No significant differences were found among the grade-groups for the *management of instruction* factor. However, for the *instructional design* factor, significant differences were found in the spring $F(2,76) = 5.82$, $p < .01$. The Tukey HSD post hoc indicated that teachers in K-2 and 6-8 scored significantly higher ($M = 3.98$, $SD = .69$; $M = 3.82$, $SD = .68$, respectively) than teachers in grades 3-5 ($M = 3.37$, $SD = .57$).

Interview relationships. Teachers in K-2 improved significantly over the school year on assessment scores. By spring, they scored significantly higher than their counterparts in grades 6-8. When K-2 teachers' responses to the mentoring and professional development interviews were examined to identify potential explanations— no response patterns that might help explain the finding were visible.

Teachers in grades 3-5 scored significantly higher than teachers in 6-8 on management of students. Professional development interviews indicated that 25.8% of teachers in grades 3-5 mentioned participating in classroom management training, while only 9.7% of 6-8 teachers mentioned it. However, 19.4% of 6-8 teachers indicated that they wished they had received more classroom management professional development. Cumulatively, these findings suggest that 6-8 teachers may benefit from more attention to classroom management during their professional development.

Teachers in grades K-2 and 6-8 scored significantly higher on *instructional design* than did their peers in grades 3-5. This is puzzling because teachers in grades 3-5 had the highest frequency for indicating that the role of the mentor was to provide curricular support (36.7%), and that when they worked with their mentor, they were most likely to work on curriculum issues (66.7%). They also most frequently mentioned that mentoring had been helpful for curricular support (23.3%). It is possible that the curriculum for grades 3-5 is ambitious, making it difficult for new teachers to cover material in breadth and depth with the necessary differentiation for individual students.

District Results

Analyses of classroom teaching practices at the district level yielded few results in this sample. A repeated measures ANOVA was conducted to identify changes over time for scores on the four factors of *assessment, management of students, management of instruction*, and *instructional design.* No significant changes across time were found within districts; no significant district/factor interactions were found. The one significant between-district finding was found in the *instructional design* factor $F(6, 68) = 2.37$, $p =$

.04.Tukey post hoc analyses indicated that district 7 scored significantly higher than district 1 across the fall, winter, and spring.

Interview relationships. Several interesting findings emerged from the significant difference between districts 1 and 7 on the instructional design factor. The mentoring interviews show differences in perceptions of mentoring. In district 1, 32% of teachers indicated that the role of the mentor was to provide curricular support, while teachers in district 7 mentioned it in 57% of the interviews. District 1 teachers mentioned that they worked on curriculum issues with their mentor in 48% of the interviews, while teachers in district 7 mentioned it in 85.7% of the interviews. This suggests that teachers in district 7 may have spent more time focused on curriculum than teachers in district 1 when they were with their mentor.

Interestingly, district 1 and district 7 were the only districts in which teachers indicated that they had participated in professional development focused on the Madeline Hunter model of Essential Elements of Instruction (EEI) (1984). When asked to indicate which aspects of professional development was most helpful, only 3.7% of teachers from district 1 indicated any components of EEI, yet 61.5% of district 7 teachers mentioned it. Teachers in district 1 were more likely to mention the optional Teacher Training Institute (especially for math) as most helpful (29.6%, n = 8), or their new teacher induction (29.6%, n = 8). When teachers in district 1 did discuss the EEI program, they mentioned it as being helpful in terms of learning district procedures and policies, learning how to get their class underway, and having it take place during the school day (as opposed to on their own time). Alternately, teachers in district 7 talked about their EEI training in terms

of being able to apply the information in their classroom, learning how to use task analysis to help students learn, formulating good lesson objectives, and sustaining student engagement. Such strikingly different responses lead to the suggestion that other mediating factors may influence teacher perceptions of the program. Factors such as presentation of material, follow-up, and student demographics (e.g., English language learners versus native English language speakers) may have played a role in teachers' interpretations of the program. Further investigation into these findings may be warranted in future research examining the effectiveness of particular induction programs.

RQ 3: Are responses to the mentoring and professional development interviews related to teachers' reported self-efficacy, and if so, in what ways?

Teacher Efficacy

Teacher efficacy was measured in the fall, winter, and spring coinciding with teacher observations. For these analyses, individual mean scale scores are used from each administration of the survey. The nine-item scale included items to measure personal and general efficacy. However, they were collapsed in this analysis. As discussed in the literature review, the construct of efficacy is frequently ill-defined in research. Some studies suggest a difference between personal and general efficacy beliefs; however, they have also indicated that both are important. I address this issue further in chapter five.

Grade Group Results

Teacher interviews about mentoring revealed differing response patterns by grade group. Based on this finding, an initial repeated measures analysis of variance test was

run to identify potential changes in efficacy scores over time within each grade group.

For each group, no significant changes were found, indicating that efficacy remained

relatively stable across time. These findings are consistent with past results using the

same scale (Bozack, McCaslin, & Good 2006, 2007).

A one-way analysis of variance was run to identify potential grade group

differences in reported efficacy beliefs in the fall, winter, and spring. Findings indicated

that there were no significant grade group differences in the fall or spring. However,

winter reports indicated a significant difference in efficacy scores $F(2, 58) = 3.19$, $p =$

.05. Post hoc analyses using the Tukey HSD post hoc criterion for significance indicated

that the mean efficacy scores for teachers in grades 3-5 ($M = 2.93$, $SD = .19$) was

significantly lower in the winter than the mean efficacy scores for teachers in grades K-2

($M = 3.15$, $SD = .21$).

This finding is aligned with interview responses indicating teachers in grades 3-5

wanted support from their mentors and access to more professional development. It may

be that by mid-year, novice teachers in our sample were struggling with the pressures of

upcoming high-stakes testing and feeling unprepared. Interestingly, however, these low

efficacy belief scores did not persist into the spring—when efficacy beliefs were

measured *after* the state-mandated testing.

District Results

Table 4.2 shows the rank order of district mean efficacy scores at each data

collection point. An initial repeated measures analysis of variance test was run to identify

potential changes in efficacy scores over time within each district. No significant changes

over time were found. However, the interaction of efficacy scores and district was approaching significance $F(6,47) = 1.97$, $p = .09$. These interesting findings were further explored with a one-way analysis of variance. This analysis showed significant district differences in efficacy scores in the fall, $F(6, 75) = 3.21$, $p < .01$, winter, $F(6, 58) = 2.82$, $p = .02$, and spring, $F(6, 67) = 2.91$, $p = .02$.

Post hoc analyses using the Tukey HSD post hoc criterion for significance indicated that in the fall, teachers from district 4 ($M = 3.18$, $SD = .22$) scored significantly higher than teachers from district 3 ($M = 2.67$, $SD = .11$) and district 6 ($M = 2.79$, $SD = .20$). During winter data collection, teachers in district 7 ($M = 3.09$, $SD = .25$) scored significantly higher than teachers in district 6 ($M = 2.79$, $SD = .22$). In the spring, teachers from district 1 ($M = 3.07$, $SD = .21$) and district 7 ($M = 3.10$, $SD = .22$) scored significantly higher than teachers from district 6 ($M = 2.80$, $SD = .21$).

Table 4.2

Rank Order of Mean Efficacy Scores by District

Time	District	N	Mean	SD
Fall				
	4	7	3.18	0.22
	5	3	3.12	0.13
	1	27	2.98	0.24
	7	12	2.97	0.24
	2	11	2.93	0.28
	6	12	2.79	0.2
	3	3	2.67	0.11
Winter				
	4	5	3.13	0.18
	7	13	3.09	0.25
	1	19	3.02	0.24
	5	2	2.94	0.08
	2	6	2.91	0.18
	6	11	2.79	0.22
	3	2	2.72	0.24
Spring				
	7	13	3.1	0.22
	1	22	3.07	0.21
	5	3	3.04	0.23
	2	10	3.02	0.21
	4	6	2.97	0.12
	3	2	2.83	0.24
	6	11	2.8	0.21

Relationship to Interviews

In order to better understand these findings, the raw frequency scores for each

district's mentoring and professional development interviews were examined. The

mentoring interview revealed two interesting trends. First, there were notable differences

in how often teachers reported meeting with their mentor. Specifically, teachers in district

1, who had higher efficacy scores in the spring, and teachers in district 7, who reported

higher efficacy scores in the winter and spring, also reported frequent mentor meetings in comparison to teachers in district 6, who had consistently lower efficacy scores across the school year (see Table 4.3). Interestingly, however, is the relatively high frequency with which teachers in district 2 reported meeting with their mentors formally and informally, yet their efficacy scores were not significantly higher than teachers in other districts with less contact with their mentor.

Table 4.3
Mentor Meetings by District

District	Mentoring interview n	Formal meetings a few times per month or more	Informal meetings of any amount
1	25	44.0%	48.0%
2	12	41.6%	58.3%
3	2	0.0%	50.0%
4	7	14.2%	57.0%
5	2	50.0%	0.0%
6	14	14.2%	28.6%
7	14	36.1%	64.3%

Second, when asked, teachers in districts 2, 3, 4, 5, and 7 indicated very few specific changes that they would make to their mentoring program. However, teachers in districts 1 and 6 offered the most suggestions for change. Teachers in these two districts had significantly different efficacy scores in the spring, yet they were the only ones to seemingly reflect on changes in their programs. Our data do not offer suggestions as to why this is so. The district frequencies from the professional development interviews were not helpful in better understanding the district differences in efficacy scores.

Item Responses

An analysis of variance showed that there were no significant differences in the efficacy scores of teachers whose interview tone was judged to be neutral, positive, or negative at the corresponding mentoring or professional development interview. Additionally, there were no significant differences in the efficacy scores of teachers who met frequently or infrequently with their mentors formally or informally at any of the time points.

RQ 4: Is there a relationship between teachers' efficacy beliefs, classroom practices, and the type of professional development and mentoring they describe? If so, what is that relationship?

Relationships among Interviews, Classroom Practices, and Efficacy Beliefs

To answer the final research question two sets of statistical analyses were run. First, an independent samples t-test was used to examine if how teachers responded to specific interview questions was related to their efficacy scores and four factors of teaching practices (*assessment, management of students, management of instruction, instructional design*) at each data collection point. Then a correlation was run to examine relationships between efficacy scores and classroom practices. Results are discussed below.

Mentoring Interview Relationships

Interview descriptives reported in RQ 1 guided the selection of specific response options from the interviews to be included for t-test analyses (district/school mentor, role of the mentor, what teachers work on with the mentor, type of professional development training, suggestions for professional development improvement).

Classroom practices. In the fall, teachers who indicated that the role of the mentor was to be an instructional model or observer scored higher on *assessment*, $t(74) = -2.06$, $p < .05$, than did teachers who did not mention it. However, in the spring, the same teachers who had mentioned it in the interview scored lower than teachers who did not, $t(66) = 2.10$, $p = .04$. One interpretation of this data suggests that teachers who received instructional modeling or observations in the fall may not have fully developed their skills beyond what was modeled or observed. Teachers who did not report a mentor observing or modeling lessons may have been less constrained by an image of what "good" teaching was supposed to look like, allowing them to develop their skills in a manner that was most effective for them individually.

There appears to be a relationship (approaching significance) between teachers who worked on administrative tasks with their mentors and their *assessment* scores in the fall, $t(74) = 1.96$, $p = .053$. Teachers who worked on the administrative tasks scored higher than those who did not mention it. This suggests the need for further analyses, including what administrative tasks were worked on (e.g., referral for possible learning disability, grade-book development, or learning where the copy machine is located).

Teachers who indicated that the role of the mentor was to provide emotional/social support scored higher on *management of instruction*, $t(74) = -2.52$, $p = .014$, and *instructional design*, $t(74) = -2.00$, $p < .05$, in the fall than teachers who did not mention it. They also scored higher on *management of students*, $t(73) = -2.56$, $p = .013$, during the winter observation. This seems to suggest that emotional support is important for new teachers.

Teachers who indicated that they worked on assessment or testing with their mentor scored higher on *management of instruction* in the spring than teachers who did not mention it, $t(66) = -2.08$, $p = .04$. There was a significant effect for student needs/issues in the winter, $t(55) = 3.14$, $p < .01$, and spring, $t(59) = 3.56$, $p < .01$, with teacher who indicated working on it with their mentor scoring higher than teachers who did not mention it. Both of these findings support the idea that specific areas of teaching can be improved through deliberate focus on contextual factors. The focus on assessment, testing, and addressing students' needs may also reflect teachers' attention to and preparation for standardized tests.

Efficacy beliefs. Teachers who indicated that the role of the mentor was to provide feedback had higher efficacy scores in the fall than teachers who did not mention it, $t(65) = -2.26$, $p = .03$. Teachers who indicated that the role of the mentor was to help with administrative issues scored lower on the spring efficacy scale, $t(59) = 2.04$, $p = .045$, than teachers who did not mention administrative help as a role of the mentor. However, when teachers indicated that they worked on administrative issues with their mentor, they had higher efficacy scores in the spring than did teachers who did not mention it, $t(59) =$

2.63, *p* = .01. These findings, along with the classroom practices findings presented earlier, suggest that the role the mentor plays, and the impact it may have on the novice teacher is complex. Rather than suggesting explanations, the findings present more questions. How do novice teachers' beliefs about what mentors *should* do and what mentors *actually* do affect them? When might mentors serve as a support (i.e. scaffolding) and when might it mentor input limit novice teacher growth based on external expectations? There is much more to learn before a solid interpretation can be made from these findings.

Professional Development Interview Relationships

Classroom practices. Interestingly, teachers who indicated that they had taken part in some form of English language learning program scored lower at the spring observation on the classroom practices of *management of students*, *t*(73) = 3.24, *p* < .01, *management of instruction*, *t*(73) = 2.60, *p* = .01, and *instructional design*, *t*(73) = 2.68, *p* <.01, than did teachers who did not mention participating in a program. This finding contrasts with some teacher reports that the English language programs were helpful with the student demographic they were teaching. However, without knowing more about how the English language learning programs were structured (e.g., were they focused on extinguishing a first language or structuring the development of a second language using supports from the first language?), interpretation of the findings is difficult.

When asked about improving professional development offerings, teachers who indicated that they wanted more classroom management training scored differently from their peers who did not mention it on classroom practices. Teachers who wanted more

classroom management training had significantly lower scores in the fall on *management of students*, $t(76) = 2.71$, $p < .01$, *management of instruction*, $t(76) = 2.17$, $p = .03$, and *instructional design*, $t(76) = 2.05$, $p = .04$. The spring observation revealed continued struggles with management of students (though the *p*-value was slightly beyond significance), when they scored lower than their peers on *management of students*, $t(73) = 1.98$, $p = .051$. These findings suggest that teachers who believed they needed more help with classroom management were accurate in their self-reflection. They also suggest that issues with student management affect other aspects of their teaching, including how they manage and design their instruction. It appears that some of the issues are resolved throughout the school year—perhaps as teachers learn to adjust their instruction in response to their students (for better or worse). However, it also appears that teachers who struggle with managing students in the fall are likely to continue to struggle with managing students in the spring.

  Efficacy beliefs. There were no significant relationships between the efficacy scales and the response patterns to the professional development interview. This finding is not surprising given the variation of professional development opportunities reported and the variation of responses to those opportunities.

Non-significant findings

  For the mentoring interview, there were no significant differences on mean efficacy scores or classroom practices between teachers who did/did not indicate that they had a mentor at the district or school. There were no differences on those scales between teachers who did/did not indicate that the role of the mentor was to provide general help

and guidance, curricular support, parent communication, classroom management support, and curricular support. There also were no differences between teachers who did/did not indicate that they spent time with their mentor working on curriculum/standards, classroom management, and personal teaching improvement. It is notable that emotional support was significant, but not curricular support, nor working on the curriculum/standards.

For the professional development interview, there were no significant differences on mean efficacy scores or classroom practices between teachers who did/did not indicate that they participated in new teacher orientation or new teacher induction. There were no significant differences on those scales for teachers who indicated that induction was most helpful or least helpful. Lastly, there were no differences between teachers who indicated that they wanted more administrative training and those that did not indicate it. It is likely that the lack of significant findings is, at least in part, a result of the generality of the interview questions. It is possible that more specific questions about the professional development activities would have provided thicker response descriptions.

Teaching Practices and Efficacy Beliefs

Whole sample. A bivariate correlation was run to identify possible relationships between the teaching practices and efficacy beliefs of teachers in the sample. There were significant, moderate correlations between efficacy scores in the fall, winter, and spring (see Table 4.4). However, there were no significant correlations between the mean efficacy scores from the fall, winter, and spring and observed classroom practices. Based

on this finding, correlations were run for individual grade-groups and districts to see if there were any within-group findings.

Table 4.4

Mean Efficacy Score Correlations: Whole Sample

	ME Fall	ME Winter	ME Spring
ME Fall	-		
ME Winter	.405**	-	
ME Spring	.522**	.691**	-

**Correlation is significant at the 0.01 level (2-tailed).

Grade-group correlations. For teachers in K-2 only one significant correlation emerged from the four classroom practices factors. Mean efficacy scores obtained during the winter were negatively correlated to *management of students* during the winter, $r = -.76$, $p = .011$. These findings suggest that for K-2 teachers in our sample, at mid-year, there may be an inverse relationship between what they believe and what is happening in the classroom. It could also suggest that teachers are confident enough in their students and their skills to risk less-structured styles of management.

There were no significant correlations of any kind for teachers in grades 3-5. Findings indicated two significant correlations for 6-8 teachers. First, *assessment* scores from the fall were positively correlated with spring efficacy scores, $r = .51$, $p < .01$; second, *management of instruction* scores from the fall were positively correlated with spring efficacy scores, $r = .41$, $p = .04$. These findings suggest that teaching practices for teachers in grades 6-8 at the beginning of the year are related to end-of-year efficacy beliefs. This finding is important as it pertains to future research in the area of efficacy and teaching practices.

District correlations. No correlations were computed for district 3 or district 5 because there were only three participating teachers from each district. In the five remaining districts, significant correlations indicated some trends. It is important to interpret this data cautiously because districts varied in number of participants. In district 1, teachers' fall *assessment* scores were positively correlated to efficacy scores during the winter, $r = .48$, $p = .04$. This finding further supports the idea that practices early in the year are related to efficacy beliefs later in the year.

Teachers in district 2 showed the most correlations between efficacy and classroom practices. Teachers' *management of students* in the fall was positively correlated with efficacy scores in the fall ($r = .64$, $p = .04$), winter ($r = .86$, $p = .03$), and spring ($r = .69$, $p = .03$). Teachers' *management of instruction* in the fall was positively correlated to efficacy beliefs in the winter ($r = .89$, $p = .02$) and their *instructional design* scores in the fall were also positively correlated to efficacy beliefs in the winter ($r = .94$, $p < .01$). These findings continue to support the suggestion of a relationship between teaching practices early in the year and efficacy beliefs later in the year. It also suggests that this relationship might be especially strong for some teachers in some districts.

Teachers in district 4 showed a positive correlation between *management of students* in the fall and efficacy beliefs in the spring ($r = .93$, $p < .01$). Yet *management of students* scores in the winter were negatively correlated to winter efficacy beliefs ($r = -.92$, $p = .03$) and positively correlated to spring efficacy beliefs ($r = .90$, $p = .01$). For teachers in this district, reported efficacy beliefs may maintain consistency—even when their management of students does not.

There were no significant relationships between teaching practices and efficacy beliefs in district 6. However, teachers in district 7 had a significant negative relationship between *management of students* in the winter and efficacy beliefs in the winter ($r = -.62$, $p = .02$) and spring ($r = -.60$, $p = .03$). These findings follow the mid-year trend for K-2 teachers and district 4 teachers concerning teaching practices. While they do not present themselves in the whole-sample correlations, the repetition of an inverse relationship at mid-year is an unexpected finding that warrants future consideration.

Global Considerations

Teachers' interview responses suggest that, especially in the beginning of the school year, the mentor plays an important role. Teachers whose mentor served as an instructional model/observer and provided social/emotional support had higher scores on classroom practices than teachers who did not describe mentoring in these ways. Teachers who reported that the role of the mentor was to provide feedback also had higher fall efficacy scores than those who did not. Further, professional development was important at the beginning of the school year. Teachers who wanted more classroom management professional development had significantly lower student management scores in the fall than did their peers.

Several interesting trends also were found concerning teacher efficacy beliefs. There were no whole-sample correlations between efficacy beliefs and teaching practices, but grade group and district analyses did reveal significant findings. Teaching practices at the beginning of the year were related to efficacy beliefs near the end of the year for

teachers in grades 6-8. Teaching practices in the fall were also related to efficacy beliefs later in the year for teachers in districts 1, 2, and 4.

<div align="center">Conclusion</div>

The research questions addressed in this study revealed the complexity of professional development for first-year teachers. Results from *RQ1* indicated considerable differences in mentoring for teachers in K-2, 3-5, and 6-8. Interviews also indicated grade-level trends in the focus of professional development activities. *RQ2* findings suggest that teachers in grades 6-8 may benefit from more attention to classroom management during their professional development. Findings also reveal a puzzling trend of teachers in grades 3-5 scoring lower on the classroom practice of *instructional design* despite the support they reportedly receive from their mentors. *RQ2* also highlighted differences between two districts on the classroom practice of *instructional design*, despite their joint use of the EEI induction model of professional development.

RQ3 findings suggest the overall stability of teacher efficacy beliefs. There was only one grade-group difference among efficacy scores, but several significant differences among districts. For some districts, there appeared to be a relationship between efficacy scores and the frequency with which teachers reported meeting with their mentors. Lastly, *RQ4* findings suggest that mentors and professional development play important roles at the beginning of the school year. Findings also suggest a relationship between teaching practices at the beginning of the school year and efficacy beliefs at the end of the school year for some teachers and districts.

Chapter five further summarizes these findings, addresses implications, limitations, and directions for future research.

CHAPTER FIVE

DISCUSSION

This chapter discusses the research findings from the interviews, observations, and efficacy surveys. It describes the implications and limitations of the research, and offers suggestions for the direction of future research in each area. It then presents a new model for professional development.

Comments on the Sample

A strength of this study is that observational and interview data were collected from teachers in seven school districts. However, districts' support of the FYTOP project varied in the extent to which they provided recruitment access at the beginning of the year. Some districts provided time for an introduction to FYTOP during their new teacher orientation and the professional development coordinator or superintendent would encourage teachers to participate. In other cases, the districts distributed consent forms to principals who, in turn, were to give them to teachers who, in turn, were to return them to the districts before we could collect them. In one case the district just provided FYTOP with a list of teachers who were new to the district—irrespective of their past teaching experience. While each district had different numbers of new teachers, such varied recruitment opportunities contributed to the high variation in sample size among districts.

The number of teachers in each grade group also varied in our sample. For this particular year of data collection, there was half the amount of teachers in grades K-2 than in grades 3-5 or 6-8. This was, in part, due to the distribution of new teachers, but also a result of the availability of researchers to observe in K-2 classrooms.

Interviews

Implications

Mentoring interview results revealed experiential differences by grade-group. Namely, teachers in K-2 appeared to be *satisfied* with their experience, with little conception of how their experience might be improved or specific ways in which mentors could be helpful. They did not convey a sense of crisis or urgency about their situation. However, teachers in grades 3-5 appeared to be *appreciative of the help, but wanting more* from their experience. They used their mentors in explicit ways, spent the most time with their mentors, and desired more opportunities to work with their mentor. They conveyed a sense of urgency about developing their skills that was not present in the other grade-groups. Teachers in grades 6-8 initially appeared satisfied with their experience. They used their mentors when they had them, did not spend an abundance of time with their mentors, and offered suggestions for improvements to the mentoring programs. However, a closer look indicated that these teachers were the most neglected and *unsatisfied*—having few opportunities to meet with their mentors and indicating that not only were more structured meetings desired, but a more structured mentoring program as well. These teachers were most likely to express a negative tone about the experience. The educational system that was supposed to support them appeared to send a message that there was no urgency about their development—and that message was being internalized.

Professional development interview responses revealed that the most common forms of district professional development were induction and English-language-learning

programs. Teachers reported the most ambivalent responses about the helpfulness of these programs. School-level professional development was also reported by 80% of teachers. The professional development interview responses suggest that the usefulness of a program was related to whether or not the teacher could implement what was taught and if teachers perceived the information to be a repeat of their teacher education program or new concepts.

Limitations

During the winter and spring observations teachers were asked to describe their mentoring and professional development experiences to the observer. The observer then took notes about what the teacher said and transcribed those notes at a later date. Thus, the interviews are not verbatim and may not reveal everything that was said, but rather what the observer had time to write down. Additionally, interviewer notes may not fully reflect the inflection and tone of the discussion. Also, if a teacher was not forthcoming with information, the observer may not have prompted them for more information, resulting in a less rich description and less detailed data for analysis. Teachers frequently varied in the amount of time they could dedicate to the interview. Some had a free half-hour; others were on recess duty or hustling between activities during the interview. This likely affected the quality of their responses.

Directions for Future Research

To continue this line of research several changes could be made to increase the quality of the data. First, in addition to interviewing new teachers about their mentoring experiences, it would be beneficial to also interview district mentor coordinators and

mentors. District mentor coordinators (if they exist within a district) could better describe the mentor selection and training process and the goals of the mentoring program. Mentor interviews could reveal their perceptions of their mentor training and their own role and responsibilities as a mentor. Comparisons could be made between district expectations, mentor perceptions, and teacher perceptions. Teachers could also be asked to keep track of the actual amount of time spent with their mentors and exactly what they worked on during those meetings. Some interactions are so fluid that they would be hard to document (e.g., teacher and mentor talking during their lunch break). However, such documentation would provide a starting point for better describing the amount of time and quality of interactions.

Second, this sample demonstrated that most first-year teachers in a district took part in the district-mandated professional development resulting in little within-district variation. Because each teacher remembered their experiences differently, the professional development interviews lacked the thickness of description (Geertz, 1973) necessary to extract more meaningful information. Future research should focus not only on the presence of professional development opportunities, but the frequency, quality, follow-up, and implementation of the information obtained during those opportunities in the classroom. One option would be to conduct a case study within one district and with a subset of teachers in that district.

Useful information would likely be obtained through several avenues. For example, researchers might meet with district professional development administrators to learn about their practices and goals, and if the development activities are assessed in

terms of improving teaching practices or student outcomes. Information might also be obtained about schools' roles in professional development. Researchers might also gather information by attending professional development opportunities to assess relevance, quality of the delivery of the information, attendance, and other contextual factors that may impact teachers' perceptions. Observations focused on the implementation of information presented during professional development meetings would also provide additional insight.

Teacher perceptions could be obtained through continuously written journals that document the themes of professional development opportunities, the teacher's perception of the training, and what the teacher learned or wished s/he had learned at the training. Teachers could also be asked to reflect over time on if they have implemented changes based on their professional development opportunities, were they useful, and what supports might be helpful to them. Researchers may also consider ways to measure longitudinally how teachers thinking or classroom practices change as a result of exposure to professional development opportunities—and to what extent such thoughts/actions continue to evolve, solidify, or deteriorate over time.

<div align="center">Observed Teaching Practices</div>

Implications

The *Revised 2004 THOR* did not reveal any significant changes across the school year in teaching practices within the K-2, 3-5, or 6-8 grade-groups. Between grade-group differences were found in the winter, when teachers in grades 3-5 scored significantly higher on the *management of students* factor than teachers in grades 6-8. Between grade-

group differences also were found in the spring, when teachers in K-2 scored significantly higher than teachers in grades 6-8 on the *assessment* factor. Spring results also revealed a significant difference on the *instructional design* factor, with teachers in K-2 and 6-8 scoring higher than teachers in grades 3-5. No significant differences were found at any time in the school year for the *management of instruction* factor. Nor were significant changes over time found within districts. The only significant between-district finding indicated that teachers in district 7 scored higher than district 1 teachers on the *instructional design* factor across all three points in the school year.

These findings reflect a continued concern with classroom management for teachers in grades 3-5, as well as their difficulty with instructional design.

Limitations

Limitations of the *Revised 2004 THOR* and classroom practices findings rest heavily on the relatively low interrater agreement percentages for each factor, as discussed in chapter three. As much as possible, coders were assigned to grades that capitalized on their expertise and experience. Future research with this scale might try alternate coding approaches, such as a single factor score (rather than a score on individual components within a factor), or dual observations and coding to know interrater agreement.

Directions for Future Research

Future research should more closely examine the differences in training and expectations for teachers in each of the three grade-groups to better understand the issues of teachers in grades 3-5 and 6-8. Because teachers in districts 1 and 7 reported using the

same model of induction (EEI), a better understanding of the differences in classroom practice scores could be gained by more closely examining how each district implements the program and how teachers perceive the goals of the program compared to their personal goals for professional development. Further, student demographics information should be considered in order to better understand how professional development models may work differently among teachers who teach students from varying cultural and social backgrounds (e.g., English language learners, poverty level, etc.).

<div align="center">Efficacy Beliefs</div>

Implications

Efficacy theory predicts a reciprocal relationship between beliefs and experience, with beliefs becoming more firmly established with experience (Bandura, 1997). The efficacy scale used in this study has consistently demonstrated stability of efficacy beliefs across the first year of teaching (Bozack, McCaslin, & Good, 2006, 2007; Bozack, Dolan, & Vega, 2008). Lynch (2007) found that beginning teacher efficacy for classroom management was likely to remain stable over the course of the school year, but that efficacy for instructional strategies increased, and efficacy for student engagement decreased over time. Taken together, these findings suggest that beginning teacher efficacy may not be as malleable as previously suggested (Bandura, 1997). The suggestion that teachers' beliefs are already well-established when they enter the classroom poses possible new directions in thinking about how teachers are hired and the stability of those beliefs after they are hired. However, it is troubling to suggest that these

beliefs are entrenched beyond change. A closer look needs to be taken at what factors impact the likelihood of change in beliefs and to what extent those beliefs are modified.

Limitations

The Teacher Efficacy Scale (Rabidue, 2003) provided only one mean score for teaching efficacy (although the theory suggests that efficacy beliefs are situation-specific). It is possible that more insight could be gained from using a scale that isolates efficacy for individual teaching variables, such as classroom management, assessment, etc. (Tshannen-Moran & Hoy, 2001; Lynch, 2007). The scale developed by Tshannen-Moran & Hoy (2001) was relatively unexamined when FYTOP began efficacy data collection; however, recent work suggests its construct validity (Tshannen-Moran & Hoy, 2007).

Directions for Future Research

Future research may want to examine the malleability of pre-service teachers' efficacy beliefs across their education and into their beginning years of teaching to better identify when efficacy beliefs become established and what factors are most likely to contribute to change.

Relationships among Variables

Implications

Teacher interviews revealed that there was a relationship between mentoring perceptions and teacher practices, particularly at the beginning of the school year. Teachers whose mentor served as in instructional model/observer and provided social/emotional support scored higher on factors the *Revised 2004 THOR* classroom

practices than teachers who did not report having a mentor who served as an instructional model/observer or who provided social/emotional support.

Limitations

The analyses performed on these data and their interrelation were limited by the skills of the researcher. It is possible that alternate analyses might have revealed other interpretations of the relationships among the variables.

Directions for future research

Researchers may want to examine the quality and quantity of modeling and observing that takes place between mentors and novice teachers at the beginning of the school year to better understand what components are particularly useful to the novice teacher. Further, it is puzzling that social/emotional support was significantly related to classroom practices, but curricular support was not. One possible interpretation is that teacher education programs adequately prepared teachers in areas of curriculum development and delivery. However, the frequency with which teachers indicated that they used their mentors for curricular support (especially in grades 3-5), indicates a more complex relationship. First steps in future research may be to see if these findings replicate in other samples, and then using those findings to help develop an understanding of how (or if) the present finding should be interpreted.

New Directions for Professional Development

Teachers in this study indicated that they had school-site mentors only (51%), district mentors only (9%), or both (30%). Sixty-percent of the teachers indicated that

they had participated in a district induction program, and 80% took part in some form of professional development at the school. This suggests that teachers were taking part in district-, school-, and classroom-level (i.e. mentoring) professional development. Each level of professional development is potentially important in and of itself; however, the interaction among all three levels may provide an opportunity to implement and sustain change in teachers' behaviors and increased student learning through division of responsibility and support.

Multi-level Interaction of Professional Development

Teachers' actions are guided by personally held beliefs and principles; in order to create sustainable change, professional development needs to work in ways that use knowledge to promote changes in thinking, and ultimately, behavior (Au, 1990). This can be done through the consistent reinforcement of depth and breadth of knowledge provided at the district-, school-, and classroom-levels of professional development.

Sparks & Hirsh (1997) assert that knowledge development is supported by a theory of systems thinking, in which all levels of the scholastic organization are involved in reflective thinking and proactive behavior (see Joyce & Showers, 1988; Benson, 2001). Conventional models of organization tend to divide individuals, departments, and larger structures; systems thinking identifies that practice as reducing the overall effectiveness of organizations. Systems thinking promotes a recognition of the interdependence of individuals, departments, and larger structures within an organization to increase effectiveness (Schein, 1980). Sparks & Hirsh (1997) indicate that the theory of systems thinking must be centered on improved performance with the entire system,

from students to staff and administration if lasting change is to occur. "Educational leaders must understand the limitations of staff development that is divorced from a systems perspective and appreciate the central role of staff development within systemic change efforts" (p.9). The argument the authors put forth is that whatever change is desired must be the undertaking of an entire school—not just the teachers, or even more narrowly, some specific classroom practice to which teachers are supposed to subscribe.

Sparks and Hirsh (1997) suggested that teacher professional development separated from the entire system of the school (administrative policies, beliefs about and the use of paraprofessionals, school-wide goals, district-wide goals, etc.) is less effective than professional development that is part of a system-wide change. I propose the idea that district-level professional development removed from school-level and classroom-level professional development produces less change in teacher behaviors and beliefs (and perhaps student achievement) than when professional development at all three levels is seen and acted upon as part of one unified system of teacher development.

A New Model for Professional Development

The novice teacher literature in chapter two suggests that the provider of professional development is ambiguous in research—the role of the district, school, and mentor is often unclear. However, many principals hold the view that it is the responsibility of the district to provide development for new teachers (Met-Life Survey of the American Teacher, 2004-2005), and the role of a mentor is often separated from other development activities and processes.

I suggest a new model based on the idea of systems theory. In the *Systems Model of Professional Development* (SMPD), each system within the professional development structure has a clearly defined role to play in the education and support of novice teachers. According to Wilson, Bell, Galsoy, and Shouse (2006), novice teacher induction serves three purposes: (1) to help new teachers acquire knowledge about their school community; (2) to bridge the gap between educational theory and classroom practices; and (3) to increase teacher retention. The authors argue that little is known about the impact of induction programs and which features are tied to teaching practices and student learning. This observation was also supported in my review of extant literature.

I extend Wilson et al.'s (2006) idea to include that the role of the district is to provide broad outlines for teacher knowledge that pertains to the district (e.g., district-wide reading program adoptions, issues pertaining to student mobility, socio-economic effects on students, district performance on standardized achievement testing, etc.). District-level professional development should take place prior to the start of the school year during a new teacher training program (for all teachers new to the district, regardless of teaching experience) for up to a week, depending available funds. Teachers, counselors, and administrators should lead training sessions focused on outlining expectations of all teachers within the district. Beyond this pre-session training, the main role of the district is to provide support to each school-site. Support can be financial, by making content area specialists available, and by assisting with structural support for the principals and teacher leaders from each school site (e.g., helping principals find and get resources).

The main responsibility for sustaining teacher professional development lies with the school site administration. Many schools already have a shortened school day one day a week for professional development activities and extended planning time. I believe that this time could be spent focusing on needs that are specific to each site. An initial site-based assessment, including input from the principal, teachers, support staff, and parents could help guide yearly themes of development for all teachers.

For example, if it is determined that teachers and parents are worried about low test scores, professional development could focus on teacher understanding of district benchmark tests, making curriculum adjustments based on information from those tests, and reassessing progress with future tests. Weekly meeting time could be spent with grade/content teams—initially with a data analyst or other district professional to help teachers understand and manipulate the information and graduating to independent team analysis. Once a month teams could report back to all the teachers about their work, progress, and challenges. The primary role of the principal and administrators would be to help teachers stay on track with the meetings, develop a school climate of inquiry and change as a process, and to make sure that the professional development is meeting the needs of the teachers and the students at the school. In this model, the administration facilitates rather than dictates teacher learning. Importantly, the site-based development would also serve to expand on the depth of knowledge expected and provided by the district. For example, if a district-wide reading program is in place, the school site would function to provide teachers with more in-depth knowledge about the program, help

analyze the success and challenges of the program at the school site through teacher feedback, and assist in providing teachers a sense of ownership in the program.

Thus far, the model has included all teachers new to the district, regardless of experience, and all teachers at each site. The last element, classroom-level professional development, serves the needs of novice teachers by providing them with a mentor whose responsibility is to help new teachers implement the practices identified by the district and the school. A veteran teacher may see that students' analytic skills are weak on the district benchmark tests and know how she can modify her curriculum to help students build those skills, but a novice teacher may need more guidance in this area—both in planning and assessing the success of a change in curriculum. The mentor is there to facilitate the learning process for new teachers—to assist through modeling lessons, and developing strong lesson plans and classroom management strategies. An important key to a successful mentoring relationship is the monitoring of the growth of professional knowledge for new teachers. Ideally, mentors would be in the same grade/content area and have a minimum of five years of teaching experience (five years is the high-end definition of novice teacher), although more experienced teachers may be preferable.

I also believe that there should be a strong mentor training program, so that while the professional development of new teachers is supported by veteran teachers, the process of becoming a strong mentor is part of the development of veteran teachers. In this way, from the beginning, teachers can begin to view themselves as lifelong learners (as Linda Darling-Hammond says in the title of one book, *Teaching as the Learning Profession*). Mentor training could take place prior to the start of the school year and be

lead by district administrators and veteran mentors. Training could be divided into general mentor training and content/grade-specific training, and may include several follow-up sessions for mentors at each school site throughout the year.

These ideas are meant to provide a starting point for considering professional development as a fluid part of novice teacher learning. In the system I suggest, each level feeds into the next—the district initiates broad themes, the school sustains those themes by examining them in the school-site context, and the classroom-level mentor helps novice teachers reflect upon their practices as they relate to the themes identified in the district and school professional development opportunities. The reflections from individual teachers and schools may then feed back into how the district decides to shape the focus of professional development in the following year.

APPENDIX A

MENTORING INTERVIEW

Mentoring Questions:

1. Do you have a mentor teacher at this school? Within the district?

   If you don't have a mentor, do you have a cognitive coach or someone who serves in an advisory position?

2. (If yes) How does that assignment happen—did you have a choice, was it assigned, etc?

3. What do you see as the role of your mentor or coach?

4. How often do you have the opportunity to meet with your mentor teacher (or coach)?

5. Do you think that this amount of time has been adequate? If not—what would be appropriate?

6. When you do meet, what are some typical things you might discuss or work on together?

7. Are there ways the mentoring program in your school been helpful to you? Please describe.

8. Are there any changes in the mentoring program that you think would be helpful to new teachers at your school?

9. In addition to your formal mentor or coach, are there other people at your school or in your district that serve as informal mentors for you? How so?

APPENDIX B

PROFESSIONAL DEVELOPMENT INTERVIEW

Professional Development Questions:

Note to observers: Professional development (PD) is a way to provide ongoing educational opportunities to teachers. Typically, PD focuses on skills and concepts that can be directly applied in the classroom. PD activities range from short sessions on a particular topic (e.g. classroom management), to seminars, conferences, and the adoption and implementation of specific programs (e.g SFA). PD can occur outside of the classroom, within the classroom, or in combination.

1. What district-wide professional development opportunities have you taken part in this year? (IF 2ND YEAR TEACHER) How is PD this year different from last year?

2. Which of this year's district-wide professional development opportunities do you feel have been most helpful to you? Can you tell me what made it helpful?

3. Which ones have been least helpful? Why?

4. Is there anything you wish was covered in your district's professional development this year, but was not offered?

5. Do you have professional development opportunities offered for teachers (other than mentoring) by your school? (*if yes, ask them to tell you a little about them*)?

6. How do your school-level opportunities differ from the district-level opportunities? Which one have you found most helpful?

APPENDIX C

REVISED 2004 TSANG-HESTER OBSERVATION RUBRIC

*Note that all of the original items are present on the scale. Items denoted with an asterisk were used in the four-factor analysis.

Interview   **Assessment**

EOS _____   Number of Students in Class: _____

T1:   T2:   T3:

1. Formal assessment criteria and standards

1	2	3	4	5
The proposed approach to assessment contains no clear criteria or standards.		Assessment criteria and standards have been developed, and are mostly clear to students.		Assessment criteria and standards are clear and have been clearly communicated to students. Clear rubrics have been developed.

T1:   T2:   T3:

2. Use of formative assessment

1	2	3	4	5
Assessment is only used for summative purposes. Teacher has no intent to use assessment to follow-up on students' learning. No formative use of assessments occurs.		Teacher primarily uses assessment for summative purposes rather than as a way to enhance or retain learning. Teacher makes inconsistent attempts to use assessments for formative purposes.		Teacher frequently uses assessments for both formative and summative purposes. Teacher uses assessments as a gauge to enhance and retain student learning over time.

T1:   T2:   T3:

3. Learning goals for students

1	2	3	4	5
Teacher's goals are not clearly defined. Teacher designs lessons without much consideration to broader learning goals or emphasizes trivial learning.		Teacher sets learning goals for students and designs lessons and activities to build all students toward the same goals. Goals are moderately clear.		Teacher sets learning goals for students and designs lessons and activities to build students toward goals. Teacher also provides specialized attention to help students reach learning goals. Goals are clearly defined.

Observation

T1:   T2:   T3:

4. Providing in-class feedback and informal assessment to students*

1	2	3	4	5	Criteria not all applicable during this lesson
Teacher does not use any means to assess whether students understand the concepts being taught. There is no evidence that any student learning has occurred.		Teacher uses some methods to informally assess student learning. The assessment gives an accurate estimate of student learning and questions are asked of more than just a few students.		Teacher effectively uses in-class assessment or questioning to assess student understanding of material. Assessment is conducted on a large portion of students.	

T1:   T2:   T3:

5. Fairness and consistency of formal and/or informal assessment*

1	2	3	4	5	Criteria not all applicable during this lesson
Assessment methods are rarely used and appear to be prone to inconsistency and subjectivity. Assessments cannot differentiate students who have learned the material from those who have not.		Assessment methods approach fairness and consistency. Assessment methods usually allow students to demonstrate their understanding of the material with some exceptions.		Assessment methods are fair and consistent. Teacher makes students aware of what must be done to demonstrate understanding of the material.	

Observation   Classroom Management

EOS _____

T1:   T2:   T3:

6. Teacher interaction with students*

1	2	3	4	5	Criteria not all applicable during this lesson
Teacher demonstrates visible frustration, exasperation, lack of poise or confidence in a way that inhibits learning, **or** promotes management difficulties.		Teacher is generally poised, confident, and respectful. Teacher rapport with most students is positive with some inconsistencies.		Teacher is confident, respectful and demonstrates excellent rapport with students. Teacher-student interactions are warm and highly supportive to learning.	

T1:   T2:   T3:

7. Student interactions with other students

1	2	3	4	5	Criteria not all applicable during this lesson
Student interactions are disrespectful, mean, or ridiculing. Student interactions exhibit a lack of mutual respect.		Student interactions do not inhibit the learning activity, even if the interactions are not directly related to the task.		Student interactions are polite, respectful, and highly supportive of learning. Culture of learning is evident among students.	

T1:   T2:   T3:

8. Management of instructional groups and Individuals

1	2	3	4	5	Criteria not all applicable during this lesson
Students not working with the teacher are not productively engaged in learning.		Tasks for work are partially organized, resulting in some off-task behavior when teacher is involved with a group or individuals.		Tasks for work are organized, and students are managed so most students are engaged in learning at all times.	

T1:   T2:   T3:

9. Appropriate behavior is understood and followed by students

1	2	3	4	5	Criteria not all applicable during this lesson
Few standards of conduct appear to have been established, **or** students do not follow standards of appropriate behavior.		Standards of conduct appear to have been established for most situations and most students seem to follow these standards.		Standards of conduct appear to be clear to all students and are consistently followed by students.	

T1:   T2:   T3:

10. Monitors student behavior and provides feedback

1	2	3	4	5	Criteria not all applicable during this lesson
Student behavior is not monitored, and teacher is unaware of what students are doing, **or** responses to behavior are disruptive to the lesson.		Teacher is generally aware of student behavior but may miss activities of some students. Responses to behavior are generally appropriate and only slightly disruptive.		Teacher is alert to student behavior. Monitoring is subtle and preventative, **or** may not be needed. Responses to behavior are appropriate with minimal disruption to class.	

Observation   Implements Instruction

EOS _____

T1:   T2:   T3:

11. Instructional activities are congruent with goals and lead to accomplishing goals*

1	2	3	4	5	Criteria not all applicable during this lesson
Students have a difficult time understanding how activities relate to learning goals. Instructional activities do not lead to learning goals that are appropriate for the students.		Students generally see the connection between the lesson and the learning goal. Instructional activities generally lead to accomplishing learning goals.		Students clearly understand the connection between the lesson and the learning goal. Instructional activities are well designed to help all students reach the learning goals.	

T1:   T2:   T3:

12. Giving directions and explanations to students enhance student understanding*

1	2	3	4	5	Criteria not all applicable during this lesson
Teacher's directions and/or explanations to an activity are frequently confusing to students, **or** are clearly too basic for most students.		Teacher's directions and/or explanations to an activity are generally clear and help students understand the content or task.		Teacher's directions and/or explanations to an activity are clearly presented and significantly promotes student understanding.	

T1:   T2:   T3:

13. Makes effective use of learning materials to achieve learning goals*

1	2	3	4	5	Criteria not all applicable during this lesson
Teacher communicates the lesson without any use of materials that are appropriate for goals, **or** materials distract students from learning content.		Teacher complements presentations with use of materials that are appropriate for goals. Materials are somewhat effective in helping students organize and learn content.		Appropriate materials are used and are effective at increasing student understanding of the content as well as improving student engagement.	

T1:   T2:   T3:

14. Demonstrating effective "bag of tricks" in presenting new or difficult concepts

1	2	3	4	5	Criteria not all applicable during this lesson
Teacher fails to provide alternative approaches or examples when confronted with students' lack of understanding of new or difficult concepts.		Teacher is somewhat effective at using examples, mental imagery, role modeling, visual representations, etc. to illustrate new or difficult concepts when confronted with student incomprehension.		Teacher is very effective at using examples, mental imagery, role modeling, visual representations, etc. to better illustrate new or difficult concepts when confronted with student incomprehension.	

T1:   T2:   T3:

15. Demonstrates content knowledge in instruction

1	2	3	4	5	Criteria not all applicable during this lesson
Teacher makes content errors, is unable to engage in discussions on the content, or treats the content only very superficially.		Teacher demonstrates generally accurate content knowledge in instruction and in answering student questions when present.		Teacher demonstrates in-depth understanding of the content during instruction and enhances student learning, which may include the use of multiple/alternative techniques.	

Observation

T1:   T2:   T3:

16. Student response to teacher's display of energy and conviction for the content being taught*

1	2	3	4	5	Criteria not all applicable during this lesson
Teacher presents content with little conviction and with little apparent buy-in from students.		Teacher communicates importance of the work with some energy. Teacher is able to draw some students to the content.		Teacher's energy and conviction draws most students to the content.	

T1:   T2:   T3:

17. Uses clear, accurate, and expressive oral communication*

1	2	3	4	5	Criteria not all applicable during this lesson
Teacher's spoken language is inaudible to some students, contains grammar or syntax errors, **or** is unexpressive.		Teacher's spoken language is audible, moderately expressive, and/or grammatically correct.		Teacher's spoken language is clear and very expressive. Use of language and oration enhances understanding and interest.	

T1:   T2:   T3:

18. Quality of questions

1	2	3	4	5	Criteria not all applicable during this lesson
Teacher's questions are not developmentally appropriate or relevant, **or** teacher fails to ask necessary questions.		Teacher asks questions that are developmentally appropriate and promote instructional intent, which may include basic facts and/or skills.		Most questions are developmentally appropriate and promote thoughtful responses and deeper understanding of content.	

T1:   T2:   T3:

19. Demonstrating flexibility in responding to students' questions and interests

1	2	3	4	5	Criteria not all applicable during this lesson
Teacher ignores students' questions or interests. Teacher's response to students leads to major digression from the lesson.		Teacher attempts to accommodate students' questions or interests. The accommodation usually does not decrease the coherence of the lesson.		Teacher successfully accommodates students' questions or interests **and** enhances learning by using student comments to enhance understanding of the lesson.	

T1:   T2:   T3:

20. Student engagement and interest in lesson*

1	2	3	4	5	Criteria not all applicable during this lesson
Majority of students are not engaged actively. Most do not contribute to class discussions, **or** seem disinterested in the content.		Students are generally engaged in lesson actively. Many are participating in class discussions and all are at least paying attention.		Most students are highly engaged in the lesson. Students display interest in learning the content and actively participate in learning.	

Observation

T1:   T2:   T3:

21. Importance and value of content presented*

1	2	3	4	5	Criteria not applicable during this lesson
Teacher focuses lesson on mostly trivial knowledge, **or** the lesson does not relate to standards of learning in the content area.		Teacher focuses lesson on generally valuable aspects of the content and standards of learning are generally evident in the lesson.		Teacher focuses lesson on content that represents valuable knowledge that promotes in-depth understanding of the content standards.	

T1:   T2:   T3:

22. Broader view of content [code T3 only]

1	2	3	4	5	Criteria not applicable during this lesson
The teacher is ineffective at, **or** does not relate the **content** of the lesson to course as a whole and/or the potential application of content outside of classroom.		The teacher uses surface characteristics to relate the content of the lesson to the course as a whole and/or practical application.		The teacher effectively connects the content of the lesson, which enables students to see the value and importance of the content as a whole.	

T1:   T2:   T3:

23. Structure of lesson [code T3 only]*

1	2	3	4	5	Criteria not applicable during this lesson
The lesson has no clearly defined structure.		The lesson has a recognizable structure, although it is not uniformly maintained throughout the lesson.		The lesson has a clearly defined structure that enhances learning such as the effective use of a defined beginning, middle, and end of a lesson.	

T1:   T2:   T3:

24. Pacing of lesson*

1	2	3	4	5	Criteria not applicable during this lesson
The pacing of the lesson is too slow, rushed, or both. Students appear to be bored or confused.		The pacing of the lesson is generally appropriate for the majority of the students. Some students appear to be bored or confused.		The pacing of the lesson is appropriate for students. Most students do not appear to be bored or confused.	

APPENDIX D

TEACHER EFFICACY SCALE

Instructions: Please read the following statements carefully. If you *Strongly* **A**gree with the statement, circle 1; if you **A**gree with the statement, circle 2. If you **D**isagree with the statement, circle 3; if you *Strongly* **D**isagree with the statement, circle 4.

	SA	A	D	SD
1. Expertise on good teaching exists in the profession of education.	1	2	3	4
2. I am pleased with the progress my students make.	1	2	3	4
3. My teacher training program and/or experience has given me the necessary skills to be an effective teacher.	1	2	3	4
4. If one of my students couldn't do a class assignment, I would be able to accurately assess whether the assignment was at the correct level of difficulty.	1	2	3	4
5. Individual differences among teachers account for the wide variations in student achievement.	1	2	3	4
6. Some students need to be placed in slower groups so they are not subjected to unrealistic expectations.	1	2	3	4
7. There aren't many rewards for being a teacher anymore.	1	2	3	4
8. The influences of a student's home experiences can be overcome by good teaching.	1	2	3	4
9. I feel good about my teaching styles and strategies; I think they are successful.	1	2	3	4

APPENDIX E

MENTORING AND PROFESSIONAL DEVELOPMENT
INTERVIEW CODING SHEET

Column 1			Column 2			Column 3	
ID			**5. What was the assignment based on?**			**Informally**	
District			Not applicable	0		Not applicable	0
School			Experience	1		Never	1
Grade			Grade/team member	2		As needed	2
Subject			Subject	3		Often/a lot	3
MENTORING INTERVIEW			Proximity	4		One or two times per year	4
1. Do you have a mentor teacher at this school?			Request by mentor or novice	5		A few times a semester	5
Can't tell	0		Career ladder	6		Once or twice a month	6
No	1					Once a week	7
Yes-unofficial	2		**6. What is the role of the mentor/coach?**			A few times a week or more	8
Yes-official	3		Not applicable	0			
			General help/guidance/resource	1		**8. Has that amount of time been adequate?**	
2. Do you have a mentor in your district?			General feedback	2		Not applicable	0
Can't tell	0		administrative help	3		No	1
No	1		Parental help	4		Yes	2
Yes	2		Classroom management help	5		Not sure	3
			emotional/social support	6			
3. If no/unofficial, is there someone in an advisory position?			Curricular support	7		**9. What would be appropriate?**	
Not applicable	0		Instructional model/observer	8		Not applicable	0
No	1					Never	1
Another teacher helps me	2		**7. How often do you meet with your mentor/ coach?**			Less often	2
Instructional coach	3		**Formally**			More often	3
Literacy coach	4		Not applicable	0		Less than once a month	4
Cognitive coach	5		Never	1		A few times a month	5
S-T cooperating teacher	6		As needed	2		Once a week	6
			Often/a lot	3		A few times a week or more	7
4. If you have a mentor, how did that assignment happen?			One or two times per year	4			
Not applicable	0		A few times a semester	5			
Don't know	1		Once or twice a month	6			
Mentor was assigned	2		Once a week	7			
District assigned	3		A few times a week or more	8			
Principal assigned	4						
I had a choice in the decision	5						

10. When you meet, what are some of the things you work on?			12. What changes to mentoring would be helpful to new Ts at your school?			15. Overall tone of the interview	
No applicable	0		Not applicable	0		Neutral	0
Problems-general	1		No changes	1		Negative	1
Questions/ideas-general	2		Proximity	2		Positive	2
Long-term planning	3		Grade/subject alignment	3			
Administrative issues	4		More observations	4		*PROFESSIONAL DEV. INTERVIEW*	
Grade-level issues	5		More time to meet	5		**1. What district PD have you taken part in this year?**	
emotional support	6		More formally structure meetings	6		Not applicable	0
class mgt/behavior issues	7		More formally structure mentor program	7		None	1
Parent contacts	8		Mentor is invested	8		6-traits WS	2
assessment/testing	9		Meet prior to start of school	9		career-ladder WS	3
Curruculum/standards	10		adminstrative help	10		class/beh management	4
Student performance	11					Conferences	5
Student needs/issues	12		**13. Who are the informal mentors?**			CRISS Training	6
T-S communication	13		Not applicable	0		Curriculum mapper	7
Personal teaching improvement	14		Administrators	1		Curriculum program implementation	8
Professional Discourse	15		Everyone at the school	2		Data Team Participation	9
			Other teachers	3		Dibbles Training	10
11. In what ways has mentoring/coaching been helpful to you?			same grade/subject teachers	4		District Mentor Meetings	11
Not applicable	0		Principal/Asst. principal	5		Essential Elements of Instruction	12
General help/support/resource	1		Career ladder teachers	6		Teacher/Instructor Support Program	13
Feedback	2		Former cooperating teachers	7		Math program/TTI	14
same grade-level/subject	3		Reading/math/instructional Coach	8		New Teacher Orientation	15
Proximity	4		Other school specialists	9		New Teacher Training/Induction	16
administrative help	5		Teacher friends	1		Observations	17
time management	6					one-off trainings	18
curricular help	7		**14. How do they help you?**			Reading program/TTI	19
personal growth	8		Not applicable	0		SEI/ELL Training	20
			General help/guidance/resource	1			
			administrative help	2		**2. How was participation determined?**	
			Parental help	3		Can't tell	0
			Classroom management help	4		Mandatory	1
			emotional/social support	5		Voluntary	2
			Curricular support	6		Both	3
			Instructional model/observer	7			
			Provide feedback				

3. What was the quantity of trainings?

Label	Code
Can't tell/Not specific	0
Between 1-5 meetings	1
Between 5-10 meetings	2
More than 10 meetings	3
0-30 hours	4
30-60 hours	5
60-90 hours	6
at the beginning of the year	7
throughout the year	8

4. Which were most helpful?

Label	Code
None were helpful	0
6-traits WS	1
career-ladder WS	2
class/beh management	3
Conferences	4
CRISS Training	5
Curriculum mapper	6
Curriculum program implementation	7
Data Team Participation	8
Dibbles Training	9
District Mentor Meetings	10
Essential Elements of Instruction Components	11
Teacher/Instructor Support Program	12
Math program/TTI	13
New Teacher Orientation	14
New Teacher Training/Induction	15
Observations	16
one-off trainings	17
Reading program/TTI	18
SEI/ELL Training	19
All were helpful	20

5. Which were least helpful?

Label	Code
None were helpful	0
6-traits WS	1
career-ladder WS	2
class/beh management	3
Conferences	4
CRISS Training	5
Curriculum mapper	6
Curriculum program implementation	7
Data Team Participation	8
Dibbles Training	9
District Mentor Meetings	10
Essential Elements of Instruction components	11
Teacher/Instructor Support Program	12
Math program/TTI	13
New Teacher Orientation	14
New Teacher Training/Induction	15
Observations	16
one-off trainings	17
Reading program/TTI	18
SEI/ELL Training	19
All were helpful	20

6. Was there anything you would have liked to have offered?

Label	Code
Can't tell	0
No/couldn't think of anything	1
more observations/feedback	2
Administrative training	3
Classroom management	4
Parent communication	5
Assessment strategies	6
Curriculum planning	7
Variety/Choices	8
Guided reading	9
Mainstreaming/Special needs students	10
More ELL strategies	11
Math	12
Reading/LA	13
6-traits	14
Technology training	15

7. Was there any development that was specific to your school?

Label	Code
Can't tell/not sure	0
No	1
Yes	2

8. What was that development?

Label	Code
Not applicable	0
Curriculum program implementation	1
test analysis	2
staff meetings	3
mentoring	4
CRISS	5
Book study	6
technology training	7
classroom management	8
math strategies	9
reading strategies	10
writing strategies	11
Gifted learners	12
SEI	13
lesson/curriculum planning	14
Science strategies	15
curriculum mapper	16

9. Which was more helpful, school or district?

Label	Code
Not applicable	0
Neither were helpful	1
School	2
District	3
Both were helpful	4

10. Overall tone of the interview

Label	Code
Neutral	0
Negative	1
Positive	2

APPENDIX F

MENTORING INTERVIEW RESPONSES:
WHOLE SAMPLE AND GRADE-GROUP

	Whole Sample		K-2		3-5		6-8	
Mentor Presence	n	%	n	%	n	%	n	%
Mentor: School	62	81.6	10	71.4	25	83.3	27	84.4
Mentor: District	30	39.5	6	42.9	14	46.7	10	31.3
Other Advisor	10	13.1	2	14.3	5	16.7	3	9.4
Mentor assignment								
Mentor assigned	67	88.1	12	85.7	25	83.3	27	84.3
Teacher choice	7	9.2	1	7.1	3	10	3	9.4
Assignment based on								
Experience	1	1.3	1	7.1	0	0	0	0
Grade/team member	12	15.8	3	21.4	8	26.7	1	3.1
Subject	5	6.6	0	0	0	0	5	15.6
Request	2	2.6	0	0	1	3.3	1	3.1
Career ladder	7	9.2	1	7.1	5	16.7	1	3.1
Combination	11	14.5	2	14.3	5	16.7	4	12.5
Formal Meeting amount								
Never/rarely	4	5.3	1	7.1	0	0	3	9.4
As needed	11	14.5	2	14.3	0	0	9	28.1
One or two times/year	4	5.3	0	0	3	10	1	3.1
A few times/semester	10	13.2	3	21.4	2	6.7	5	15.6
A few times/month	9	11.8	2	14.3	4	13.3	3	9.4
Once a week or more	16	21	3	21.4	7	23.3	6	18.8
Combination	3	3.9	0	0	1	3.3	2	6.3
Informal Meeting amount								
As needed	12	15.8	3	21.4	4	13.3	5	15.6
Often/a lot	4	5.3	0	0	4	13.3	0	0
One or two times/month	2	2.6	0	0	2	6.7	0	0
Once a week or more	18	23.7	3	21.4	11	36.7	4	12.5
Combination	1	1.3	0	0	1	3.3	0	0
Adequacy of time								
No	7	9.2	1	7.1	0	0	6	18.8
Yes	57	75	12	85.7	23	76.7	22	68.8
Not sure	6	7.9	0	0	5	16.7	1	3.1
Need to meet more often	11	14.5	0	0	0	0	1	3.1

	Whole Sample		K-2		3-5		6-8	
Rolel of mentor	n	%	n	%	n	%	n	%
General help/guidance/resource	54	71.1	10	71.4	22	73.3	22	68.8
General feedback	9	11.8	2	14.3	3	10	4	12.5
administrative help	16	21.1	3	21.4	3	10	10	31.3
parental help	4	5.3	1	7.1	1	3.3	2	6.3
classroom management	9	11.8	3	21.4	3	10	3	9.4
emotional/social support	9	11.8	0	0	6	20	3	9.4
curricular support	24	31.6	4	28.6	11	36.7	9	28.1
instructional model/observer	25	32.9	3	21.4	12	40	10	31.3
Work on together								
Problems-general	5	6.6	2	14.3	2	6.7	1	3.1
Questions/ideas-general	13	17.1	5	35.7	3	10	5	15.6
Long-term planning	2	2.6	0	0	2	6.7	0	0
administrative issues	20	26.3	4	28.6	8	26.7	8	25
grade-level issues	2	2.6	0	0	0	0	2	6.3
emotional support	4	5.3	1	7.1	2	6.7	1	3.1
class mgt/behavior issues	26	34.2	6	42.9	11	36.7	9	28.1
Work on together, continued								
parent contacts	9	11.8	2	14.3	5	16.6	2	6.3
assessment/testing	10	13.2	2	14.3	5	16.6	3	9.4
curriculum/standards	42	55.3	7	50	20	66.7	15	46.9
student performance	2	2.6	0	0	0	0	2	6.3
student needs/issues	15	19.7	2	14.3	5	16.6	8	25
T-S communication	1	1.3	0	0	1	3.3	0	0
Personal teaching improvement	18	23.7	2	14.3	6	20	10	31.3
Professional discourse	2	2.6	1	7.1	1	3.3	0	0
Mentoring helpfulness								
General help/guidance/resource	49	64.5	9	64.3	18	60	22	68.8
Feedback	3	3.9	0	0	1	3.3	2	6.3
Same grade/subject	4	5.3	1	7.1	2	6.7	1	3.1
Proximity	4	5.3	0	0	1	3.3	3	9.4
administrative help	9	11.8	5	35.7	3	10	1	3.1
time management	3	3.9	1	7.1	1	3.3	1	3.1
curricular help	11	14.5	1	7.1	7	23.3	3	9.4
personal growth	5	6.6	0	0	3	10	2	6.3

	Whole Sample		K-2		3-5		6-8	
Potential changes	n	%	n	%	n	%	n	%
No changes	29	38.2	8	57.1	12	40	9	28.1
Proximity	3	3.9	0	0	1	3.3	2	6.3
Grade/subject alignment	6	7.9	0	0	3	10	3	9.4
More observations	7	9.2	1	7.1	4	13.3	2	6.3
More time to meet	5	6.6	0	0	2	6.7	3	9.4
More formally structured meetings	11	14.5	1	7.1	2	6.7	8	25
more formally structured program	9	11.8	1	7.1	2	6.7	6	18.8
Mentor is invested	4	5.3	1	7.1	1	3.3	2	6.3
Meet prior to start of school	4	5.3	1	7.1	2	6.7	1	3.1
administrative help	3	3.9	1	7.1	0	0	2	6.3
more feedback	1	1.3	0	0	1	3.3	0	0
Choice of mentor	1	1.3	0	0	1	3.3	0	0
Informal Mentors								
Administrators	6	7.9	1	7.1	2	6.7	3	9.4
Everyone at the school	5	6.6	0	0	3	10	2	6.3
Other teachers	20	26.3	3	21.4	3	10	14	43.8
same grade/subject teachers	50	65.8	10	71.4	27	90	13	40.6
Principal/Assist. Principal	15	19.7	2	14.3	10	33.3	3	9.4
Career ladder teachers	5	6.6	0	0	2	6.7	3	9.4
Former cooperating teachers	4	5.3	0	0	3	10	1	3.1
Reading/math/instructional coach	7	9.2	1	7.1	4	13.3	2	6.3
Other school specialists	7	9.2	2	14.3	4	13.3	1	3.1
Teacher friends	5	6.6	0	0	2	6.7	3	9.4
How Informal Mentors Help								
General help/guidance/resource	28	36.8	4	28.6	10	33.3	14	43.8
administrative help	7	9.2	1	7.1	4	13.3	2	6.3
parental help	3	3.9	1	7.1	2	6.7	0	0
classroom management	10	13.2	2	14.3	2	6.7	6	18.8
emotional/social support	10	13.2	0	0	6	20	4	12.5
curricular support	21	27.6	2	14.3	13	43.3	6	18.8
instructional model/observer	4	5.3	0	0	1	3.3	3	9.4
provide feedback	4	5.3	1	7.1	1	3.3	2	6.3
Interview Tone								
Neutral	40	52.6	8	57.1	16	53.3	16	50
Positive	26	34.2	4	28.6	13	43.3	9	28.1
Negative	10	13.2	2	14.3	1	3.3	7	21.9

*Whole sample responses: n = 76; K-2 responses: n = 14; 3-5 responses: n = 30; 6-8 responses: n = 32

APPENDIX G

PROFESSIONAL DEVELOPMENT INTERVIEW RESPONSES:
WHOLE SAMPLE AND GRADE-GROUP

District PD activities	Whole Sample		K-2		3-5		6-8	
	n	%	n	%	n	%	n	%
None	0	0	0	0	0	0	0	0
6-traits workshop	5	6.4	0	0	1	3.2	4	12.9
career-ladder workshop	10	12.8	3	18.8	3	9.7	4	12.9
class/behavior management	11	14.1	0	0	8	25.8	3	9.7
conferences	3	3.8	0	0	0	0	3	9.7
CRISS training	11	14.1	2	12.5	2	6.5	7	22.6
Curriculum mapper	4	5.1	0	0	1	3.2	3	9.7
Curriculum program implementation	5	6.4	1	6.3	3	9.7	1	3.2
Data team participation	2	2.6	0	0	2	6.5	0	0
Dibbles Training	5	6.4	4	25	1	3.2	0	0
District mentor meetings	3	3.8	1	6.3	2	6.5	0	0
Essential Elements of Instruction	18	23.1	3	18.8	9	29	6	19.4
Teacher/Instructor support program	3	3.8	0	0	1	3.2	2	6.5
Math program/TTI	12	15.4	1	6.3	6	19.4	5	16.1
New Teacher Orientation	9	11.5	1	6.3	6	19.4	2	6.5
New Teacher Training/Induction	47	60.3	9	56.3	21	67.8	17	54.8
Observations	9	11.5	1	6.3	6	19.4	2	6.5
One-off trainings	15	19.2	1	6.3	7	22.6	7	22.6
writing/Reading program/TTI	10	12.8	3	18.8	7	22.6	0	0
SIOP/SEI/ELL	23	29.5	8	50	8	25.8	7	22.6
Participation								
Mandatory	40	51.3	9	56.3	16	51.6	15	48.4
Voluntary	0	0	0	0	0	0	0	0
Both	17	21.8	2	12.5	9	29	6	19.4
Helpful Training								
None were helpful	2	2.6	0	0	2	6.5	0	0
6-traits workshop	3	3.8	0	0	1	3.2	2	6.5
career-ladder workshop	2	2.6	1	6.3	0	0	1	3.2
class/behavior management	13	16.7	2	12.5	7	22.6	4	12.9
conferences	1	1.3	0	0	0	0	1	3.2
CRISS training	7	9	1	6.3	2	6.5	4	12.9
Curriculum mapper	0	0	0	0	0	0	0	0
Curriculum program implementation	2	2.6	0	0	2	6.5	0	0

	Whole Sample		K-2		3-5		6-8	
Helpful Training, continued	n	%	n	%	n	%	n	%
Data team participation	0	0	0	0	0	0	0	0
Dibbles Training	0	0	0	0	0	0	0	0
District mentor meetings	2	2.6	1	6.3	1	3.2	0	0
EEI Components	9	11.5	1	6.3	3	9.7	5	16.1
Teacher/Instructor support program	2	2.6	0	0	0	0	2	6.5
Math program/TTI	8	10.3	1	6.3	3	9.7	4	12.9
New Teacher Orientation	4	5.1	1	6.3	1	3.2	2	6.5
New Teacher Training/Induction	20	25.6	4	25	9	29	7	22.6
Observations	4	5.1	2	12.5	1	3.2	1	3.2
One-off trainings	4	5.1	0	0	1	3.2	3	9.7
writing/Reading program/TTI	1	1.3	1	6.3	0	0	0	0
SIOP/SEI/ELL	11	14.1	3	18.8	4	12.9	4	12.9
All were helpful	4	5.1	2	12.5	0	0	2	6.5
Least Helpful training								
None were helpful	1	1.3	0	0	1	3.2	0	0
6-traits workshop	2	2.6	0	0	0	0	2	6.5
career-ladder workshop	3	3.8	0	0	2	6.5	1	3.2
class/behavior management	1	1.3	0	0	1	3.2	0	0
conferences	0	0	0	0	0	0	0	0
CRISS training	2	2.6	1	6.3	0	0	1	3.2
Curriculum mapper	4	5.1	0	0	2	6.5	2	6.5
Curriculum program implementation	3	3.8	1	6.3	1	3.2	1	3.2
Dibbles Training	0	0	0	0	0	0	0	0
District mentor meetings	0	0	0	0	0	0	0	0
EEI Components	5	6.4	2	12.5	2	6.5	1	3.2
Teacher/Instructor support program	0	0	0	0	0	0	0	0
Math program/TTI	1	1.3	0	0	0	0	1	3.2
New Teacher Orientation	0	0	0	0	0	0	0	0
New Teacher Training/Induction	12	15.4	0	0	5	16.1	1	3.2
Observations	0	0	0	0	0	0	0	0
One-off trainings	3	3.8	1	6.3	0	0	2	6.5
writing/Reading program/TTI	2	2.6	2	12.5	0	0	0	0
SIOP/SEI/ELL	9	11.7	2	12.5	6	19.4	1	3.2
All were helpful	25	32.1	4	25	10	32.3	11	35.5

	Whole Sample		K-2		3-5		6-8	
Would like to have had offered	n	%	n	%	n	%	n	%
No/couldn't think of anything	29	37.2	7	43.8	8	25.8	14	45.2
more observations/feedback	3	3.8	0	0	3	9.7	0	0
administrative training	14	17.9	2	12.5	9	29	3	9.7
classroom management	10	12.8	1	6.3	3	9.7	6	19.4
parent communication	2	2.6	0	0	1	3.2	1	3.2
assessment strategies	3	3.8	0	0	2	6.5	1	3.2
curriculum strategies	7	9	3	18.8	2	6.5	2	6.5
variety/choices	1	1.3	1	6.3	0	0	0	0
Guided reading	2	2.6	0	0	2	6.5	0	0
mainstreaming/special needs Ss	5	6.4	0	0	1	3.2	4	12.9
more ELL strategies	1	1.3	1	6.3	0	0	0	0
Math	1	1.3	0	0	1	3.2	0	0
Reading/LA	2	2.6	0	0	0	0	2	6.5
Collaboration w/other teachers	1	1.3	0	0	0	0	1	3.2
6-traits	1	1.3	0	0	1	3.2	0	0
Technology training	2	2.6	1	6.3	0	0	1	3.2
Presence of site-specific PD								
Can't tell/not sure	5	6.4	1	6.3	2	6.5	2	6.5
No	10	12.8	1	6.3	5	16.1	4	12.9
Yes	63	80.8	14	87.5	24	77.4	25	80.6
School site-specific PD								
Curriculum program implementation	11	14.1	2	12.5	7	22.6	2	6.5
test analysis	5	6.4	0	0	2	6.5	3	9.7
staff meetings	17	21.8	4	25	3	9.7	10	32.3
mentoring	5	6.4	1	6.3	0	0	4	12.9
CRISS	3	3.8	0	0	2	6.5	1	3.2
Book study	4	5.1	1	6.3	3	9.7	0	0
technology training	5	6.4	1	6.3	3	9.7	1	3.2
classroom management	5	6.4	2	12.5	2	6.5	1	3.2
math strategies	6	7.7	1	6.3	2	6.5	3	9.7
reding strategies	12	15.4	3	18.8	4	12.9	5	16.1
writing strategies	11	14.1	4	25	6	19.4	1	3.2
gifted learners	1	1.3	0	0	1	3.2	0	0
SEI	3	3.8	0	0	2	6.5	1	3.2

School site-specific PD, continued	Whole Sample		K-2		3-5		6-8	
	n	%	n	%	n	%	n	%
lesson/curriculum planning	6	7.7	2	12.5	1	3.2	3	9.7
science strategies	1	1.3	0	0	1	3.2	0	0
curriculum mapper	2	2.6	0	0	2	6.5	0	0
Most Helpful								
School	12	15.4	4	25	5	16.1	3	9.7
District	17	21.8	1	6.3	5	16.1	11	35.5
Both were helpful	22	28.2	4	25	9	29	9	29
Tone of Interview								
Neutral	48	61.5	12	75	16	51.6	20	64.5
Positive	25	32.1	3	18.8	14	45.2	8	25.8
Negative	5	6.4	1	6.3	1	3.2	3	9.7

*Whole sample responses: n = 78; K-2 responses: n = 16; 3-5 responses: n = 31; 6-8 responses: n = 31.

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