Graduate Teaching Fellowships as New Teacher Induction: School-University Partnerships' Impact on Teaching Self-Efficacy

Sara L. Hartman
Ohio University

Christopher Kennedy
Ohio University

Brian Brady
Ohio University

Abstract: New teacher induction programs, which strive to increase teaching self-efficacy, represent effective ways to increase teacher retention. This year-long qualitative case study examines the impact of a Teaching Fellowship program on the teaching self-efficacy of 14 new teachers in 11 Professional Development Schools (PDS). Beginning the school year, participants identified low self-efficacy related to Differentiation, Classroom/Behavior Management, Parent/Caregiver Communication, and Collaboration (co-teaching). High self-efficacy was found in relation to Collaboration (mentor teachers, school personnel, and other teaching fellows) and Developing Positive Student Relationships. Significantly, after a year in the Teaching Fellowship program, participants reported an increase in teaching self-efficacy in all areas. The findings provide important data about the value of PDS Teaching Fellowships as induction programs for new teachers, and the implications are relevant to stakeholders in both higher education and public school settings.

KEYWORDS: teaching fellowships, new teacher induction, professional development school (PDS), self-efficacy, school-university partnerships

NAPDS NINE ESSENTIALS ADDRESSED:
1. A comprehensive mission that is broader in its outreach and scope than the mission of any partner and that furthers the education profession and its responsibility to advance equity within schools and, by potential extension, the broader community;
2. A school–university culture committed to the preparation of future educators that embraces their active engagement in the school community;
3. Ongoing and reciprocal professional development for all participants guided by need;
9. Dedicated and shared resources and formal rewards and recognition structure

Introduction

Retaining new teachers presents an ongoing challenge for districts across the United States (Gonzalez, Brown, & Slate, 2008; Ingersoll & Strong, 2011), and a plethora of research about the reasons for high rates of new teacher turnover exists (Gonzalez et al., 2008; Ingersoll & Strong, 2011). Research supports new teacher induction programs as a way to retain new

teachers in the profession (Ingersoll & Smith, 2004; Ingersoll & Strong, 2011), and superintendents and principals often devote significant time and monetary resources to develop induction programs aimed at increasing teacher self-efficacy (Ingersoll & Smith, 2004; Ingersoll & Strong, 2011). However, despite their efforts, an estimated 40-50% of all new teachers leave the profession within the first five years (Ingersoll & Strong, 2011). These significant statistics became the impetus for an examination of the impact that a Professional Development School (PDS) Teaching Fellowship program has on new teacher self-efficacy and the ability of a Teaching Fellowship program to function as an effective new teacher induction program.

Not to be confused with self-confidence, teacher self-efficacy refers to teachers' beliefs about their ability to engage with students in order to successfully achieve desired learning outcomes (Tschannen-Moran & Wolfolk-Hoy, 2001). Significantly, a person's perception of high self-efficacy is strongly correlated to increased effort and persistence to succeed at a task (Bandura, 1997). Given this connection, new teachers who feel high self-efficacy about their ability to be successful teachers are more likely to stay in the teaching profession and express greater satisfaction with the teaching profession (Tschannen-Moran & Hoy, 2007; Tschannen-Moran & Wolfolk-Hoy, 2001). This year-long qualitative research study examines the impact of a Teaching Fellowship program on the teaching self-efficacy of 14 participants[1] who are first-year teachers in 11 Professional Development Schools (PDS). Specifically, this study describes the self-identified teaching challenges and strengths of first-year teachers who are participating in a PDS Teaching Fellowship program at Foothills University[1] and examines the impact on teaching self-efficacy when new teachers engage in a PDS Teaching Fellowship as part of a new teacher induction program. The findings provide important data about the value of PDS Teaching Fellowships as induction programs for new teachers, and the implications are relevant to stakeholders in both higher education and public school settings. Researchers Carr and Evans (2006) reported on a similar Teaching Fellowship program, but more data are needed to fully assess the value of such programs. In order to frame the research presented, a careful review of the literature is necessary.

Review of the Literature

New Teacher Retention

The amount of teacher turnover is high, with one study estimate stating one in five teachers leave in their first year (Gonzalez et al., 2008) and another noting 40-50% leave within five years of entering the profession (Ingersoll & Strong, 2011), costing tax payers approximately $2.2 billion dollars per year (Hughes, 2012). Reasons for teachers leaving the profession center largely on teachers feeling unsupported, isolated, and overwhelmed by stress and monetary factors (Buchanan et al., 2013; Ingersoll & Strong, 2011). The task then is to find ways to better equip new teachers to be able to face the challenges that prompt new teachers to leave the profession. The creation of teaching induction programs for all new teachers is becoming more prevalent in the U.S., and almost 80% of new teachers report having an induction program (Ingersoll & Strong, 2011; Kane, & Francis, 2013). New induction programs

---

[1] Pseudonyms are used throughout the article.

may vary widely, from single meetings with a mentor teacher to a highly structured program that involves frequent meetings over the course of several years (Ingersoll & Smith, 2004; Ingersoll & Strong, 2011). While there is research support for the effectiveness of new teacher induction programs (Ingersoll & Smith, 2004; Ingersoll & Strong, 2011), the effectiveness of Teaching Fellowships as a new teacher induction program is underreported.

In recent years, Teaching Fellowships have become an avenue for teacher education programs and schools to create more effective and confident teachers in the classroom (Carr & Evans, 2006). Fellowship programs differ from one university to another, though teaching fellows are often offered a middle ground between being a student teacher and a full-time professional, with pay and other benefits while taking graduate school classes. For new teachers struggling with professional isolation, having a readily accessible mentor in the classroom at all times allows for a constructive dialogue on teaching practices and shows promise for maintaining a realistic and healthy teaching self-efficacy (Carr & Evans, 2006; Ingersoll & Strong, 2011). Teaching Fellowships offer promise as induction programs for new teachers (Carr & Evans, 2006), though more research about their ability to impact teacher self-efficacy and retention is needed.

Teacher Self-Efficacy

Past self-efficacy research has had the narrow goal of having teachers leave teacher preparation programs with high levels of self-efficacy which only tells researchers and teachers how high their perceived self-efficacy is at that particular moment (Wyatt, 2015). However, researchers know that self-efficacy exists on a spectrum that must be maintained over time through support and further education (Bandura, 1997; Wyatt, 2015). A high level of self-efficacy is not achieved but rather maintained and constantly requires one to reflect and assess one's capacity for any given occupation or task. Many new teachers have faced various forms of pressure and stigma to express positive teacher self-efficacy at the end of a teacher preparation program or be seen as not ready to enter the field (Tschannen-Moran & Hoy, 2007; Tschannen-Moran & Wolfolk-Hoy, 2001) and "teachers responding to Likert scale items might feel obliged to fake their answers" (Wyatt, 2015, p. 139). Simply measuring teacher self-efficacy in terms of purely quantitative data is not enough and indicates the need for ongoing qualitative and longitudinal research on individual teachers and their reported self-efficacy.

Personal Awareness of Self-Efficacy and Knowledge Calibration

Due to the misplaced goals and misunderstanding of self-efficacy in the past, there is a dearth of research regarding teachers having a high sense of teacher self-efficacy and how that can actually be negative for a new teacher in the field (Wyatt, 2015). If one's perceived teacher self-efficacy is considered very high or artificially inflated (perhaps due to pressure to report high levels in teacher preparation programs) upon entering a classroom setting and the desired results of one's teaching practices are not met, teaching self-efficacy will drop (Doney, 2013; Jamil, Downer, & Pianta, 2012; Wyatt, 2015). Research powerfully calls into question the idea of positive self-efficacy beliefs being an absolute good as they could signal to administrators and to the teacher that no more work needs to be done on enhancing teaching practices and

professional development (Wheatley, 2005; Wyatt, 2015). However, this also brings up the one consistent truth in self-efficacy studies; once a teacher feels that they are not effective in the classroom, the chances of them leaving the profession become greater (Wyatt, 2015).

Knowledge calibration, or being able to accurately gauge one's understanding of a topic, also influences self-efficacy (Al-Hazza, Fleener, & Hager, 2008; Cunningham, Perry, Stanovich, & Stanovich, 2004). As they are often unaware of what they do or do not know, new teachers often have an artificially inflated or overestimated sense of self-efficacy (Al-Hazza et al., 2008; Cunningham et al., 2004). Researchers of this phenomena report that in order to make accurate judgments of one's self-efficacy, teachers need to be able to sufficiently calibrate their knowledge. Doing so allows them to address the gaps in their knowledge base and teaching practices and promotes an accurate reflection of teaching self-efficacy (Al-Hazza et al., 2008; Cunningham et al., 2004). Well-calibrated teachers are also more likely to be receptive to new ideas and teaching strategies to keep their pedagogy modern and relevant, while an overestimation of one's knowledge base (poor knowledge calibration) leads teachers to become passive and unengaged in any sort of professional development and may lead to teachers leaving the profession (Cunningham et al., 2004).

Resiliency Factors and Retention

A teacher's self-efficacy is a measure of many factors, with resiliency factors being particularly important. Resiliency factors include personal, social, family, and school supports that may help someone persist and maintain high self-efficacy in the face of challenges (Doney, 2013). If a new teacher's formative years are filled with stress, professional isolation, and a lack of personal and social skills required to cope with the shocks that accompany the teaching profession, it should come as no surprise when they leave the profession (Buchanan et al., 2013; Hughes, 2012).

Coupled with ideas of teacher self-efficacy, building and increasing resilience in teachers by providing institutional safeguards against stress and mishaps in the workplace have been shown to keep teacher self-efficacy intact over time (Buchanan et al., 2013; Doney, 2013; Jamil et al., 2012). If the emotional and social foundation from family and the institution where a teacher is employed wanes over time, a teacher's resilience and self-efficacy may be jeopardized (Doney, 2013). Understanding and addressing the different forms of isolation (geographic, emotional, physical and professional) that new teachers experience in the field is crucial for supporting and building resiliency factors for new teachers (Buchanan et al., 2013). Additionally, building and fostering an early sense of community is critical for retaining new teachers within the profession (Buchanan et al., 2013). Induction programs that place emphasis on building resiliency factors show promise for helping new teachers maintain a healthy teaching self-efficacy, thereby increasing new teacher retention.

Understanding PDS Teaching Fellowships at Foothills University

Teaching Fellowship Structure

Teaching Fellowships are an integral part of PDS programming at Foothills University, so an understanding of Teaching Fellowships' structure and work is important for contextualizing the findings of this study. Brindley, Field, and Lessen (2008) speak to the dedicated and shared resources that are essential when conducting PDS partnership work. In the region where this study was conducted, teaching fellows constitute a resource that is shared by local P-12 schools and Foothills University's College of Education. At Foothills University, teaching fellows are graduate assistants who do their graduate appointment work in a P-12 school as a fully licensed teacher. Teaching fellows teach in a local PDS school for 20 hours/week, are granted a tuition waiver, and receive a stipend as they fulfill their teaching commitment and take master's level coursework.

Originally, the Teaching Fellowship program was developed as a resource that allowed release time for school-based teacher liaisons to conduct undergraduate PDS work in local schools. However, in an effort to meet the needs of local school partners, Teaching Fellowship programming has grown and evolved. Currently, Teaching Fellowships are either funded by Foothills University's College of Education or are collaboratively funded by the university and local school. University funded teaching fellows provide release time for teacher liaisons in cooperating PDS schools. Essentially, these teaching fellows share teaching responsibilities with the teacher liaison. This allows the teacher liaison to work with undergraduate teacher candidates, with intervention programming, or to engage in other school initiatives. Collaboratively funded teaching fellows fulfill many needs in local PDS schools. In this structure, the participating school pays the teaching fellow's stipend, while the college provides the tuition waiver. Often, these teaching fellows provide much needed intervention support, but they are also classroom teachers in various content areas and across multiple grade levels. Due to financial constraints in an impoverished, rural area, collaboratively funded teaching fellows present a cost efficient option for PDS schools.

Additionally, collaborative practices are essential in the hiring and placement of teaching fellows. Prospective teaching fellows must submit applications to Foothills University's graduate college, their particular master's program, and a detailed Teaching Fellowship application that contains lesson plans. Although teaching fellows are technically employed by the university, teaching fellows engage in a rigorous interview process that is led by local school stakeholders. The hiring process demonstrates all PDS partners' commitment to a collaborative PDS structure that is mutually beneficial to all stakeholders (Brindley et al., 2008). Finally, the university demonstrates its PDS commitment to sharing resources and ongoing professional development by fully funding a Teaching Fellow Faculty Coordinator. This university faculty member serves as the connection between schools, teaching fellows, and the university. By building relationships and maintaining open lines of communication, the Teaching Fellow Faculty Coordinator is an essential part of the structure of the Teaching Fellowship program.

Teaching Fellowship Implementation

During the year of data collection, several specific practices were integral to the implementation of PDS Teaching Fellowships at Foothills University. Foundational implementation practices included each teaching fellow working with a mentor teacher in their PDS school setting, graduate college instructors connecting course content to classroom practices, and a Teaching Fellow Faculty Coordinator providing monthly/semi-monthly professional development seminars that addressed graduate school and first year teaching challenges and concerns (see Figure 1 for a list of seminar topics)

Figure 1. Seminar Topics

Topics
Starting the school year
Time management
Instructional pacing
Planning for a substitute
Meeting the needs of all learners
Writing a literature review
Recognizing & responding to suspected child maltreatment
Effective instructional strategies
Technology
Classroom/Behavior management
Crisis response
Co-teaching
Applying & interviewing

Researchers have long known the importance of providing mentoring to new teachers (Billingsley, Griffin, Smith, Kamman, & Israel, 2009; Ingersoll & Smith, 2004), and mentor involvement in PDS Teaching Fellowship work at Foothills University was essential. This model allowed both mentor teachers and teaching fellows to learn from one another, furthering the PDS ideals of mutual commitment to innovative and reflective practices (Brindley et al., 2008). Also, although new to the profession, teaching fellows are fully licensed teachers, and mentors modeled and encouraged teaching fellows to become actively involved within their school community. Connecting college coursework to classroom practice should be an essential component of 21st century teacher preparation programs (Darling-Hammond, 2006). Consequently, teaching fellows' graduate school instructors made it a priority to connect coursework to teaching fellows' classroom teaching experiences, creating a meaningful link between theory and practice. As a final component of Teaching Fellowship implementation, the Teaching Fellow Faculty Coordinator responded to teaching fellows' needs by offering ongoing professional development through monthly and/or semi-monthly seminars that addressed a

variety of topics pertaining to successfully completing a master's degree and first year of teaching.

Methodology

This year-long qualitative research project utilized case study design to investigate a group of first-year Teaching Fellows' perceived self-efficacy. Stake (1995) calls case study research valuable for both its "uniqueness and commonality" (p. 1). The research was guided by the following questions: At the beginning of the school year, in what areas did Teaching Fellows feel most prepared to teach; least prepared to teach? In what areas did Teaching Fellows identify the highest perceived self-efficacy; the lowest? How did Teaching Fellows' perception of self-efficacy change throughout the year? What was the impact of the Teaching Fellowship program on fellows' perceived self-efficacy? Did the Teaching Fellows' program provide an effective induction model for new teachers?

Participants

During the year of data collection, Foothills University had 25 teaching fellows, and 14 chose to participate in the study. Participants were ages 22-24 and recently (within the last 6 months) graduated from a teacher licensure program. Participants represented multiple licensure areas, including three in Special Education (K-12th grade), seven in Early Childhood (preschool-3rd grade), one in Middle Childhood (4th-9th grade), and three in Adolescent to Young Adult (7th-12th grade). All participants were teaching fellows, meaning that they were both teaching in a preK-12th grade classroom and were full-time graduate students at Foothills University. Foothills University is a hub of learning in a rural area with limited access to urban settings, and teaching fellows are part of Foothills University's College of Education's PDS work. Participants were pursuing their master's degrees in a variety of content areas, which included Reading Education, Curriculum & Instruction, Educational Technology, Critical Studies, and/or Educational Administration. All participants were graduates of an undergraduate teacher licensure program that utilized a PDS model of teacher preparation.

Research Sites

Eleven PDS buildings within six public districts were the teaching locations of the participants. Schools were located in a midwestern, economically depressed area. Four of the schools were the result of rural consolidation efforts and housed children from preK-12 grade in one building. Two other districts still maintained separate buildings for elementary, middle school, and high school aged students. Participants commuted between 10 and 45 minutes to their teaching sites.

Data Collection

Data were collected through multiple interviews and school visits over the course of the 2014-15 school year. Site visits began the first week of school and continued until the last week.

Informal interviews, formal interviews, and detailed field notes provided the methods for data collection. Informal interviews occurred throughout the year during site visits to participants' schools and were typically conducted individually. However, at times more than one participant gathered by happenstance for an informal interview. Participants were interviewed formally at the beginning and end of the school year. Fellows' busy schedules necessitated that formal interviews be conducted in small groups of 2-3 participants. Formal interviews lasted approximately one hour per interview. When participant schedules permitted, interviews were conducted with teaching fellows who shared the same licensure area. As there was only one middle childhood participant, this fellow was interviewed with a special education fellow who was teaching in the middle grades. Due to scheduling considerations at the start of the school year, one formal interview was conducted individually. All formal interviews were audio-recorded and transcribed. Field notes were recorded during site visits throughout the year and provided observations of participants' interactions with students and the school's faculty and staff.

Data Analysis

A large amount of transcribed data was collected, which required the researchers to utilize Creswell's (2013) guidelines regarding data management. Data were initially organized in files labeled with the time of year they were collected and by the licensure area of the participant. After multiple readings of the data, a coding system was created to allow for reliable analysis (see Figure 2 for coding categories). Created by the lead researchers, the coding system was inductive and used a method of categorical aggregation, allowing for patterns and multiple instances of data to be more readily identified (Creswell, 2013; Stake, 1995). Initially, lead researchers coded the data into eight broad categories. After additional readings, the data was eventually coded into five categories, with each category further categorized with considerations discrete to each category and by the licensure area of the participants. For example, when coding information related to collaboration, it was necessary to differentiate between collaboration with a participant's mentor teacher, other school personnel, other fellows, and in co-teaching situations. Oftentimes, data were applicable within more than one coded category. Called reflective analysis by Gall, Borg, and Gall (1996), at times personal intuition and judgment were utilized to identify important elements and patterns within the data. With reflective analysis, it was important to examine the data multiple times to identify interconnected pieces of information.

Figure 2. Coded Categories

Category*	Additional Coding per Category
Differentiation	a. Gifted Learners b. Special Education c. Instruction
Classroom and Behavior Management	a. Defiance/Non-Compliance b. Time-on-Task Behavior c. New School Expectations

Parent/Caregiver Communication	a. Typical b. Concerns c. Parent-Teacher Conferences
Developing Positive Student Relationships	a. Greeting Students b. Beginning the School Year c. Sustaining Relationships d. Maintaining Boundaries
Collaboration	a. Mentor Teacher b. Co-Teaching c. School Personnel d. Other Fellows

- Each category was also coded according to licensure area.

Several methods were used to provide accurate verification of the data (Creswell, 2013). Researchers engaged in prolonged engagement with each of the participants, with a minimum of monthly/semi-monthly contact made with each participant via a school-based visit, formal interview, and/or informal interview. In order to capture different dimensions of participants' experiences, multiple data sources were sought (Stake, 1995). For example, informal interviews at school sites influenced the development of formal interview questions, and observational field notes recorded during school visits influenced both informal and formal interview questions. Seeking multiple perspectives on the same phenomenon provided an important way to validate the research.

Findings

Year-Long Perceptions of Challenges and Growth

At the start of the school year, of the five coded categories and their subcategories, participants indicated low self-efficacy related to four areas, including Differentiation, Classroom and Behavior Management, Parent/Caregiver Communication, and Collaboration (Co-Teaching). High self-efficacy was found in relation to Collaboration (Mentor Teachers) and Developing Positive Student Relationships. While it was clear that participants perceived low teaching self-efficacy in several areas at the start of the school year, by the end they expressed significantly higher self-efficacy in all areas.

Differentiation. As the year began, all participants indicated that they felt ready to deliver an appropriate and rigorous curriculum for their typically performing students. However, Early Childhood, Middle Childhood, and Adolescent to Young Adult teaching fellows reported feeling unprepared to adapt their curriculum for students who were high performing or gifted, and in particular felt low self-efficacy about their ability to accommodate students with special needs or with Individualized Education Plans (IEPs). Indicative of many fellows' feelings one said, "Something that I struggle with - still struggle with - is how I'm going to group my kids. Too high or too low. I mean how am I going to help them within those groups?" In agreement, another said, "We learn in our course books how to differentiate, but I don't think there's a way to completely prepare you." New teachers' feelings of inadequacy related to meeting the needs

of diverse learners are not uncommon, and many teacher preparation programs are addressing this concern (Blanton, Pugach, & Florian, 2011; Florian & Linklater, 2011). Quite significantly, teaching fellows with special education licenses did not report differentiation as an area of low self-efficacy. Indicating that their teacher preparation program sufficiently prepared them to differentiate instruction one fellow responded to another fellow's concerns about differentiating saying, "I would have to disagree with that just because, being special ed I know how to differentiate things." Feelings of high self-efficacy related to differentiation were reiterated by each of the three special education fellows. Perceptions of low self-efficacy about differentiation persisted as the school year reached its mid-point. Queried again about meeting the needs of diverse learners a fellow reported, "I've been playing around with it for a few months, and I still don't know if I've figured it out." This was a sentiment repeated throughout the school year.

By the end of the school year, participants all felt that they had developed skills that would allow them to better meet the needs of diverse learners, though they emphatically stated that they still had a lot of room for improvement. One fellow illustrated this feeling well in an end of year interview saying, "I think it's something that I'll always have to reflect on. I have been doing it from the beginning of the year, but it's still something that I think, I could be meeting their needs better." In particular, teaching fellows who did not have special education licensures felt that they needed more experience during their undergraduate preparation programs with meeting the needs of children with learning disabilities and identified this as an area of low teaching self-efficacy. Despite feeling underprepared at the start of the year, participants felt that the structure of the Teaching Fellowship program allowed them to gain essential practice in a supportive environment and felt that they would be better prepared to independently differentiate instruction during their next year of teaching.

Classroom and behavior management. Classroom or behavior management was a universal concern for participants and all expressed low self-efficacy related to managing student behavior during the early weeks of the school year. A connection between new teachers' self-efficacy and struggles with classroom management has long been known (Melnick & Meister, 2008; Woolfolk, Rosoff, & Hoy, 1990). In an early year interview about managing student behavior, one fellow summed up her frustration with managing student behavior by saying, "There's already been at least a couple of days when at the end I take them to the bus, and when I get back to the classroom, I just let go of my tears." Careful analysis of the data revealed that fellows' perceived low self-efficacy about classroom management was specifically related to several factors. Some concerns were related to typical classroom concerns such as students raising hands, being out of their seats at inappropriate times, or refusing to follow directions. "There's that child who is running around, and crawling on the floor, and you have to focus your attention to him instead of the nineteen other children." Teaching fellows universally agreed that more experience would help them feel better about these issues. Another concern about classroom management was related to establishing boundaries with students. Said one teaching fellow, "I don't know when I am crossing the line being too much like a jerk or if it's appropriate." This was of particular concern for teaching fellows who worked with students in grades five and older.

Many participants struggled with adopting behavior management systems that were unlike the systems they utilized during their professional internship (student teaching)

experiences. Teaching fellows wrestled with personal and professional beliefs about the systems they were asked to use, and often did not feel the school-wide behavior management programs were best for children. Describing the clip system her school used a teaching fellow explained,

> It's a school-wide thing so we kind of have to do it. We actually move their clips right now. Unless they do something really great in the morning, we'll move them up after nap time. We started moving clips up if they stayed on their cot and took a nap, which is what our mentor teacher was doing too. I just don't really like it.

School-wide behavior management plans contributed significantly to their perceived low self-efficacy about their abilities to manage their students' classroom behaviors. By mid-year, teaching fellows' perceived some improvement with their ability to manage student behaviors. Said a teaching fellow, "I have noticed it's progressed throughout the year. I think it comes with the kids getting accustomed to me and how I am teaching." Despite this, classroom and behavior management continued to be an area of challenge.

During end of year interviews, participants reported significant growth in managing classroom behaviors and universally communicated that, "I just think this whole experience has in general has made me more prepared like dealing with student behaviors and management." No matter their perceived growth, however, teaching fellows also reported that they had continued anxiety about managing classroom behaviors and still felt low self-efficacy related to classroom management. One fellow illustrated this viewpoint well saying, "I think I was lucky to have had so much support when we had difficult behavior situations so lately I've been wondering how much support I'll have in the future and being a little worried about that." By the end of the year, participants realized that each year they would encounter new and challenging behaviors. So, while they reported an increase in self-efficacy related to behavior management, they still communicated that it remained an area of low self-efficacy.

Parent/caregiver communication. Connected to both differentiation and classroom management was parent/caregiver communication. In a comparative study of new and experienced teachers, researchers Melnick and Meister (2008) found that new teachers feel significantly lower comfort in communicating effectively with parents/caregivers. Similarly, at the start of the year, participants identified low self-efficacy about their abilities to communicate concerns regarding student learning and behavior with parents. "I am very nervous to talk to the parents, because I don't want to say the wrong thing." While they all expressed an intense desire to communicate with their students' families often and could identify effective ways to initiate communication, they felt low self-efficacy about their abilities to convey the messages effectively.

> When we have parent-teacher conferences and when we have meetings with other teachers, I don't want them - the parents - to think that their student isn't being helped. I don't want them to feel held back. So there's a lot of anxiety about, 'Am I doing the right thing?' or 'Should I be doing more?'.

By mid-year, participants gained considerable experience in talking with parents/caregivers and spent time during graduate school seminars discussing parent interactions. This contributed to an increase in perceived self-efficacy in their ability to effectively communicate with parents/caregivers. One middle level fellow even identified her first parent-teacher conferences as one of the most positive experiences of the first semester saying,

> I would say that my positive was parent-teacher conferences. I think they went really well and they were nice because at the beginning of the year, we didn't know the kids yet. Having those weeks with the kids and meeting with the families again was really nice to talk to them and talk about their kid and see how they were feeling about everything.

As the year concluded, while not all teaching fellows identified an increase in self-efficacy regarding parent/caregiver communications, a majority expressed some growth.

One area that participants reported an increase in self-efficacy was related to making parent/caregiver phone calls. Explaining how her self-efficacy about making parent phone calls changed from the start to the end of the school year, one fellow reported proudly, "I remember having my mentor teacher sit with me and I was like, 'Could you just sit here for comfort?' But the other day, she actually wasn't there that day and I just went and did it on my own and told her about it." A few teaching fellows continued to express concerns about future parent/caregiver interactions saying, "I mean you never know what they're going to say, and every year you have to make new relationships, so it's not like you have the same parents every year." While teaching fellows did express these reservations, they also overwhelmingly believed that they did experience an increase in self-efficacy related to parent/caregiver communication.

Collaboration. Collegial collaboration is an essential component of effective PDS work (Brindley et al., 2008), and collaborative partnerships should be founded on mutual trust (Berry, Daughtrey, & Wieder, 2009). Within the subcoded categories of collaboration (i.e., mentor teacher, co-teaching, school personnel, and other fellows), participants reported both high and low perceived self-efficacy. Participants felt low self-efficacy in relation to their ability to effectively co-teach with special education teachers or in reverse for teaching fellows with special education licensures. "I think a difficulty is going in there as a first year teacher and not feeling comfortable enough to say anything or not feeling confident enough to say anything to teachers that have been teaching many years." Other researchers have also identified this paradigm in relation to new teachers and co-teaching. Conversely, participants identified high self-efficacy in relation to forming collaborative partnerships with their mentor teachers, school personnel (e.g. custodial and office staff), and other teaching fellows (Figure 2). Excitedly describing how she felt about her mentor, one fellow said, "She treats me as if I'm a teacher. She treats me as an equal even though I'm clearly half... she's obviously been teaching for a lot of years. But she's like 'You've got this!'." Mentor teachers were found to contribute greatly to fellows' perceptions of their abilities to collaborate with other school personnel.

As the school year came to a close, participants identified collaboration as an area of significant growth and reported having high self-efficacy about their ability to engage in collaborative practices. Illustrating this, one fellow enthused, "I feel confident about going in and going to a brand new school where I have no connection after this year." Teaching fellows identified several PDS structural factors that contributed to their strong self-efficacy about collaboration. Teaching fellows felt that it was particularly beneficial to them to have other teaching fellows as sounding boards for successes and challenges, felt that their mentor teachers were essential for establishing positive collaborative partnerships, and appreciated having a Teaching Fellow Faculty Coordinator who provided collaborative support through seminars outside their school settings. Speaking about seminars as important collaborative experiences one fellow said, "I valued the seminars. I found that time valuable to collaborate and exchange

experiences." Teaching fellows also believed that the significant amount of time they spent in classrooms during their undergraduate PDS experiences contributed to their high self-efficacy related to collaboration. Building and sustaining collaborative partnerships was a significant area of high self-efficacy for all participants.

Developing positive student relationships. One area of high self-efficacy was in relation to developing positive student relationships. Overwhelmingly, participants felt that they were able to connect and engage with students on a high level and in a manner that communicated their personal care for each of their students. Teaching fellows attributed their comfort with students to the number of hours they spent in clinical placement sites during their undergraduate work. Speaking of the strength of their student relationships one fellow said, "I can't say what's going to happen in five years, but I really enjoy it. I really like having a relationship with my students. I enjoy caring about them." Indeed, it was positive relationships with their students that seemed to provide a resiliency factor in the face of struggles related to classroom management and meeting the academic needs of all learners. In the face of challenges, resiliency factors help individuals persist (Doney, 2013). When asked what made them feel best about their instruction, teaching fellows replied, "my students!" It was very clear that the formation of positive student relationships was a strength for fellows, one that provided resiliency that increased effort and persistence in other areas. These sentiments continued to grow and develop strongly over the course of the school year and represented an area of sustained high self-efficacy for participants. As the year came to a close, one teaching fellow emotionally expressed,

> I made it to a few of their soccer and baseball games, hockey games and saw them be excited that I was there and they're sad that I'm not going to be there anymore. So, I'm really proud of my relationships with them because, I mean, I've, we've all had issues and struggles and ups and downs, so I'm proud that tomorrow we're going to leave and we're going to leave on a positive.

The resiliency factors that participants gained from their strong self-efficacy in developing positive student relationships are hard to quantify, yet these factors were definitely a significant contributor to the findings of the study.

Knowledge Calibration as a Contributor to Self-Efficacy

Participants started the school year expressing equal parts nervousness and excitement about the coming year. Initially, when asked if they felt ready to begin the school year, participants resoundingly replied, "Yes, I am definitely ready to be a teacher and to have my own students!" indicating what, on the surface, appeared to be a high perceived self-efficacy about their abilities to start and finish the school year. For first year teachers, an overestimation of teaching abilities or poor knowledge calibration is not unusual (Al-Hazza et al., 2008; Cunningham et al., 2004). However, upon further probing it became clear that several areas were indicative of extreme anxiety and low teacher self-efficacy. When questioning went deeper, a teaching fellow in an early childhood setting revealed, "I had a lot of anxiety on the first day because I had students coming in... now that I'm thinking about it, that whole first week I was on the edge basically." When asked how she was managing her teaching and graduate school work,

another fellow replied, "I just feel like I'm not doing my best in anything. I feel like I'm trying so hard, but I don't think I am excelling in any area, as a teacher or as a graduate student." Change in self-efficacy was identified in some categories as the year entered its mid-point, and by the end of the school year, participants perceived an increase in teaching self-efficacy in each of the coded categories.

One early childhood fellow passionately reflected during an end of year interview, "I value this experience so much, especially being a partnership student, working with a fellow, and then becoming one. I definitely in the future, not right now, would want to influence some type of program like this in my school." Participants also recognized that their perceptions of self-efficacy changed over the course of the year and acknowledged that they began the year without a clear picture of their teaching self-efficacy. Said one fellow, "I thought I was comfortable at the beginning of the year but now I look back and I feel a lot more comfortable." Another reported, "My awareness of where I want to be has immensely changed." The impact of knowledge calibration was a significant contributor to the study's findings and its subsequent implications.

Discussion

Teacher induction programs are known to be an effective way to increase teacher retention (Ingersoll & Smith, 2004; Ingersoll & Strong, 2011), though the effectiveness of a PDS Teaching Fellowship program is underrepresented in the research literature. Beginning the school year, participants identified low self-efficacy related to differentiation, classroom/behavior management, parent/caregiver communication, and collaboration (co-teaching). High self-efficacy was found in relation to collaboration (mentor teachers, school personnel, and other teaching fellows) and developing positive student relationships. By the end of the school year, teachers reported an increase in self-efficacy in all areas, though self-efficacy was not rated highly in some categories. Several implications may be drawn from these findings.

As participants experienced the lowest self-efficacy related to differentiation and classroom and behavior management, teacher preparation programs should place particular emphasis on those components of undergraduate work and should continue to emphasize these concepts during PDS Teaching Fellowship seminars and professional development experiences. This is especially true for students who are not pursuing licensure in special education areas. Conversely, participants felt well prepared to collaborate with involved school and university parties. This study confirms that collaborative practices are essential components of PDS work (Brindley et al., 2008). As such, teacher preparation programs should continue to place emphasis on collaborative practices during undergraduate PDS work and should encourage mentor teachers to engage in highly collaborative practices with preservice teacher candidates. Participants also expressed high self-efficacy in relation to developing positive student relationships, adding further support to the large number of hours PDS undergraduate teacher candidates spend in partnership classrooms. As part of building collaborative partnerships and providing necessary quality professional development for new teacher induction, universities and PDS schools should also support the funding of a Teaching Fellow Faculty Coordinator. The findings from this study imply that the use of such a position contributed to new teachers' increase in self-efficacy, making the position one that Teaching Fellowship programs in other locations should consider implementing.

When questioned at the start of the school year, participants identified levels of high self-efficacy that were soon revealed to be incompatible with participants' experiences and knowledge. This type of overestimation of new teachers' abilities is common and should be expected (Al-Hazza et al., 2008; Cunningham et al., 2004). Consequently, it is imperative that mentor teachers, principals, and other PDS stakeholders anticipate poor knowledge calibration in teaching fellows. They should be prepared to offer integrated and ongoing support that will create and sustain resiliency factors. Doing so may help teaching fellows acclimate to a realistic and sustainable teaching self-efficacy.

Finally, findings from this year-long group case study imply that Teaching Fellowships that are part of a PDS model provide successful induction programming for new teachers. Teaching Fellowships offer supportive and collaborative experiences for new teachers and provide a structure that creates additional resiliency factors that increase teaching fellows' perceived self-efficacy. As high teaching self-efficacy is correlated to teacher retention (Tschannen-Moran & Hoy, 2007; Tschannen-Moran & Wolfolk-Hoy, 2001), this creates significant implications for future PDS work and research about Teaching Fellowships. While these findings constitute strong support for continued investment in PDS work, more research is needed to continue fleshing out the study's findings. In particular, it would be useful to have a greater understanding of the impact of Teaching Fellowship programs on new teacher self-efficacy at other universities that use similar and/or different PDS structures. Additionally, an identification of high and low areas of self-efficacy in new teachers who are teaching fellows would contribute meaningfully to the current body of knowledge. As PDS Teaching Fellowships present engaged and supportive structures for new teacher induction, these topics are relevant and meaningful.

References

Al-Hazza, T. C., Fleener, C., & Hager, J. (2008). Primary teachers' knowledge and knowledge calibration of early literacy practices. *Reading Matrix: An International Online Journal*, *8*, 1-11. Retrieved from http://www.readingmatrix.com/articles/al-hazza_fleener_hager/article.pdf

Bandura, A. (1997). Self-efficacy. *Harvard Mental Health Letter*, *13*, 4-7. Retrieved from Retrieved from https://journals.ebsco.com/

Berry, B., Daughtrey, A., Wieder, A., & Center for Teaching Quality. (2009). Collaboration: Closing the effective teaching gap. *Center for Teaching Quality*. Retrieved from http://teachersnetwork.org/effectiveteachers/images/CTQPolicyBriefOn_COLLABORATION__021810.pdf

Billingsley, B.S., Griffin, C.C., Smith, S.J., Kamman, M., & Israel, M. (2009). A review of teacher induction in special education: Research, practice, and technology solutions. *National Center to Inform Policy and Practice in Special Education Professional Development*. Retrieved from http://ncipp.org/reports/rs_1es.pdf

Blanton, L., Pugach, M., & Florian, L. (2011). Preparing general education teachers to improve outcomes for students with disabilities. *American Association of College for Teacher Education*. Retrieved from http://www.ncld.org/wp-content/uploads/2014/11/aacte_ncld_recommendation.pdf

Brindley, R., Field, B. E., & Lessen, E. (2008). What it means to be a professional development school. *National Association of Professional Development Schools*. Retrieved from http://napds.org/9%20Essentials/statement.pdf

Buchanan, J., Prescott, A., Schuck, S., Aubusson, P., Burke, P., & Louviere, J. (2013). Teacher retention and attrition: Views of early career teachers. *Australian Journal of Teacher Education, 38*, 112-129. doi: 10.14221/ajte.2013v38n3.9

Carr, S. C., & Evans, E. D. (2006). Helping beginning teachers remain in the profession: A successful induction program. *Teacher Education And Special Education, 29*, 113-115. Retrieved from http://tes.sagepub.com/content/29/2/113.full.pdf+html

Cunningham, A. E., Perry, K. E., & Stanovich, K. E. (2004). Disciplinary knowledge of K-3 teachers and their knowledge calibration in the domain of early literacy. *Annals Of Dyslexia*, *54*, 139-167. doi: 10.1007/s11881-004-0007-y

Creswell, J.W. (2013). *Qualitative inquiry and research design: Choosing among five approaches*. Thousand Oaks, CA: Sage.

Darling-Hammond, L. (2006). Constructing 21st-century teacher education. *Journal of Teacher Education*, *57*, 300-314. doi: 10.1177/0022487105285962

Doney, P. (2013). Fostering resilience: A necessary skill for teacher retention. *Journal of Science Teacher Education, 24*, 645-664. doi: 10.1007/s10972-012-9324-x

Florian, L. & Linklater, H. (2010): Preparing teachers for inclusive education: Using inclusive pedagogy to enhance teaching and learning for all, *Cambridge Journal of Education*, *40*, 369-386. doi: 10.1080/0305764X.2010.526588

Gall, M., Borg, W., & Gall, J. (1996). *Educational research: An introduction*. White Plains, NY: Longman.

Gonzalez, L. E., Brown, M. S., & Slate, J. R. (2008). Teachers who left the teaching profession: a qualitative understanding. *Qualitative Report*, *13*, 1-11. Retrieved from http://www.nova.edu/ssss/QR/QR13-1/gonzalez.pdf

Hughes, G. D. (2012). Teacher retention: Teacher characteristics, school characteristics, organizational characteristics, and teacher efficacy. *Journal of Educational Research, 105*, 245-255. doi: 10.1080/00220671.2011.584922

Ingersoll, R. M., & Smith, T. M. (2004). Do teacher induction and mentoring matter?. *NASSP Bulletin*, *88*, 28-40. Retrieved from http://repository.upenn.edu/cgi/viewcontent.cgi?article=1134&context=gse_pubs

Ingersoll, R. M., & Strong, M. (2011). The impact of induction and mentoring programs for beginning teachers: A critical review of the research. *Review of Educational Research*, *81*, 201-233. doi: 10.3102/0034654311403323

Jamil, F. M., Downer, J. T., & Pianta, R. C. (2012). Association of pre-service teachers' performance, personality, and beliefs with teacher self-efficacy at program completion. *Teacher Education Quarterly, 39*, 119-138. Retrieved from http://files.eric.ed.gov/fulltext/EJ1001446.pdf

Kane, R. G., & Francis, A. (2013). Preparing teachers for professional learning: Is there a future for teacher education in new teacher induction?. *Teacher Development, 17*, 362-379. doi:10.1080/13664530.2013.813763

Melnick, S. A., & Meister, D. G. (2008). A comparison of beginning and experienced teachers' concerns. *Educational Research Quarterly*, *31*, 39-56. Retrieved from http://files.eric.ed.gov/fulltext/EJ788428.pdf

Stake, R. E. (1995). *The art of case study research.* Thousand Oaks, CA:Sage.

Tschannen-Moran, M., & Hoy, A. W. (2007). The differential antecedents of self-efficacy beliefs of novice and experienced teachers. *Teaching and Teacher Education*, *23*, 944-956. doi:10.1016/j.tate.2006.05.003

Tschannen-Moran, M., & Woolfolk-Hoy, A. (2001). Teacher-efficacy: Capturing an elusive construct. *Teaching and Teacher Education*, *17*, 783–805. Retrieved from http://mxtsch.people.wm.edu/Scholarship/TATE_TSECapturingAnElusiveConstruct.pdf

Wheatley, K. (2005). The case for reconceptualizing teacher efficacy. *Teaching and Teacher Education*, 21, 747-766. doi: 10.1016/j.tate.2005.05.009

Woolfolk, A. E., Rosoff, B., & Hoy, W. K. (1990). Teachers' sense of efficacy and their beliefs about managing students. *Teaching And Teacher Education*, *6*, 137-148. doi:10.1016/0742051X(90)90031-Y

Wyatt, M. (2015). Using qualitative research methods to assess the degree of fit between teachers' reported self-efficacy beliefs and their practical knowledge during teacher education. *Australian Journal of Teacher Education, 40*. 117-145. Retrieved from http://ro.ecu.edu.au/cgi/viewcontent.cgi?article=2582&context=ajte

Sara Hartman an Assistant Professor of Early Childhood Education and the Faculty Coordinator for a PDS Partnership in The Patton College of Education at Ohio University. Chris Kennedy is an Associate Lecturer of Reading Education and a Faculty Coordinator for two PDS Partnerships in The Patton College of Education at Ohio University. Brian Brady earned a Master's Degree in Education with an emphasis on K-12 Language Arts at Ohio University. He teaches Language Arts in Shanghai, China.