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Implications of the School Improvement Engine for Teacher Retention and School Organizational Health

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MS, Walden University, 2005

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Dissertation Submitted in Partial Fulfillment

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Doctor of Philosophy

Leadership, Policy and Change in Education

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Abstract

Teachers working in urban schools in the United States are among those most at-risk for leaving the profession due to poor working conditions and lack of collegial relationships with school leaders and peers, among other factors. Use of professional development tools, such as the School Improvement Engine (SIE), may improve teacher retention and school organizational health; however, little research exists on the use of the SIE in charter schools. The purpose of this case study was to investigate New York City (NYC) school data on teacher retention and student achievement, how NYC charter school leaders participating in the program implemented the SIE, and how teachers and administrators perceived the impact of the implementation on their individual growth and desire to stay in their positions. Peter Senge's organizational learning theory was used to examine how SIE tools may promote a healthy organization in 5 areas (systems thinking, personal mastery, mental models, building shared vision, and team learning). Teacher retention and student achievement archived data for NYC schools were descriptively analyzed. Individual interviews were conducted with a purposeful sample of 10 teachers and 4 school leaders from NYC charter schools implementing the SIE. Interview data were analyzed using open coding to identify key themes. Results indicated that SIE schools outperformed other NYC schools (charter and public) in English Language Arts (ELA), math, and teacher retention. Participants stated that tools like peer review helped them to become more effective in their teaching. Positive social change impacts include providing data that support the use of the SIE to improve teacher effectiveness, teacher retention, and the overall school organizational health.

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Dedication

I dedicate my dissertation to my parents, Ellen and Richard Becker; my husband, Michael DiGaudio; and my daughter Josephine DiGaudio. Without their support, I would have not been able to achieve this dream. Thank you for being the foundation of who I am, and who I hope to be. I love you all so very much.

Acknowledgments

There are no words that can truly express my gratitude to Dr. Sara Asmussen, who saw some glimmer of ability and supported my work as a "DCAT'er" back when this project was just getting started. It is because of her that I am where I am today. However, my path would never have crossed with Sara's if it weren't for Dawn Samuel, who realized that I was the "data head" among the two of us and asked me to attend the data meetings. These two incredibly talented women embody all of what I continue to strive to be - a dedicated practitioner who builds capacity in my peers to make the educational experience better for all.

I would be remiss if I did not thank my committee. I had the pleasure of meeting Dr. Amie Beckett, my methodologist, during my first residency. Her support for my topic and guidance has kept me rooted in my methodology. And to my dissertation chair, Dr. Felicia Blacher-Wilson: Your support has been invaluable. Dr. BW took me on when my first chair left the University. She then patiently worked with me through all sorts of personal calamities. At some points, I never thought I would finish, but Dr. BW has always been a constant cheerleader and pusher to the finish line. Thank you so very much, Dr. BW!

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Chapter 1: Introduction to the Study

Teachers working in high poverty, urban environments are usually inexperienced, unsupported, and transient within the workforce, according to researchers (see Milner, Murray, Farine, & Delale-O'Connor, 2015; Ronfeldt, Loeb, & Wyckoff, 2013). School districts across the United States struggle to retain teachers in high poverty areas for many reasons, including professional support, collegial relationships and teachers' own view of their success (Gu & Day, 2013). New teachers in particular who feel they are not successful in these schools to leave their posts for other positions out of the field (Ingersoll, 2012).

Teacher transience, meaning that teachers remain in their position for a short period, creates tension and uncertainty for students. Inconsistent staffing of teachers results in students lacking access to dependable adult relationships in the school setting (Collie, Shapka, & Perry, 2011). In addition to students needing stable relationships with their teachers, instruction diminishes with transience. Researchers found that in schools with high transience, leadership fails to support staff members by providing a positive working environment (see Simon & Johnson, 2013; Song, Martens, McCharen, & Ausburn, 2011).

In an attempt to address the issues of teacher retention, transience and poor student outcomes in United States schools, in 2006, the U.S. Department of Education created a program to increase reading and math outcomes for students. Known as the Teacher's Incentive Fund (TIF), the initiative involved the awarding of funds to applicants from across the country. In New York City, the Partnership for Innovation in Compensation for

Charter Schools (PICCS) received funding in the first round of the grant for projects in 10 independent charter schools (known as the TIF 2 cohort). Using TIF funding, PICCS staffers developed a program to help participating charter schools increase students' learning outcomes by improving teacher effectiveness. In order to improve outcomes in English language arts and math, PICCS staffers offered professional development activities to support teachers in achieving this goal (Measurement Inc, 2010).

PICCS staffers also wanted to address the issue of teacher transience by offering teachers financial incentives for achieving certain student outcomes. These programs became known as the School Improvement Engine (SIE). Participating New York City charter schools use the SIE for teacher professional development (CEI-PEA, 2007). The implementation of the SIE series also provided additional opportunities for professional growth, with the objective that teachers would grow in their pedagogical practice and assume leadership roles to promote the use of the tools with other teachers (CEI-PEA, 2007).

Researchers have primarily examined how teachers can develop pedagogical skills to improve student outcomes (Ash & D'Auria, 2013). They have not extensively studied what districts and schools can do to support teachers in improving their effectiveness or how districts and schools can retain skilled professionals and prevent them from leaving the field (see Milner, Murray, Farine, & Delale-O'Connor, 2015; Ronfeldt, Loeb, & Wyckoff, 2013). The purpose of this case study was to investigate whether professional development tools like the SIE positively influenced individual growth and retention among teachers and the organizational health of schools. This distinction is important in

understanding how schools can support their school community through professional and organization development.

The discussion in this chapter includes learning how TIF schools attempted to build a learning organization through the use of these professional development tools. The findings in this study may help researchers better understand how other schools can adapt the SIE to develop capacity in their organizations, further their mission and vision, and retain quality teachers. Implications for positive social change include refocusing teacher training to develop internal talent, which may promote leadership from within learning organizations (Senge, Scharmer, & Winslow, 2013). When the potential for this type of systemic change occurs in school buildings, the whole school improves, rather than just certain aspects of the school.

Background

Lawmakers passed legislation under Part D, Section V of the Elementary and Secondary Education Act awarding funding to the United States Department of Education, (U.S. DOE) thus creating the TIF Grant (U.S. DOE, 2006). Grantees were to develop programs that would increase student academic achievement, conduct multiple classroom observations and encourage educators to take on additional leadership positions through incentive pay. Student outcomes were the measure of program success (U.S. Department of Education, 2006; CEI-PEA, 2007).

Manzoor (2011) asserted that leaders promote organizational success by developing a positive relationship with their employees. Recent literature on teacher turnover rates in urban school settings support this assertion on relationships; the better a

relationship leaders have with their employees, the better organizations perform (Simon & Johnson, 2013; Song et al., 2011). Leaders must unite the workforce by positively recognizing strong performances by teachers to build on those professional gains. Senge, Scharmer, and Winslow (2013) echoed the relationship between motivation and ability in their reflection of organization learning. While leadership style contributes to the overall success of an organization, the impact of that leadership style on teacher growth has not been captured (Simon & Johnson, 2013; Song et al., 2011). It is important to understand how leadership style affects growth in the whole organization.

An investigation of the impact of the leader to workforce relationship in the Chicago Public Schools occurred through the TIF grant. Glazerman and Seifullah (2012) discussed how an incentive program involving pay-for-performance in Chicago Public Schools affected student outcomes by providing professional development opportunities for teachers. Chicago Public Schools were participants of the Teacher's Incentive Fund first cohort (U.S. DOE, 2006). Leaders at the school system created the Teacher Advancement Program (TAP) to encourage teachers to take on new roles and responsibilities by offering incentives (U.S. DOE, 2006). Their ultimate goal was to help increase student achievement (U.S. DOE, 2006).

Although Glazerman and Seifullah (2012) examined professional development outcomes for teachers, they focused on retention rates for the cohort of schools rather than on promotions earned in the school. Furthermore, the researchers focused on outputs such as retention and student achievement (Glazerman & Seifullah, 2012). They did not address

impacts of TAP on teachers' motivation to stay in their schools over the period of the grant (Glazerman & Seifullah, 2012).

Retention and student achievement are an important distinction of many professional development programs currently being implemented across schools in the United States and beyond: measures of success include how long teachers remain on their post, or how reading and math scores for students increased (American Institutes for Research, 2016). It is unknown how teachers move up career lattices, nor has a relationship been determined between teacher retention, student performance, and promotions as a measure of a successful learning organization (Lochmiller, Sugimoto, & Muller, 2016).

Simon and Johnson (2013) and Song et al. (2011) identified the reasons behind teacher turnover as a social issue related to working conditions and leadership, not due to student relationships. The issue of social relationships among staff remains a factor in developing strong learning organizations (Senge, 1990; Senge et al., 2013). Spurlock (2010) discussed how collaboration among teaching staff would increase student outcomes though the organization in which they worked needed to support that collaboration for it to be successful. The study demonstrated that teachers need regular communication and training to implement change. While the study focused on the issue of organization health, with communication being a key component, it did not concentrate on the impact of the teaching staff over time, only student achievement results.

In other studies and further discussed in Chapter 2, there is a lack of research that uses teacher retention, promotion and increased student outcomes as measures of a healthy

learning organization. For example, Özdemir (2012) conducted a study of 305 primary school teachers and found that without strong organizational health, motivation to succeed was low. However, the study does not correlate high motivation and teacher promotion as a result of strong organization health. Additionally, McMurray (2012) wrote about how school principals cultivated their school culture by delegating leadership roles to teachers and encouraged open conversations on how to honor their schools' mission.

Firestone (2014) also concluded that good teachers need support and autonomy to continue their work, without being weighed down by poorly performing ones. This balance between promoting the work of good teachers and building trust while working to remove poor performing ones also creates the environment in which learning and leadership occur. In studying the data from the TIF cohorts, we can begin to understand how leaders can implement individualized professional development tools like the SIE to create strong learning organizations that promote individual capacity while furthering mission and vision.

Problem Statement

There are few research examples that indicate how a learning organization can be considered healthy by connecting how those organizations promote teacher retention and promotion. Furthermore, there is a lack of research which shows the activities of healthy organizations (Senge, 1990) to student performance. As discussed in detail in Chapter 2, teacher professional growth and promotion have a causal relationship with increased student performance (AIR, 2016; Glazerman & Seifullah, 2012). In other studies, leadership promoted motivation to grow (Firestone, 2014; Ozdemir, 2012; Schecter &

Qadach, 2012). The researchers in these studies did not examine how strong organizations influence teacher growth and promotion. When school leaders review data and evaluate the instruments of professional development in their schools, an understanding of how these instruments develop individual leaders and promote organization health for the entire school (CEI-PEA, 2016; Smith, Crookes, & Crookes, 2013).

Healthy organizations are those "…where people continually expand their capacity to create the results they truly desire, where new and expansive patterns of thinking are nurtured, where collective aspiration is set free, and where people are continually learning to see the whole together" (Senge, 1990, p. 3). The professional development plans that local districts and schools provide to their teachers do not include how overall teacher growth contributes to the success of the school organization (as in student achievement rates, teacher retention, and promotion, making their states AYP goals). Researchers have not examined the teacher's professional development experience within the organization, and how it developed that teacher's capacity as a leader and helped effect change for the school by the school's mission and vision.

A lack of research in this area may contribute to additional problems with teacher retention rates in the field. Currently, teacher dissatisfaction is causing many to leave the field altogether (Ingersoll, 2012). The tools of the School Improvement Engine (SIE), curriculum mapping, data-driven instructional practices, and peer review were implemented in the TIF cohort of schools to bridge the gap of teacher transience. By examining this case study data and the perceptions of the implementation of the SIE tools, a better understanding of how local schools and districts train their teachers may result in

replicating the SIE tools on a larger scale. The research which examines teacher outcomes through observation such as in Chicago TAP (Glazerman & Seifullah, 2012), links performance to student outcomes, this case study showed how professional development tools like the SIE influenced individual growth and retention among teachers, and how this growth in capacity affects the school as a whole.

Purpose of the Study

The purpose of this case study was to investigate whether professional development tools like the SIE positively influenced individual growth and retention among teachers and the organizational health of schools. Teachers, particularly those in high-poverty, urban areas are highly likely to leave their posts as a result of poor salaries and poor support from leaders and peers (CEI-PEA, 2007; Milner et al. 2015). Teachers in urban areas, in particular, are highly transient because they encounter more than just low academic performance in their students, and are often ill-equipped to overcome these obstacles, resulting in their leaving their posts (Simon & Johnson, 2013).

The data for this case study included interviewing teachers who participated in the TIF grant in the PICCS schools, as well as participating school leaders, PICCS administrators, and data related to student achievement and teacher retention. These participants have worked in the charter schools involved in any of the PICCS cohorts, TIF 2 (2007-2012), TIF 3 (2010-2014) and TIF 4 (currently in progress). PICCS administrators offered a bird's eye view of systemic change within each school, having observed through feedback and data collection with an outside evaluator (Measurement Inc.) the effect the tools have had on participant growth and overall school performance.

Case studies are used to explore a process as described by the members of the participant pool (Creswell, 2014). I examined how teachers used the programs of the SIE to improve their personal practice (their ability to use data to make curriculum decisions, map lesson plans, and peer review to improve their teaching in the scope of the school organization). I also examined how the organization supported each participant's pedagogical practice (Senge, 1990). By interviewing the participants from the TIF cohorts on how the implementation of the SIE tools improved their ability to grow and lead, I was able to uncover insights on how school leadership promotes individual growth and cultivates a learning organization dedicated to furthering the mission and vision of the school. Triangulating this testimony with teacher retention rates and student performance for the TIF schools in PICCS, a deeper understanding of how learning organization theory is applied to affecting positive change in other schools that struggle to promote organizational health through building capacity in their individual teachers.

Research Questions

The research questions created for this case study came from the purpose of this research, which was to investigate how professional development tools like the SIE impacted individual growth and retention among teachers, and how that individual growth affected school organizational health. Senge's personal and learning organizational theory (1990), built on five disciplines (systems thinking, personal mastery, mental models, building shared vision and team learning) was the theoretical framework. The SIE tools implemented in the participating NYC Charter Schools were monitored and supported by PICCS staff, organizational leadership and teachers. The research questions below reflect

how each of the five disciplines from Senge's theory may support and promote teacher retention and promotion in creating healthy, successful schools.

Central Question: In the view of case study participants, how did the PICCS School Improvement Engine programs provide opportunities for professional growth during and after the grant (TIF 2, 2007-2012, TIF 3, 2010-2015, and TIF 4 in progress)?

Subquestion 1: According to case study participants, how were the SIE tools implemented in TIF cohort schools during and after the grant?

Subquestion 2: How do teacher participants and administrators describe their professional growth, effectiveness, and retention, based on their experiences using the tools of the school improvement engine?

Subquestion 2a. According to participants, what elements of the school improvement engine had the greatest impact on their professional growth? What elements supported their decisions to remain on-post?

Subquestion 2b: What relationship do participants view between SIE implementation and student performance in reading and math?

Subquestion 2c: How do participant responses about teacher retention and student achievement compare with district data that are available in the public domain?

Subquestion 3: What are participants' perceptions of the effects of SIE on their school as a learning organization?

Theoretical Framework

Senge's (1990) theory of personal and organization learning is the framework that informed this study. Within the framework, five disciplines (systems thinking, personal

mastery, mental models, building shared vision, and team learning) are used to develop individual contributions to the organization and can potentially generate new learning for the good of the whole organization, not just the individual. These five disciplines result in shifting thinking from "helpless reactors" to active drivers in moving the health of the organization forward, leading from their individual talents and learning from their peers to support the mission of their organization (Senge, 1990, p. 69).

The goals of the TIF cohorts, where capacity building occurred as a result of school-wide participation in the implementation of the SIE tools, is supported by Senge's theoretical framework (1990). Senge's framework, though written so long ago, is still relevant today. Senge's work provides a means in which to understand how organizations work internally to carry forth their mission while utilizing the talents of their workforce (Erdem et al., 2014; Retna & Ng, 2016). This study used Senge's (1990) framework to explore how individual participants in TIF cohort schools developed leadership skills that aided in their personal, professional growth, and also that of their organization.

Nature of the Study

The nature of this study was qualitative, using a case study approach. Creswell (2014) defined the case study approach as an in-depth look at an event. The event in this case study is the implementation of the SIE tools in PICCS TIF schools and the impact that the implementation of these tools had on individual teacher growth and how it promoted the development of the school as a learning organization. Several qualitative approaches were under consideration for this study, but ultimately the case study approach was the best fit because the participants all come from different schools and have different

experiences with the SIE tools in their unique learning organization. Participants addressed the uniqueness of each charter school model and leadership style, and discussed how this affected the implementation of the SIE tools on individual teacher growth, and ultimately how it promotes a school as a strong learning organization. Further discussion of these reasons appears in Chapter 3.

I interviewed 15 participants (approximately 10% of the total) from the TIF grant cohorts, evenly distributed from each cohort (5 participants from TIF2, 5 participants from TIF3, and 5 participants from TIF4). To triangulate data that is consistent with case study research, teacher retention rates and promotions (to leadership roles such as PLC Coach, Data Coach, Teacher Leader, Mentor Teacher, Master Teacher as examples) during this grant period supported the influence this model had on the TIF cohort schools.

PICCS maintains relationships with all schools, and after the grant period ends, offers continued professional development opportunities and learning groups to support the program goals of school improvement. Through this relationship, 15 participants from the TIF cohort schools were willing to share their perceptions of the tools and training provided by the grant and how it affected their growth during the life of the grant and beyond the grant period. These interviews served as a key piece of the data set, triangulated with their schools' retention data, student performance, and teacher promotions. By examining the themes that emerged from the participant testimony in this case study (Creswell, 2014), I explored how the SIE tools promoted individual growth, and ultimately resulted in the "generative learning" (Senge, 1990) from these individuals that supported organizational growth and health.

This case study format was used to investigate how the SIE as a professional development tool affected teacher growth, effectiveness, and retention of teachers, and how this capacity affects the school as a whole. The testimony collected from the participants revealed the influence using the tools had on their personal practice, in addition to the social impact it had on teacher relations with peers and leaders, in the scope of how these relationships contributed to the health of the learning organization and fostered teacher promotions. Unidentified factors revealed through these interviews deepened understandings related to professional development and the effect it has on the school as a learning organization. While TIF cohort results indicated that students achieved gains in reading and math scores (Measurement Inc., 2012), the case study testimony revealed the hard to measure elements that make teachers a success.

By capturing these factors and understanding how they translate to schools as learning organizations, program tools like the SIE can be replicated elsewhere to bridge the gap of basic needs for teachers in high poverty, low performing schools. Using Creswell's (2014) case study framework, the testimony of TIF teachers, school administrators and PICCS administrators, along with data on teacher retention rates and student achievement in reading and math revealed the importance of professional development (i.e., the School Improvement Engine) on the individual and reflected the overall health of the organization.

Definitions

Teacher Incentive Fund (TIF): "The Teacher Incentive Fund is authorized by P.L. 109-149 -- the Departments of Labor, Health and Human Services, and Education, and

Related Agencies Appropriations Act, 2006, Title V, Part D" (United States Department of Education, 2006).

Partnership for Innovation in Compensation for Charter Schools (PICCS): "PICCS is a comprehensive program designed to recruit, retain, develop and reward top quality teachers and school leaders at charter schools. Led by the Center for Educational Innovation – Public Education Association (CEI-PEA), PICCS is funded through federal grants from the Teacher Incentive Fund (TIF) program, which supports development of performance-based compensation systems to drive increases in student performance" (CEI-PEA, 2014).

Professional learning communities (PLCs):The PLC is a group of people where the environment is dedicated to fostering cooperation, emotional support, personal growth, and a synergy of efforts (Dufour & Eagan, 1999).

School Improvement Engine (SIE): Programs that improve school and student performance (PICCS, 2014).

Teacher Advancement Program (TAP): A program developed by Chicago Public Schools, which provided teachers with leadership roles and additional responsibilities with incentive pay (Glazerman & Seifullah, 2010).

Assumptions

I assumed that all participants in the study answered my questions honestly and effectively communicated their experience with PICCS and the impact it had on their professional growth. I also assumed that participants understood the directions of the interview, and did not feel coerced into answering questions with statements they

anticipated I might have wanted to hear. I also assumed that participants clearly understood the programs of the SIE and spoke effectively of their impact on their professional life and of how the tools impacted the school as a learning organization.

Scope and Delimitations

The purpose of this case study was to investigate whether professional development tools like the SIE positively influenced individual growth and retention among teachers and the organizational health of schools. The extent of this study included 15 participants from TIF 2, TIF 3 and TIF 4 (five from each cohort). These participants all worked for New York City charter schools that participated in the PICCS program ranging from 2007 to the present. The teachers and administrators that made up the participant pool answered questions regarding the five disciplines of Senge's personal and learning organization theory (systems thinking, personal mastery, mental models, building shared vision, and team learning). The research questions focused on these elements by asking participants to reflect on the impact that the SIE tools had on their professional growth, which of the tools were the most successful at supporting their growth, and how personal mastery with the tools (teacher capacity) promoted the mission of each school.

The testimony of the participants triangulated with their schools' retention rates, teacher promotions, and student outcomes in reading and math, shed light on how the SIE develops schools as healthy learning organizations. Poor performing teachers can negatively impact school culture and deter effective teachers' motivation to take on extra leadership responsibilities (Firestone, 2014). Chapter 3 details the section plan for participants. I worked with the PICCS program director to identify participants based on

the attrition rates of the participants at their charter schools. For example, while 150 teachers were original participants in the TIF2 grant beginning in 2007 (Measurement Inc., 2012), transience occurred over the five-year period.

Yin (2009) suggested working with a knowledgeable person to identify members of the participant pool, and the program director guided me in which participants of the TIF cohorts are still employed in their schools and consistently rated as effective per the Danielson Framework. Based on the criteria of remaining at the charter school and having been promoted during the life of the grant, the sample size would be approximately 10% of the original cohort or 15 participants.

Limitations

In order to control data management, the scope of the research was limited to 15 participants or roughly 10% of the total participant pool in PICCS during the years of 2007-2016. While this discussion appears in detail in Chapter 3, it is important to note that Creswell (2013) recommended using four to five cases for case study research, though more cases are utilized in this study, as there are three cohorts used in this study. By following these guidelines (Creswell, 2013), a saturation point appears- the point where testimony begins to repeat the same themes instead of illuminating new ones. Planning for 15 participants from three different cohorts allowed for testimony in two directions (semi-structured, face-to-face interviews and electronic forms).

Developing a case study protocol (Yin, 2009) allowed me to collect the testimony data related to individual growth and impact on the learning organization and make

connections to the data on the schools' student achievement in reading and math, teacher retention rates, and internal teacher promotions to leadership positions.

Significance of the Study

Research findings indicate that the role of organizational leadership and how individuals are cultivated under that leadership directly influence professional growth. Public domain data collected from TIF 2 schools demonstrated increased student outcomes in English Language Arts (ELA) and Math (Measurement Inc., 2012). The results of these exams were reported by the New York State Department of Education, and released to the public after the exams were scored and analyzed within the Department (NYSTP, 2011). These results are significant in that they reflect how the goals of the TIF grant proposal helped educators and school leaders understand student achievement through the use of the SIE tools. Additionally, participating schools using the SIE tools can better help educators understand how to generate learning from individual capacity building to support school mission and vision, and ultimately, organizational health (Senge, 1990).

Implications for Social Change

Often teachers are scrutinized for the results they achieve with student outcomes. With a dwindling pool of talented teachers staying in education, it is critical to understand how generative learning (Senge, 1990) in a healthy work environment can not only keep teachers teaching but also provide them with promotions as a result of their work with school improvement. By cultivating that framework with programs like the School

Improvement Engine, similar models created in schools across the country can provide teachers with the opportunity to lead, grow, and stay in the field.

Summary

The School Improvement Engine encompasses several programs aimed at improving a teacher's pedagogical practice. Curriculum mapping, peer review through Professional Learning Communities, a sustainable data culture and frequent observation provide opportunities for teachers to take leadership roles within each of these components. While these programs independently can produce successful advancement in teacher effectiveness, full implementation cannot occur without a healthy organization (Senge, 1990). Furthermore, without proper communication and support (Spurlock, 2010), teachers may not be properly motivated to carry out the tasks of school improvement as a school community.

Little research conveys the impact that school improvement programs like PICCS have on teacher advancement over time. By coming to understand the relationship of generative learning in the organization (Senge, 1990) on teacher promotion and retention, new frameworks can be designed to keep teachers in the field and satisfied with their positions in the school community. A discussion of this gap in the research appears in detail in Chapter 2.

Chapter 2: Literature Review

Introduction

The purpose of this case study was to investigate whether professional development tools like the SIE positively influenced individual growth and retention among teachers and the organizational health of schools. The professional growth of educators and the factors that contribute to their growth are often bypassed instead of focusing on how professional development programs make teachers more effective to improve student learning outcomes (Glazerman & Seifullah, 2012). The perspectives of participants offer an in-depth view of how teachers view their success (Ingersoll, 2012). I interviewed teachers who participated in the PICCS program from 2007-2016 to gain insight into the effects of professional development on their personal practice and how it affected their schools as learning organizations.

In spite of issues with teacher recruitment and retention in high-poverty areas (see Milner, Murray, Farine, & Delale-O'Connor, 2015; Ronfeldt, Loeb, & Wyckoff, 2013), researchers have inadequately examined professional development through the lens of organizational health. Peter Senge's work in this area is still an important framework for understanding how organizations move forward with their mission and vision while building internal capacity among their staff (Erdem et al., 2014; Retna & Ng, 2016). Senge evaluated the organization as a whole and how the individuals in that whole work together to fulfill mission and vision.

Literary Search Strategies

Some search strategies were employed to conduct this literature review. One strategy included using electronic databases and library sources that included, but were not limited to *Thoreau Multi-Database, Google Scholar, Academic Search Complete, and ProQuest Central*. Another strategy was to use keywords and search terms that included and were not limited to *staff development, professional growth, teaching and learning, professional growth and promotions, teacher mobility, organizational learning, school culture and organizational health, leadership impact on teacher growth and adult learning and schools.*

Theoretical Foundation

Senge's framework on organizational learning was used as the basis for understanding how professional growth impacts individuals and contributes to the health of the organization. These perspectives, regardless of the outlook, illuminate why organizations may succeed and fail, and why teachers in urban settings stay or go. Researchers focusing on organizational health and professional development have the same goals: establishing programs to increase teacher efficacy and student learning outcomes (see AIR, 2016; Glazerman & Seifullah, 2012).

Chester (2012) and Hopkins, Rully, Schiff and Fradera (2015) discussed the benefits of participating in professional learning communities (PLCs) for teachers' pedagogical skill acquisition. Coaching systems, as described by Costa and Garmston (2015), can pair teachers with more experienced ones to improve outcomes in ELA and math. Experiential learning can provide teachers an opportunity to collaborate with one

another and receive regular feedback to improve outcomes (Chesney & Benson, 2012). Similarly, teachers can practice with different interventions and share results using a platform such as action research to improve outcomes or skill (Kaye, 2014).

Implementing theoretical frameworks such as Habitus (Bobeth-Neumann, 2014), or belief theory (de Vries, 2014) indicated the same conclusions regarding professional growth: outcomes and efficacy may improve if the staff works together, learns from each other and is supported by leadership. However, none of these models, as described throughout this chapter, measure or discuss the impact on schools as healthy learning organizations (as in Milner, Murray, Farine, & Delale-O'Connor, 2015; Ronfeldt, Loeb, & Wyckoff, 2013). Based on my review of the literature, researchers using these models have not reviewed retention rates or school performance data (see Glazerman & Seifullah, 2012).

Schecter and Qadach (2012) studied how some teachers grow because of their personality traits, such as motivation, to be successful. However, teachers who do not have that predilection for intrinsic motivation need leadership in place that promotes collaboration. Leaders support teacher participation in the development of school improvement plans, and ongoing relevant training that includes content delivery and pedagogical support through peer review and coaching, either by peers or outside experts (Craven, Young & Han, 2014) can help teachers improve their practice. In this study, I sought to illuminate the individual perspectives of teachers using the School Improvement Engine tools. To achieve triangulation, I conducted interviews with teachers and also analyzed retention rates of those teachers, their promotions, and student achievement

results. These different perspectives illuminated themes (Creswell, 2009) in professional development and school health, and offered a unique opportunity for understanding what supports professional growth..

Chapter 2 divides into five sections. Within these sections, program descriptions include other performance-based incentive models, action experiential learning, coaching and feedback, organizational culture and climate initiatives, organizational frameworks, and other performance-based incentive plans. These sections are representative of the central research question and the types of learning that teachers who participated in the PICCS grant would have experienced with the SIE tools: PLCs, coaching, data-driven instruction, curriculum development, and evaluation. All of these elements are central to Senge's (1990) five disciplines within the personal and learning organization framework (systems thinking, personal mastery, mental models, building shared vision and team learning).

The researchers of these models also share many of the same factors relating to successful implementation of professional development plans: teacher participation in the development of the program, consistent implementation through regular training sessions, peer review or professional learning communities, and evaluation (Craven, Young & Han, 2014). The theoretical frameworks cited in many studies also supported the themes of professional development implementation, putting theory into practice through the models themselves. For example, one study cited how using social realist theory (Quinn, 2012) was the catalyst to supporting discourse among the faculty regarding resistance to professional development. By focusing on discourse and text, faculty collaborated on the

reasoning behind the resistance to learning and developed solutions to move forward with the training.

In the last section, performance-based incentive plans address the issue of organizational health through retention and recruitment. Researchers of several studies focused on urban areas like New York City (Goodman & Turner, 2012), and others focused on large districts like Charlotte-Mecklenburg (Kraft & Papay, 2015). All of these incentive programs indicated marginal growth in student outcomes and an incentive plan template that was common to the whole participant group. The researchers in each of these studies did not focus on how teachers grew professionally and what jobs they potentially held after the incentive plan was over (see Glazerman & Seifullah, 2012; Goodman & Turner, 2012; Kraft & Papay, 2015).

Literature Review

Professional Development Supports Retention

There is several professional development models used in schools across the United States. Professional development plans are meant to improve teacher efficacy that leads to improved student results (Schleicher, 2016). When teachers learn and feel fulfilled in their learning, they are improving their abilities and helping their students become better learners, which results in teachers that remain on-post (Schleicher, 2016).

The implementation plans for models that support retention share similar outcomes: increased teacher collaboration, peer review or professional learning communities established, teacher leaders acting as coaches, regular content support and pedagogical support results in improved learning outcomes for students. The qualitative

nature and methodologies in many of these studies (Fitzgerald & Theilhemer, 2013; Rao & Salunkhe, 2013; Schleicher, 2016; Shaffer & Brown, 2015;) show individual encounters with outcomes. For example, teachers discussed how working with experienced teachers helped them build trust and improve their teaching techniques (Rao & Salunkhe, 2013). The relationship between inputs, in the case of Rao and Salunkhe's (2013) study, was not investigated. This case study seeks to develop an understanding of the input of the school improvement engine tools and how, if any of those tools, made an impact on school health.

Experiential learning appears in the following sub-section, reviewed in the context of achieving outcomes such as increased collaboration (Shaffer & Brown, 2015), trust building (Rao & Salunkhe, 2013), and mentoring (Fitzgerald & Theilheimer, 2013). The research indicates not a lack of quality in these programs, but a lack of aligning inputs in professional development to outcomes regarding organizational health. If a school utilizes any one of these approaches, the result may be an increase in learning for individuals who participated in the study, but the impact on the whole school was not measured (as in evaluating teacher retention rates or student achievement outcomes).

Experiential learning.

Rao and Salunke (2013) concluded that human resources development (HRD) in the 21st century would need to be dynamic to the organization as a whole to thrive. If human resources departments developed programs that allowed workers to learn from their superiors, trust-building would increase, and productivity would increase, thus

contributing to the organizational health for the long term. Learning from leaders can improve trust and contribute to organizational health.

Fox, Muccio, White and Tian (2015) also investigated the idea of learning from others. In this study, a comparison connected the experience level of teachers to the openness of learning new ideas, such as in investigating experienced teachers' effectiveness with early career teachers trying new pedagogical approaches. This experience represented another dimension of learning from superiors (Rao & Salunkhe, 2013) because while the relationships built in these pairings demonstrated increases in outcomes; it did not represent any new information related to organizational health. For instance, in the Fox et al. (2015) study, the relationship between the new teacher and the seasoned teacher could inform overall school health by improving student outcomes, but there is no discussion of that result in the research. While both studies present trust building among staff, the gap remains on whether or not the cultivation of those relationships would lead to organization health, retention or promotion.

Researchers of other learning experiences showed positive contributions to the health of different organizations in education but did not track retention rates or promotions from within. Fitzgerald and Theilheimer (2013) stated that the professional development plan for Head Start programs focused on building teamwork. This approach resulted in a positive environment that promoted trust, respect and open communication with all members of the community, as in the findings of Rao and Salunkhe (2013). Through this type of support, the learners in the community worked together to troubleshoot through barriers and communicate back to leadership regularly.

While trust building as illustrated by these studies indicates positive contributions to the work environment and the organizational health, it is not known whether this more positive workspace resulted in an increase in retention rates or capacity building. If lead teachers in Head Start collaborated with newer staff (Fitzgerald & Theilheimer, 2013) or experienced teachers worked with new teachers and shared new ideas and best practices (Fox et al., 2015), there is no correlation to this relationship leading to in-house promotions or employees remaining on-post over a set period. In the study of the SIE tools in the PICCS program, teacher perspectives, individual teacher retention rates, promotions and student outcomes were evaluated to determine if a school is achieving organizational health over five year time periods (TIF 2 was 2007-2012, TIF 3 was 2010-2014, TIF 4 is still in progress).

Similarly, Shaffer and Brown (2015) found that special education teachers who worked with general education teachers in a co-teaching professional development model were able to share their content knowledge on the ground. As with Fitzgerald and Theilmiller (2013), the natural exchange of experience and support for each member of the team allowed for "reciprocity" of knowledge that supported pedagogical foundations in the classroom. It also improved relationships for the co-teachers. The experience of team teaching is not unique to the K-12 arena, Chesney and Benson (2012) found in higher education that peer partnerships had a "positive impact on collegiality" and also improved "pedagogy and skill development" as measured through a survey administered to participants at five different universities. Once again, the focus of these studies relied on these exchanges to improve efforts at collaboration on best practices, not aimed at how

these outcomes affected retention rates and promotions, student achievement or overall organizational health through other potential measures like state report cards or federal AYP reporting.

The impact of teachers working together measured positively in the studies discussed in this subsection. As in the research mentioned earlier regarding teamwork, there is a positive impact that teacher networks, or professional learning communities (PLCs) have on the "pedagogy and skills development" (Chester, 2012) of participating teachers. Hopkins, Rully, Schiff, and Fradera (2015) reported how the Philadelphia Education Fund's focus on teacher networks (PLCs) impacted professional development and recruitment through district-wide policy initiatives. The experience of learning from peers in PLCs became a "draw" for teacher recruitment by the Fund, but the overall results did not include retention and promotion. Therefore, the short-term effects of being engaged in a PLC may create a positive work environment that empowers teachers to collaborate; we do not know the long-term effects of continued engagement in such professional development.

DeLuca, Klinger, Pyper and Woods (2015) evaluated the strengths of professional learning communities through the Instructional Rounds process. Teacher and leader participants were challenged to work together to improve assessment for learning measures in their schools. Findings supported the improvement of implementing assessment for learning as well as finding the participants a positive conception and value of implementing assessment for learning. Again, the immediate result of engaging in this

activity created an avenue for collaboration and trust building. However, there was no investigation of the long-term effects of continued engagement.

Researchers also examined an experiential approach to professional development in adult learning settings. McNeil and Knight (2013), Dempster, Benfield and Francis (2012), Loo (2013), Evans (2015), Sormunsen, Keinonen, and Holbrook (2014), and Cooper (2013) evaluated the impact that modeling has on improving pedagogical content. While these studies differed in the content focus, the results of using modeling were similar to the findings of the studies that focused on peer partnerships and PLCs; a positive impact was measured that included an increased emphasis on communicating and trust building in the whole organization.

The long-term impact of continued use of modeling was not measured on teacher efficacy, retention, promotion or improvement in the school environment. Chesney and Benson (2012) also found that when teachers collaborate through action research and receive regular feedback, they were in a continual state of learning, which in turn improved their efficacy as teachers. Collaboration through action research (Chesney & Benson, 2012) is very similar to the findings of Sturmer, Konings, and Seidel (2013), who measured how a teacher's professional vision and knowledge increased through participating with peers in university coursework. The experience in all of these studies, of working with peers, learning from modeling, and receiving feedback, indicated a regular interaction between teachers focused on improving their practice. The researchers in these studies did not look at long-term results or evaluate how shifts in leadership among teachers providing feedback to their peers impacted the school organization as a whole.

The focus of the research discussed in this subsection showed the positive impact of efficacy and collaboration for teachers under different professional development models that encompassed an experiential learning component, which contributes to teachers remaining on-post (Simon & Johnson, 2013). These include learning about differentiated instruction (Dixon & Ward, 2014) or through Team Teaching (Lefoe, Parrish, Keevers, Ryan, McKenzie, & Malfroy, 2013); however, the gap still exists in how these interventions for adult learning resulted in any organizational growth as a result of the intervention. Furthermore, these studies did not show the long-term professional growth of teachers and other staff members, instead focusing on the outcomes that are typical to teacher efficacy- student learning.

Professional development through action research.

The commonalities between experiential learning and action research share the organization of peer groups, such as with math teachers (Kaye, 2014). The teachers' interventions are dependent upon multiple intelligence learning theory, metacognition, and content knowledge. While taking into consideration content area professional development, the relationship of the more experienced teachers to newer teachers is significant in establishing a condition for growth (Ado, 2013).

Retention, particularly among urban teachers rests on the positive social environment created by school leadership and peers (Simon & Johnson, 2013). Pairing new teachers with more experienced teachers occurred such as in Rao and Salunkhe (2013) and the Fox et al. (2015) studies, but looking at how their collaboration on innovations would make both sets of teachers successful at implementation did not. The

focus on conditions for growth is significant in informing why schools can foster healthy relationships among its staff, but the outcomes do not address the long-term impact of maintaining healthy relationships (Ado, 2013; Simon & Johnson, 2013). That is, the gap in the research remains concerning the potential conditions that promote high rates of teacher retention in schools, internal promotions and the overall impact those conditions have on student achievement.

Sutherland (2013) discussed the condition for growth when teachers research and understand how their students learn best. Furthermore, Seemiller and Priest (2015) found that action research is a continuum where educators can move regularly through exploration, experimentation, validation and confirmation. These researchers in these works all focus on the mechanism for learning more about learning. Benson, Brack, and Samarwickrema (2012) looked at action research as a means to support teachers in using Web 2.0 tools. In these studies, where the condition for continuous learning can be supported by leaders and also with tools (Benson et al., 2012), there was no evaluation of the long-term impact of teachers who remain at their posts. If the condition (Sutherland, 2013) is conducive to positive change in schools for years, but then shifts to being ineffective, we don't know the impact on retention, promotion and student achievement. The research in the schools participating in the PICCS program indicated these conditions and potentially shed light on the relationship between retention, promotion, and student achievement.

While Seemiller (2015) found that teachers and leaders move fluidly through different levels of learning, the Benson study found that learning with action research had

to be clearly organized and even offer additional motivation for teachers to participate. Burridge and Carpenter (2013) however found that outside vendors, in this case, the staff of the Evolve program, helped teachers and leaders come together to embrace different learning styles to help their adolescent population succeed in school. Furthermore, Hung and Yeh (2013) used the Interconnected Model of Teacher Professional Growth to place teachers in study groups. The study groups worked together in pedagogical practice and became a catalyst for teacher change.

To further this idea of working together to bring about teacher change through action research, Tattersall, Beecroft, and Freeman (2013) identified "bite-sized" sessions when giving new information to educators. By controlling the information to be learned in small sittings, the buy-in of implementing something new would be more successful and result in a higher participation percentage of the whole organization. Anderson, Steffen, Wiese, and King (2014) found that building theory of action statements helped schools identified weaknesses and measure the interventions through time. They found that by implementing theory to action, all participants in the organization would work collaboratively to increase the success of the initiative. Professional development through action research is an important aspect of improving teacher efficacy and building a healthy organization, but it does not capture the experience of the teacher regarding professional growth, or how they contributed to the school as a learning organization.

Professional Development That Supports Promotion

Promotions are not often considered for teachers within schools, because the positions are often solely administrative in nature, forcing teachers who want to move

forward with limited options in the organization (CEI-PEA, 2007). Costa and Garmston (2015) argued that "experience alone" is not enough to drive performance (p. 44). Coaching can be an opportunity for teachers to gain instructional support from peers or outside school experts. Much like the experiential approach to utilizing the theory of action (Anderson et al., 2014), coaching requires teachers to set a focus, an action and the desired outcome that will result in success (Costa & Garmston, 2015, p. 45). Furthermore, coaching is an important aspect of teacher growth, combined with other factors, such as school culture and leadership (Spelman & Rohlwing, 2013).

Gemeda and Tynjälä (2015) expanded on these factors, by focusing on the perceived barriers of professional development in schools. According to Hung and Yeh (2013) the implementation of coaching, and how to formulate teaching teams was also significant to the success of the model. Perkins and Cooter (2013) also stated that teacher capacity was a driver in successful coaching. Trivette, Raab, and Dunst (2014) observed teachers in the Head Start Program, supporting the openness of teachers to receive feedback were equally as important as the ability of the coach.

Woolley, Rose, Mercado, and Orthner (2012) took a different approach to feedback and coaching that was distinct from the other studies discussed in this section. The study focused on the use of a curriculum aimed at middle school education called CareerStart. By having middle school teachers use a mechanism that utilized a consistent language and set of practices, student outcomes, and teacher implementation strategies would have less variation. The premise was that teachers might implement professional development differently, based on their experience and perceptions of the training. By

using a framework like CareerStart, a reduction of those variances could result. The coaching and feedback teachers received on implementing CareerStart lessons would further lessen the difference in implementation.

Scripted feedback is significant because the findings suggest that the demand to demonstrate and replicate school reform will identify effectiveness across populations (Woolley et al., 2012). This approach to professional development utilizes one curriculum framework to drive professional development and increase student outcomes, which contrasts with the design of this study, which measures the effectiveness of the School Improvement Engine (SIE) through a differentiated approach that develops capacity, rather than appointing it. The research on other states' approaches to professional development is inconclusive (see Glazerman & Seifullah, 2012; Kraft & Papay, 2012).

Districts that use a "one size fits all" model suggest that inconsistent progress in student outcomes and teacher efficacy was a result of a one-tiered approach to teacher support (Goodman & Turner, 2012). Goodman and Turner's (2012) assessment of New York City Department of Education performance incentive programs discuss this notion of "one size fits all" models, and how inconclusive they can be based on the lack of diverse approaches to drive efficacy forward in the school. Glazerman and Seifullah's (2012) work on the Chicago TAP program mirrors these findings. The Woolley et al. (2012) study suggested that there might be merit in using a comprehensive curriculum to drive organizational unity and limit variance in implementing professional development initiatives in the classroom.

Another important consideration raised by Vandenbergh, Ros, and Beijaard (2014), which mirrors the capacity building element of this study, was that teachers are more effective when their peers coach them. Royster, Reglin, and Losike-Sedimo (2014) supported this line of thinking in a separate study that concluded general education and special education teachers learned best from each other when developing a robust inclusion model of instruction in their schools. Shaffer (2015) supported this idea of peer coaching in the discussion of supporting educators in a co-teaching model that utilized special education and general education teachers. Nishimura (2014) suggested that coaching as an effective professional development model for inclusion schools included, "observations, peer support, and ongoing feedback to empower teachers (p. 22)." Beyond different instructional models, coaching and feedback for novice teachers can make a difference in whether or not new teachers remain in their positions (Allen, 2013).

The training of new teachers, or induction support, also relates to the core issues of teacher retention in high-poverty districts (as illustrated in the description of teacher retention practices in Indiana by IES, 2012). Induction practices, as Allen (2013) discussed, would better serve new teachers with professional development activities that included peer review and as Owen (2014) described, the use of professional learning communities (PLCs). These two components of induction helped connect new teachers with experienced teachers in their schools and developed new teacher capacity to troubleshoot the issues of instruction, such as curriculum development and classroom management strategies (Allen, 2013, p. 79). Consistent with the other professional development activities, coaching, and feedback to staff provides a space that connects new

teachers and experienced ones to improve pedagogical practices. However, coaching and feedback, as with the other models, have not demonstrated a pathway to support teacher promotion and measure the growth of individual schools as learning organizations.

In this section, different methods of providing professional development will in the short-term produce positive results in building relationships and improving practice. For this study, what the research has shown is that we do not know what any of the professional development models will produce in the long term: if appropriately implemented, will teachers remain on-post in high poverty, urban environments? Will teachers develop trusting relationships with their peers and leaders in these schools? What data supports a healthy learning organization? Are student achievement results indicating growth? Are other state mandated reports on the school's performance showing growth? Are teachers being promoted? In the studies reviewed in this section, these questions remain unanswered. This research study attempts to look at urban schools in high poverty areas that have different leadership styles but have all implemented the tools of the SIE over a period of years. By reviewing participant feedback on the tools, by studying the long-term retention rates and promotions, and student achievement data, we can begin to understand how professional development aimed at improving capacity building within institutions can produce a healthy, high-functioning learning environment for all stakeholders.

Supporting the Learning Organization

The purpose of this case study was to investigate whether professional development tools like the SIE positively influenced individual growth and retention

among teachers and the organizational health of schools. One of the goals that this case study may unearth is the experience teachers had with their school climate. Abu-Hossain and Essawi (2014) found that those school leaders' views of evaluation and support directly affected the behavior of the teachers in the school community. Leaders who did not value assessment to support growth had teachers who also did not value evaluations for improvement; rather the work was a hindrance instead of being a transformative measure (p. 38).

Similar to Abu-Hossain and Essawi, Firestone (2014) also found that evaluation was an important part of the intrinsic motivation for teachers; however, it was also found that extrinsic motivators such as performance-based pay, was ineffective in instilling motivation in staff. Leadership was the driving force through evaluation to effect change in teacher attitudes toward their personal growth. Like Firestone, Hitka, Stachová, Balážová, and Stacho (2015) found that motivation, when part of a school-wide program, can make a difference in student achievement and teacher effectiveness. The intrinsic factors, such as in Firestone (2014), can unify faculty and push change in schools.

Dodman (2014) also discussed the importance of illustrative leadership to affect change in staff behavior not through a curriculum change or improved test prep (p. 56), but through strong leadership that supported its teachers in achieving change for the organization. Sobrero (2014) also measured the importance of leadership impact at the college level, finding that department heads valued staff that demonstrated community scholarship (p. 125). Community engagement included faculty supporting students and the mission of the university at local levels, and this level of commitment would inform the

department heads' decisions in long-term employment. Sobrero's study alluded to the importance of local organization health, in that long-term employment decisions are based on the behaviors of its staff that supports the mission and values of the organization, something this research hopes to show through the testimony of the case study participants.

The issue of professional identity and its relation to professional climate appeared in numerous studies. Tan (2013) described three essential factors relating to this collective identity through the SEDA framework in Singapore: learner values, teacher identity, and the values of service and the community (p. 370). With a collective identity for one organization, the members of that organization, and in Tan's case Singapore's higher education sector, developed a stronger sense of belonging and purpose and became a more efficient team. Collie et al. (2011) noted that a positive climate did more than just unify the employees to one mission; it also promoted an increase in professional and organizational commitment.

Researchers of several other studies focused on schools that were suffering from high teacher turnover and low retention. Simon and Johnson (2013) concluded that an adverse climate resulted in turnover, and if conditions continued to deteriorate, poor student outcomes followed, particularly in high-poverty, urban areas. These conclusions are one of the reasons for the Teacher's Incentive Fund (TIF) grant, along with several other performance-based incentive models discussed later in this chapter. Simon and Johnson's (2013) work is noteworthy as the focus on the reasons why teachers leave these schools was not related to cultural bias against poor, urban students, but rather from poor

working conditions. In an earlier quantitative study, Song et al. (2011) found that turnover rates influenced organizational culture and that having autonomy related to job tasks did not. Simon and Johnson (2013) found that teachers who had supports and structures in place to support their ability to teach were more likely to remain on-post.

A supportive environment is an essential part of supporting teachers and providing tools to make them successful in the classroom (Simon & Johnson, 2013). Bayar (2014) would agree with this statement, but furthered the point on supporting new teachers; without professional development that is rooted in teacher needs, school culture and with teacher participation in those efforts, schools are largely unprepared for 21st-century skills. Teachers that are not prepared leave the organization, and in some instances, the industry as a result of feeling ineffective, even though that may not be the case (Simon & Johnson, 2013, p. 11).

Conversely, Anghelache (2014) discovered that teachers' ability to be promoted comes from an internal motivation and that schools should be working to develop self-direction rather than school-wide professional development plans. The idea of individual motivation is a shift from other studies like Bayar (2014); that call for schools to develop a training plan that addresses teacher needs, but also the culture of the school. Anghelache (2014) pointed to the importance of growth through the individual, specifically that the level of motivation is related to age and experience (p. 42). However, in Education Northwest (2014), a study conducted by teachers in New York City found student achievement was directly related to the expertise of the teacher. Those who had

inexperienced teachers and attended schools with high minority and high poverty populations had the lowest achievement scores in reading and math.

In this section, several studies address the implications of teacher retention and turnover on school climate. The findings from these studies indicate the need for positive school environments that differentiate professional development for its teachers. The gap remains in how the school environment can be used to promote teachers through the organization and contribute to a healthy organization for learning. While the Anghelache (2014) determined that teachers' experience and age are significant factors in motivation within the organization, Bayar (2014) suggested that the organization must provide a positive environment for those internal motivations to become active. The organizational climate, of these studies shows are more likely to retain and promote teachers in their schools than where those traits are not as evident. What these studies do not indicate is how far into the intervention success is achieved, and what the impact is on the overall health of the organization, thus leaving a gap in understanding the long-term effects of professional development that build capacity among its teachers.

Senge's Five Disciplines of Personal and Learning Organization Theory

Organizational frameworks are an essential component of understanding professional development regarding this case study. To understand the ability of a school to learn and grow and support its teachers, it has to have the structure in which to build leadership capacity. As in the previous professional development models and discussion of organizational climate, institutions of learning, regardless of the population being served, cannot provide quality instruction to children or teachers if it cannot positively

engage all of the stakeholders in a meaningful relationship (DiGaudio, 2014). These relationships cultivate understanding by gleaning how adults learn through differentiated experiences in professional development based on content area (such as in Cooper, 2013), years of experience (as in Bayar, 2014), and with capacity building (as in Vandenbergh, 2014).

Senge (1990) concluded that asking people about their experiences as part of a great team is the crux of capturing meaningful teamwork. It generates learning in being connected and makes the experience of being in a great team stand out to the individual experiencing the work. Many people will continue to seek or replicate these great experiences of working teams after they have left the organization (p. 13). The following discussion evaluates different organizational frameworks that reference Senge's work through his five disciplines: systems thinking, personal mastery, mental models, building shared vision and team learning.

Ash and D'Auria (2013) established the importance of creating a "learning system" (p. 43), which creates a fluid environment for all stakeholders to operate. Their work proposed that four drivers were necessary for "collaboration in all directions" (p. 44). These drivers include trust, collaboration, capacity building, and leaders at all levels. If we were to evaluate this work regarding Senge's (1990) five disciplines, the idea of collaboration, trust, and leadership is inherent in both models. This model showed the gap for the purpose of this case study through statements Ash and D'Auria (2013) made regarding these four drivers: "In a larger learning organization, teachers and administrators must collaborate in all directions to raise the capacity of all educators to effectively

educate students (p.45).” While this framework focused on the fluidity of all stakeholders throughout the organization, it does not discuss how teachers can become leaders or how they can be “seen” in a large organization. In large urban schools, teachers can feel invisible to their school leaders, and their abilities lost in the daily operations of dealing with the urban poor (CEI-PEA, 2007).

Bobeth-Neumann (2014) attempted to answer how teachers become leaders through the use of Pierre Bourdieu’s (1981) concept of *habitus*. The goal of this study was to understand how elementary school teachers became elementary school principals in Germany. The idea of *habitus* was viewed as the “route of practices” (Bourdieu in Bobeth-Neumann, 2014, p. 245), the motives of the teachers and whether or not they grew into principals. Through qualitative study, Bobeth-Neumann found that the environment was not the only factor in whether teachers were promoted to principals, which their individual motives were the driving force in earning promotions and completing the required work to earn the promotion (p. 247).

Anghelache’s (2014) work on teacher’s age and experience about motivation compliments the ideas presented in the Bobeth-Neumann (2014) study. The concept of habitus is relevant regarding teacher promotions; however, it does not close the gap on how teachers earn promotions through the learning organization. Bobeth-Neumann established four different personality types, along with descriptions that predisposed teachers on whether or not they would eventually become principals (p. 245). Reverting to Senge’s learning organization theory, the very basis of this work neglects to take into

account most of the five disciplines necessary for the school as a learning body, mainly related to the principals of building a shared vision and team learning (Senge, 1990).

The *habitus* and learning systems frameworks indicate the experience of individuals' motivation and how ideas flow throughout the organization. While the learning system in Ash and D'Auria's (2014) most closely resembles the five disciplines from Senge, Bobeth-Neumann focused on individual proclivity in motivation rather than evaluate that motivation through the lens of the organization. External forces impact motivation in the learning organization. In South Africa, Quan-Baffour and Arko-Achemfuor (2014) measured the lack of promotions in the teaching field despite the passage of the Employment of Educators Act (1998). Consistent with the findings in the school climate section of this chapter, conditions were a major factor in teachers staying in the same post for the entirety of their careers (p. 2). The environment creates the ability of schools to establish the conditions needed for Senge's learning organization. When this is vacant from the organization, despite laws being passed to prevent this situation, teachers, and other stakeholders in the environment will not grow.

The following organizational frameworks mirror Senge's five disciplines in some way. Ash and D'Auria (2014), Bobeth-Neumann (2014) and Quan-Baffour and Arko-Achemfuor (2014) were highlighted for the purpose of comparing their frameworks to Senge's five disciplines, or absence of, as in the case of the Quan-Baffour study in South Africa. Each study represents a gap in establishing a teacher's growth in the learning organization and how it contributes to the learning organization. By capturing this testimony and newly discovered ideas from the participants, we can produce professional

development programs that not only support the individual and that individual's internal motivations (as in Bobeth-Neumann, 2014) but also provide a consistent capacity building throughout the organization that will support its growth as an institution of learning (as in Ash & D'Auria, 2014).

The following studies encompass some of Senge's five disciplines, but also represent the gap this study is seeking to fill. Berkowitz, Bowen, Benbenishty, and Powers (2013) use the School Success Profile Learning Organization (SSP-LO, p. 137) to determine the readiness for a school to function as a learning organization. Findings indicate that school social workers are better equipped to work with leadership to design interventions that will "fix" the relationships of stakeholders that are not conducive to school learning. The key in this study is that leadership determines the ultimate path of the organization as a whole. Regarding evaluating this assessment framework through Senge's lens (1990), an emphasis is placed on vision, but through the eyes of leadership. This idea of vision does not address the questions related to long-term improvement and capacity building for individuals within the organization. It is not clear how the SSP-LO can be utilized to inform teacher capabilities and how organizational health can be measured after interventions are applied.

Schechter and Qadach (2012) studied Organizational Learning Mechanisms (OLMs) as a focus on the teacher's perceptions of their efficacy and place within the learning organization. The personal mastery discipline (Senge, 1990) consistently determines if a teacher feels (s)he is making a difference, and how that relates to student performance. While the OLM can be used to identify varying perceptions regarding

organizational health, there is no intervention or measure that evaluates personal mastery once the intervention is applied.

Manzoor's (2012) Employee Motivation directly correlates to organizational effectiveness, two of the five disciplines from Senge's framework (1990). Manzoor's conceptual framework might relate to other studies that focused on the use of motivation, particularly Bobeth-Neumann's (2014) that depict motivation as a major factor in earning promotions. Manzoor postulated that by increasing an employee's motivation through recognition and empowerment (team learning, personal mastery, shared vision from Senge's framework), the organization would improve. This study shows the relationship between motivation and overall organizational health but does not offer interventions or ideas in which to establish this relationship in organizations. Furthermore, once employee motivation increased, it is not known what the long or short-term effect is for personal, professional growth.

Kadji-Beltrana, Zachariou, and Stevenson (2013) and Donaldson (2013) relate to Manzoor's theoretical framework on employee motivation. Kadji-Beltrana et al. (2013) postulated that through the use of the Education for Sustainable Development (EDM) framework, elementary school teachers could be empowered by their principals to become high performers. Donaldson (2013) also supported the idea of empowerment by evaluating two different state school systems. In schools where non-traditional methods such as empowerment and motivation were a part of evaluation, the schools were higher performing and their teachers more motivated to perform.

Donaldson further stated that schools that were traditional and unionized lacked motivation and leaders did less to empower their staff to become more effective members of the organization. Both of these studies reflected the theoretical framework suggested by Manzoor (2012) and also correlate to Senge's shared vision, personal mastery and systems thinking disciplines of the learning organization. These studies do not show organizational health impacts where there is higher motivation evident. For instance, in a unionized school, what would higher motivation look like as opposed to a non-unionized school? How would school performance indicate a healthy organization? The PICCS participants have unionized, and non-unionized schools as participants and the perspectives regarding the SIE tools and their impact on the organization and personal growth informed how different school environments promote or thwart health.

Smith et al. (2013) researched The Excellence in Research for Australia (ERA) framework that did not provide higher education scholars to produce adequate academic work in their disciplines. Looking at this study through the discipline of personal mastery (Senge, 1990), promotions among higher education faculty were developed through an application that was designed to illuminate the scholarly work of the individual. Furthermore, it showed how the scholarly work would contribute to the learning organization in a larger context such as in extending academic esteem and winning research grants. Higher education organizations promote individual learning among its faculty regarding the individual as an extension of the university.

Griffiths, Thompson, and Hryniewicz's (2014) study was significant in that it focused on the experiences of university professionals in their mid-career, and used a theoretical

framework based on social-emotional health, such as Eraut's research on contextual learning (p. 79). The findings indicated that professionals experienced difficulties during this period in their professional careers. The relevance of this work correlates to the purpose of this study, in understanding the drivers of professional development through the organization. The focus on the mid-career individual unearthed factors like motivation (as in Manzoor, 2012), but does not link to the learning organization as a whole, or how one may relate to the other.

The frameworks listed here as compared to Senge's learning organization through the five disciplines shows commonalities among individuals and their relationship to the school context. Motivation and empowerment (Manzoor, 2012) are important factors in pushing a shared vision, but many studies fall short of showing those connections. This study sought to understand the deeper meaning of how all of these elements, professional development, leadership support, implementation practices and the impact on personal growth, retention and student performance relate to one another. If different schools implement the same tools and experience different results, we can begin to understand the "ingredients" that further healthy organizations in fulfilling their mission and vision while promoting personal growth.

Performance Based Incentive Plans

The review of professional development plans, school climate, and organizational frameworks have uncovered the components of the School Improvement Engine (SIE) and Senge's five disciplines regarding a school functioning as a learning organization. These elements have been mostly comparative concerning commonalities relating to motivation,

empowerment, differentiation and clear communication. They are also comparable regarding what each lacks- a clear relationship between professional development outcomes related to promotions and how it affects the entire learning organization through the five disciplines (Senge, 1990). The research, except two cornerstone pieces of this study, Senge's learning organization framework (1990) and the Teacher's Incentive Fund grant application from PICCS (2007) have all been conducted within the last five years and demonstrate a consistency in reporting outcomes. Teachers want to be empowered, want to contribute to the professional development, want leaders to support them with differentiated learning, and they want to be involved in action research through peer review, PLCs, and other teacher learning communities. All of this research also alludes to the most often measured outcome when we think of interventions to learning: student achievement.

The PICCS TIF2 grant was designed to provide differentiated experiences for each charter school that participated, a noteworthy design as it differed greatly from other models. Each charter school developed with its staff the incentive plan, and all schools used the tools of the SIE to support growth among all stakeholders involved in the project. This level of differentiation is what this study hoped to capture, as each participant worked under a different school leader and had a different plan for implementing the tools of the SIE. In the following performance incentive plans, a common theme emerged: differentiation was not a part of the incentive framework, teachers were frustrated with the outcomes set for them to achieve and in some cases, a lack of buy-in thwarted progress in student results and teacher efficacy. These elements are necessary to illuminate, as the

PICCS TIF2 cohort represents the ideals of Senge's learning organization framework and is culturally sensitive to the unique needs of each charter school's climate and organizational history.

In Washington, D.C., The IMPACT (2013) program was developed under Chancellor Michelle Rhee and encompassed three major components that tied teachers to the potential of significant financial incentives. These elements included the threat of dismissal for lower performing teachers, several measures of teacher performance, and instructional coaches to help teachers meet their goals (p. 8). The plan was successful in that it led to the volunteer attrition of lower performing teachers, and also suggests that high leverage incentives improved student outcomes (p. 27), but does not illustrate a long term effect of the plan on teacher effectiveness or student outcomes. The plan is also primarily a "one size fits all" approach. All teachers are measured through the same frameworks and assessments and receive the same coaching support.

In the Department of Education in New York City, Goodman and Turner (2012) illustrated the impact of a performance-based incentive plan piloted in two hundred high-poverty schools throughout the New York City Department of Education. This study is important in that it illustrated the opposite results of what the PICCS TIF2 cohort data suggested: the incentive plan did not impact student outcomes. The PICCS TIF2 data demonstrated that student outcomes did increase in the charter schools that participated in the program (Measurement Inc., 2012). Goodman and Turnover unearthed the consistent argument against incentive plans, which they claimed turned teachers against each other and shut down collaboration rather than promoted it. Another important aspect of the DOE

plan was that incentives were paid out against group goals, not individual teacher recognition. Instead, the group in which they were a part had to demonstrate collective growth to earn an incentive. In other studies mentioned, such as in Glazerman and Seifullah's (2012) assessment of the Chicago plans, similar outcomes occurred. One size fits all models, which yield the largest criticisms as outlined in Goodman and Turner's evaluation (2012), also reported the smallest gains in teacher effectiveness and student outcomes.

Performance based incentive plans are as good as the leaders who implement them. One size fits all plans, as demonstrated in New York City Public Schools, South Carolina, Illinois and Washington, D.C. are all controversial. The reason for the controversy is because the federal funds awarded to these school districts did not yield substantial gains in reading and math, nor increase teacher effectiveness, with the noted exception of except the IMPACT program was under Rhee (Dee & Wyckoff, 2012). When we evaluate these plans concerning organizational health, and individual motivations, we see that many of the components that applied to all staff in the participating schools were in reality, not applicable (Goodman & Turner, 2012). The gap in the research exists among performance based incentive plans regarding Senge's framework (1990): plans, where consideration is given to teacher promotions, but do not reflect how the structures to promote teacher mobility support the health of the learning organization in the long term.

Summary and Conclusions

This literature review indicated the current research that is relevant to the central research question for this study. The themes of this literature review show relationships

and professional development interventions to achieve growth in a specific area. Several studies looked at motivation, and how motivation can help build healthy organizations (beginning with Rao & Salunkhe, 2012), or be an indicator of growing future leaders (as in Bobeth-Neumann, 2014). Each of these themes represents an element of the teacher experience through the School Improvement Engine (SIE) concerning curriculum development, data drove instructional practices, peer review, and teacher evaluation.

The first theme on retaining teachers through professional development programs like action research and experiential learning, Ado (2013) stated that there was little research on the impact that teacher-led professional development had on professional growth. However, Chesney and Benson (2012), Burridge and Carpenter (2013), and Kaye (2014) all found that learning in groups were an effective method of professional development. The idea of collaboration as a key component of learning (as in the Peer Review component of the SIE) could help math teachers reflect on their practice and experiment with strategies to increase adult numeracy. Furthermore, Chesney and Benson (2012) found that by using an online platform such as Web 2.0 tools, teachers could work together to share best practices, implement them in the classroom and reflect on the outcomes of those trials through the Web 2.0 platform. This discussion board style of peer collaboration would allow teacher cohorts across districts to share what works best with the ease of technology. Anderson (2014) postulated that bringing theory to action was also a means to increase teacher collaboration on best practices and to reflect on the successes and failures of implementation together.

Professional development programs using experiential learning revealed several ideas supporting the use of teacher teams as a collaborative source to promote staff retention. Shaffer and Brown (2015), Chester (2012), Hopkins et al. (2015), and Fitzgerald and Theilmiller (2013) all see the importance of peer groups as a learning experience. Professional learning communities (Hopkins et al., 2015) are used to provide teachers with the opportunity to widen a network of teachers through the sharing of common problems of practice, as evidenced through instructional rounds (DeLuca et al., 2015). Participants in the PLC process, either through evaluating curriculum or other problems of practice or instructional rounds support the improvement of implementing an intervention to a perceived problem for the common good of the organization.

This idea (DeLuca et al., 2015) reflects on Senge's (1990) five disciplines to organizational learning, sharing a common vision and promoting mastery. The PLC allows teachers the space to collaborate on issues and reflect on the success of recommended interventions. McNeil and Knight (2012), Dempster et al. (2012), Loo (2013), Evans (2015), Sormunsen et al. (2014), and Cooper (2013) discussed the impact of modeling on the teacher community. Modeling has a positive influence on improving pedagogical content, similar to the findings on the implementation of PLCs; teachers felt comfortable with one another to try new practices and evaluate their effectiveness (Dempster, 2012). By taking a multi-modality approach, (Loo, 2013), teachers can lead the change in their schools (Evans, 2015).

In the second theme of this literature review, supporting teacher promotion, several studies could be compared to the findings shown related to experiential learning.

Vandenbergh (2014) echoed Evans (2015) in that teachers as leaders are active contributors to modeling and feedback systems to promote instruction. Royster et al. (2014) and Nishimura (2014) also found that in inclusion models across school settings, coaching and feedback between the general education and special education was pivotal in developing trusting relationships and improving instructional outcomes. As also with the second theme of experiential learning, coaching and feedback were perceived as an efficient method for supporting teachers through PLCs (Owen, 2014) and also through peer observation (Sullivan, Buckle, Nicky, & Atkinson, 2012).

Peer relationships were not the only drivers to positive experiences with coaching and feedback in schools. Capacity building in schools was a recurrent theme throughout the review of literature about professional development. Perkins and Cooter (2013) found that capacity building among teachers was a positive approach to coaching. Coaching and feedback by peers in a leadership position (as with capacity building in schools) and through peer review or PLCs is an effective method for encouraging teachers to collaborate and share best practices.

The third theme, supporting healthy learning organizations, showed the experience teachers have when the school climate is positive. Leadership was a consistent factor in this experience in either direction: good leadership promoted a positive climate (Abu-Hossain & Essawi, 2014) and fostered intrinsic motivation (Firestone, 2014; Hitka, Stachová, Balážová, & Stacho, 2015). Dodman (2014) and Sobrero and Jayaratne (2014) also discussed the importance of illustrative leadership through strong leader that supported its teachers in achieving change for the organization.

Leadership also creates a sense of identity for the school as an organization, and for the individuals who work in the organization. Tan (2013) and Collie et al. (2011) described how identity could lead to a stronger sense of belonging and motivate employees to work harder to support that condition. On the contrary, organizations connoted with a negative climate suffered from high teacher turnover and retention (Simon & Johnson, 2013).

Promotional criteria were also a factor associated with identity and positive climate. Anghelache (2014) noted that motivation was a powerful tool that should be used to foster self-direction. Motivation is a correlation to organizational framework studies in the fifth theme (Manzoor, 2012) where leaders who empower their staff can drive the success of the organization.

The organizational frameworks reviewed in the fourth theme show different approaches to organizational health as opposed to the five disciplines of Senge's organizational learning theory (1990). The frames were similar in that they appealed to the development of a unified vision for the organization, yet internal motivation was a significant component of several studies (Bobeth-Neumann, 2014; Manzoor, 2012; Schecter & Qadach, 2012). The other noted factor in the frameworks related to the impact of leadership. Consistent with the professional development models that supported teacher capacity (as in Roseler & Dentzau, 2013); poor leadership resulted in poor organizational outcomes (Donaldson, 2013). However, positive experiences (Kadji-Beltrana et al., 2013), where principals empowered their teachers to grow, saw effective relationships and support among its staff.

The final theme, other performance-based incentive plans, shows the crux of what many views as a controversial measure: performance-based incentives. These incentive plans, particular to the IMPACT program from Washington D.C. (Dee & Wyckoff, 2013); can pay significant incentives to teachers already deemed as useful in their practice. Poor performing teachers, through the IMPACT program voluntarily left their posts as a result of the evaluations and goals they were expected to meet. This one-size fits all approach to these plans often yield inconsistent results (Goodman & Turner, 2012; Glazerman & Seifullah, 2012). However, plans like PICCS, where differentiated plans for each school were established to meet the needs of a very diverse group of schools, outcomes in teacher effectiveness, and student outcomes, showed significant improvements (Measurement Inc., 2012).

The review of the literature, while indicating contributions to single elements of organizational growth (like improving the school culture, building motivation, improving best practices), did not take a holistic view of an intervention for the long term. That is, the "ingredients" of professional development, have not been measured concerning contributions to the learning organization or in the long-term career trajectory of the teachers promoted within the schools. Long-term retention rates, internal promotions, and student achievement are all measures that can be used to support the perspectives of teachers who participate in professional development aimed at improving the learning organization. The goal of this study, to look at some schools which implemented the same professional development tools, understand the perspectives of teachers and leaders who participated in these interventions and triangulated their testimony to the retention rates,

promotions and student achievement rates at the schools. By looking at this big picture, we can understand how professional development builds individual capacity and promotes healthy learning organizations.

These factors are important to know and to understand, and if we can capture these experiences and create a framework for professional development fine-tuned toward particular school cultures, the issues related to teacher turnover and retention can be reduced, specifically in high-poverty, urban areas (Ash & D'Auria, 2013). In chapter 3, the discussion of research tools and the importance of using a case study approach to capturing these data support how these factors can potentially have a significant impact on social change for schools.

Chapter 3: Research Method

Introduction

Teachers struggling in high-poverty, urban schools with poor support and low salaries leave their posts (Simon & Johnson, 2013). Teachers in urban areas in particular not only leave because of pay but because they believe they are ill-equipped to overcome the obstacles of working with students in high-poverty, urban areas (Simon & Johnson, 2013). This feeling of inadequacy often results in their leaving their schools or teaching altogether (Simon & Johnson, 2013). When this occurs, the health of the organization declines (Senge, 1990). In this study, the data points related to professional development for organizational health and teacher promotion indicate that professional development tools like the SIE, combined with strong leadership may yield healthy learning organizations. Chapter 4 contains details of these results.

Chapter 3 includes an overview of the research methods and rationale for those methods. The chapter divides into several sections, which include research design and rationale, the role of the researcher, methodology, and issues of trustworthiness. A description of the data collection and analysis include ethical procedures within these processes. A description of the data collection tools used aligns with the proceedings for case study research.

Research Design and Rationale

The purpose of this case study was to investigate whether professional development tools like the SIE positively influenced individual growth and retention among teachers and the organizational health of schools. The research questions reflect

how each of the five disciplines from Senge's theory may support and promote retention and promotion in creating healthy, successful schools.

Central Question: In the view of case study participants, how did the PICCS School Improvement Engine programs provide opportunities for professional growth during and after the grant (TIF 2, 2007-2012, TIF 3, 2010-2015, and TIF 4 in progress)?

Subquestion 1: According to case study participants, how were the SIE tools implemented in TIF cohort schools during and after the grant?

Subquestion 2: How do teacher participants and administrators describe their professional growth, effectiveness, and retention, based on their experiences using the tools of the school improvement engine?

Subquestion 2a. According to participants, what elements of the school improvement engine had the greatest impact on their professional growth? What elements supported their decisions to remain on-post?

Subquestion 2b: What relationship do participants view between SIE implementation and student performance in reading and math?

Subquestion 2c: How do participant responses about teacher retention and student achievement compare with district data that are available in the public domain?

Subquestion 3: What are participants' perceptions of the effects of SIE on their school as a learning organization?

An interpretive methodology, such as a case study approach, is directed at understanding the perspectives of participants as well as the cultural and historical contexts in which they function (Creswell, 2009). Conclusions are rooted in data and

interaction with participant testimony (Scotland, 2012). A qualitative approach best-supported research design because the purpose of the study is to explore how a series of professional development tools, known as SIE, impacted teachers in high poverty schools in New York City. The unique perspectives of the participants in this study informs data collected from each school's teacher retention rates, student achievement in reading and math, as well as promotions within the school.

Though the processes of inquiry may be similar to a quantitative study, qualitative research relies on several types of data, unique analysis methods and draws on "diverse designs" (Creswell, 2013). A quantitative study would incorporate a hypothesis supported by data, such as determining that participation in TIF resulted in an increase in student achievement in reading and math over a specified amount of time. As shown throughout this chapter, the case study approach to designing a protocol as described by Yin (2009) reduced bias and maintained ethical procedures.

The ontological position of interpretivism in a case study design requires the researcher to draw conclusions based on the data presented from the historical and cultural context of each school (teacher retention rates, promotions, and student performance), yet also rely on the testimony of the participants (Scotland, 2012). While this evidence may seem phenomenological in nature, the interpretations triangulated with the historical and cultural data allowed conclusions drawn on how the SIE tools support individual growth and promote organizational health. Furthermore, the data may also indicate that one or both elements of participation in the PICCS program did not yield positive results, that schools did not achieve organizational health or promote teachers. This type of data is a

result which allowed for an understanding of why the tools failed in producing positive effects on school health.

These studies, such as the work of Glazerman and Seifullah (2012), evaluated the effectiveness of TIF grants on student achievement in Chicago. Those results were inconclusive. Dee and Wyckoff (2013) postulated that an aggressive incentive model implemented in Washington, D.C. forced poor performing teachers to resign and avoid termination. In both quantitative studies, the hypothesis measured data collected from test results and retention rates over time. In contrast to other designs, qualitative inquiry includes the role of the researcher and the particular qualitative strategy in use (Creswell, 2013). In this study, the participant testimony guided the conclusions regarding professional development and contributions to the learning organization through a case study approach.

Case Study Design

The qualitative method chosen for this research was the case study design. Creswell (2013) defined a case study as, "an in-depth analysis of a case, often a program, event, activity, process or one or more individuals" (p. 42). The analysis of this case study, however, must be supported by the use of theory to move beyond cause-effect relationships; that the data be connected to literature or policy and help transcend the approaches beyond the delimitations outlined (Yin, p. 28, 2012). Therefore, this case study approach must be rooted in the literature presented in chapter 2. Despite numerous approaches to professional development, notwithstanding various motivations and methodologies in improving teaching and raising student achievement data, the systems

and tools implemented at the school level has not been investigated through the lens of understanding how it improves overall school organizational health and promotes retention rates in high-poverty, urban schools.

Utilizing Yin's case study protocol (2009), Senge's organizational learning theory served as the center of the "how"- how did the SIE tools impact professional learning, did the results yield an increase in teacher promotions and retention and did student achievement improve? Furthermore, by implementing these tools at the school level, did participation, in fact, improve the organizational health of the school? By using the protocol, the case study design can triangulate the data collected at the school level: teacher retention rates, student performance and teacher promotions with the testimony of the participant pool. These results, which indicated whether the implementation of the tools had a positive or negative effect on the organizational health of the learning organization, provided insight into the inner workings of an organization.

Case study design is a method for participants to tell the story of their personal experiences with the SIE tools. Members can share how the SIE did or did not contribute to their professional growth, along with unearthing other themes related to organizational capacity and adult learning. Yin (2009) also stated that case studies arise out of a "desire to understand complex social phenomena" (p. 4). Professional development and its impact on individuals and their organizations represent such a phenomenon where "investigators can retain the holistic and meaningful characteristics of these real-life events" (p. 4).

Therefore, this case study was designed to find the meaningful aspects of the SIE tools related to Senge's learning organization theory: teacher testimony, teacher retention

rates, student performance and the promotion rates of teachers after the SIE tools have been implemented indicated how schools grow from the inside out.

The data collected from participating schools supported this idea that professional development can improve a school's organizational health about the mission and vision, with data providing information on why the tools achieve its goals. As described by Yin (2012), the how and why of the case when linked to literature and theory can increase the potential contribution (p. 28).

Although case studies can be used to discover process designs, a case study can also be designed to investigate the outcomes of an intervention, such as with the federally funded TIF program (Yin, p. xix, 2012). Several factors contributed to the effectiveness of the PICCS school improvement engine tools. It was critical to capture the testimony of the case study participants with multiple data sources to understand the effectiveness of the tools on the participants. To understand the outcomes of implementing the SIE tools concerning improving school organizational health, I collected data from semi-structured face-to-face interviews with PICCS participants. Finally, I reviewed data on teacher retention rates and promotions within the ten participating schools during the life of the grant, 2007-2016, as well as student performance in the participating schools.

The testimony of individuals' potential success with the tools of the SIE, such as the opportunities for professional growth, and the impact on the school organization was the focus of data collection. Through understanding teacher retention rates and promotions earned during and after the grant, I analyzed the impact the SIE had on the individual, but also for the organization as a whole. Senge's organizational learning framework called for

the expertise of individuals to contribute to the organization as a whole, with that expertise contributing to the mission and driving the whole body forward as a result (Senge, 1990).

The focus of these elements during data collection allowed for triangulation and resulted in an understanding of how professional development can be designed and implemented elsewhere with similar results. According to Creswell (2013), case studies are "bound by time and activity," and researchers need to "collect detailed information using various data collection methods over a sustained period of time" (p. 43). Furthermore, the researcher must deem a case interesting or "important in itself" (Creswell & Maietta, 2002).

The implementation of the SIE tools, bound by cohort (2007-2012; 2010-2015, 2012-present) and by leadership, provided an opportunity to look at how a single set of professional development tools implemented in different schools, during different time periods, can yield positive results in teacher retention rates, promotions, and student achievement. The collection of data allowed for a detailed view of implementation strategies according to individual learning organizations and provided opportunities for understanding how implementation differs from school to school over different time periods. Additionally, the perspectives offered by participants provided insight on how implementation impacts the culture and historical contexts of individual schools; despite having demographic commonalities related to race and poverty (Scotland, 2012).

This case study was a reflection on the impact that professional development tools had on grant participants during the life of the TIF grant, from 2007-2016. This exploratory case study (Yin, 2009) relied on the experiences of the participants of this

study to learn how professional development, incentive pay, and leadership capacity creates an environment of organizational learning and growth.

Other designs.

The elimination of other designs for this study was due to the limiting nature of the parameters related to data collection and analysis of results. I rejected a grounded theory approach because this study did not seek to establish a theory related to organizational growth or adult learning. Using Senge's learning organization (1990) as a framework for understanding adult learning in schools, a new theory is not necessary for understanding how or why adults are motivated to learn for the overall success of the organization.

Ethnography was rejected primarily due to the nature of the study. Ethnographic inquiry includes observations and interviews over extended periods of time (Creswell, 2013). This investigation is asking participants to reflect on experiences with tools. Since each participant already experienced the event and can reflect on the impact of the event, an ethnographic inquiry would not be useful.

A phenomenological approach did not satisfy the parameters of this research study, as a phenomenology shows how the participants have all experienced the same event or events of which the researcher is seeking to make meaning (Creswell, 2013). In this study, the experiences of the participants with the SIE tools are all different. The members did not work together in the same school, but rather from the same cohort of ten schools that utilized the SIE tools in their instructional programs. All participants worked under different leaders, and the nature of the school's incentive plans all differed based on their individual school missions. Yin (2012) also stated that phenomenology focuses on the

human experience in that reality. Due to the interest in the perspectives of the teachers that participated in the context of the cultural and historical circumstances that contribute to organizational health, a case study design seemed a better fit. The view of the data through Senge's (1990) learning organization theory, and the influence participating schools were impacted, positively or not from the implementation of the SIE tools moves away from the nature of phenomenology (Creswell, 2009 in Scotland, 2012). A phenomenological study would focus on participants who employed at the same school or organization that received the same exact training and leadership experience; therefore, it was not a suitable approach to understanding the testimony from participants.

I rejected the narrative research format for ethical concerns. I was a participant with the SIE tools in the same cohort of the participants in this case study. Combining my experiences with the testimony of the other participants (Creswell, 2013) may undermine the purpose of this study, which is to investigate the experiences of participants regarding how they grew with the SIE tools and how that contributed to the school as a learning organization. By using a narrative, the danger of losing the essence of participant testimony with my personal narrative would be a detriment to the goals of the research.

Role of the Researcher

In qualitative research, the researcher is the primary source of data collection (Creswell, 2013). Qualitative research is interpretive, and the researcher is heavily involved with the participants for a prolonged period (Locke, Spirduso, & Silverman, 2013 in Creswell, 2013). Since the researcher is the primary data collector, considerations

to bias and other ethical issues must be taken into account with steps implemented to remove the potential for marred results (Creswell, 2013, p. 135).

Interviews in qualitative research are moral inquiries (Kvale, 2007 in Creswell, 2014). Therefore, the interviewer needs to see how they can improve "the human situation" (Creswell, 2014, p. 137). Furthermore, Stake (1995) views case study research as a means to project an issue of personal interest to the interview (Creswell & Maietta in Miller & Salkind, 2002). Evaluating a program's effectiveness through a conceptual framework like Peter Senge's organizational learning theory (1990), allows me to collect experiences from other participants from other schools and see where that testimony unearths themes related to professional growth, organization learning, and ultimately, individual and school improvement.

According to Yin (2009), avoiding bias is an integral part of being a case study researcher. When collecting case study data, the researcher must avoid seeking to substantiate their presuppositions (p. 72). Yin (2009) further stated that a good way to reduce bias is to report contrary findings to critical colleagues (p. 72). By reporting results that may be contrary to your views, a reduction in occurs when collecting data. The quality of the data collected is critical concerning the potential for new information to come from the case study participants. It is not my motive to support the perceived success of SIE tools through Senge's lens but to understand how and why people who participated in the grant experienced success, and what they attribute that success. The testimony of participants may unearth several unknown factors related to organizational learning and leadership that provoked their personal growth within their learning

organization. The data collected indicated factors that contributed to our understanding of how adults learn and grow personally and contributed to the learning organization as a whole.

Methodology

Participant Selection Logic

According to Creswell (2013), the sample size for a case study, though there is no definite answer, should be about four to five cases (p. 239). In this case study, the sample size is 10% of the participant pool of the cohort. Creswell also cited Charmaz (2006), in that it is not necessarily the number of cases in the study, but the saturation point from the data when no new information is brought to light (Creswell, 2013, p. 239). In keeping with this line of thinking, it was my intent to ensure that the sample size of the participant would be best kept to 10% of the total population so that members who decline the invitation for this research would not create a dearth in available resources.

The criteria for selecting participants began with the total number of participants in the study. The original number of teachers that remained employed in their schools was approximately 150 teachers during the span of the grant, 2007-2016 (Measurement Inc, 2014). Case participant selection followed this criterion:

- Participants participated in the full length of the grant. Teachers in TIF 2 participated in the grant from 2007-2012, TIF 3 from 2010-2015, and TIF 4 from 2012-2017.
- The participating school must employ participants for a full year after the grant expired. For example, a participant in TIF 2 would be employed by

their school from 2007-2013, TIF 3 from 20010-2016 and TIF 4 from 2012-present.

- Administrators of the TIF grant were employed by PICCS from 2007, and must have participated as a monitor for the life of at least one full cohort, TIF 2, TIF 3 or TIF 4 (currently employed and monitoring schools).

The PICCS Project Director suggested participants, based on this criterion and then contacted via phone, email or in person. Invitations were sent in writing to each member after IRB approval (Walden University's approval number for this study is 10-11-16-0022917). Yin (2012) stated that to delimit bias from a case study; the data could be linked to literature and rooted in theory. To delimit bias in this study, participants currently employed in their schools from all three TIF cohorts (2007, 2010 and 2012) provided oral and written testimony, in the form of face-to-face interviews and if needed, open-ended surveys (Yin, 2009). I used the participant interviews with cohort data on teacher retention rates, promotion, and student performance to develop themes related to the research questions.

This case study showed the implementation outcomes of the SIE tools on organizational health (Senge, 1990) and whether a positive result occurred for the whole organization and the individual. As each participating school is unique in grade levels served, comparing these rates across institutions was not relevant. The literature review in Chapter 2 showed the inputs and outputs of different professional development methods; such as increasing student performance or motivating teachers to apply for leadership positions. However, the literature represents a gap in understanding how these elements

inform organizational health. The data indicated the impact that professional development tools like the SIE have on organizational health. Therefore, as Yin stated (2012), bias can be limited when it is rooted in literature and theory.

Yin (2009) indicated that part of the case study protocol was to work with an individual on narrowing down the pool that was knowledgeable of the people in the target pool. The Project Director is very knowledgeable of that first cohort of participants and was able to help me focus the appropriate 10% of the original grant participants. Of that population, we narrowed the population down to members who remained employed by the school and were promoted during the life of the grant or in the year following the grant. This selection criterion brought the sample size to roughly 10% of the original 150 participants of the award. Invitations, by email, personal visit or telephone, were extended to the potential sample of participants. Participants who agreed to interview sat for a face-to-face session.

The number of cases for this study accurately represents participants of the grant who have remained employed by their schools and have also been promoted during the period of the grant administration or immediately after. This sample size represents participants' experiences with the SIE tools, and what schools did with the implementation or replacement of SIE tools during and after the life of the grant. This experience in their original capacity as teachers and later on as leaders unearthed the data this study sought to understand in depth: the relationship of professional development regarding organizational health and the impact it has personal growth.

Instrumentation

The use of a case study protocol (Yin, 2009) helped indicate the themes related to the research questions on how professional development tools like the SIE impacted individual growth, effectiveness, and retention of teachers, and how this capacity affected the school as a whole. In addition to the case study protocol, an interview protocol (Creswell, 2014) was utilized to capture the responses from participants through the research questions. To understand the themes that emerged from participants related to school health, teacher retention rates, and student performance, a collection from the New State Education Department's data site (www.nyseddata.org) occurred. In addition to the public data collected from the New York State Education Department, themes reported from PICCs' annual results on promotions were recorded (Measurement Inc, 2015). This summative data collected from Measurement Inc, the independent evaluator of the TIF grant, is publicly available at http://piccs.org/results/.

The participants had the option of a face-to-face interview or an interview via Skype. For both interview styles, an audio recorder was used to ensure that all of the testimony from the participants. Creswell (2013) stated that qualitative researchers tend to collect multiple sources of data to make sense of the emerging themes and triangulate those themes across data sources. According to Yin (2009), developing a case study protocol (Appendix A) embeds the intended instrumentation and increases the reliability of the case study research. Yin further stated that in developing a case study protocol, one should include an overview of the project, procedures for fieldwork, questions and a guide for the report. These practices keep the researcher grounded on the subject and the

intended purpose of the research, limiting the potential for introducing bias or ethical violations.

Capturing the themes elicited from the case study participants is crucial in establishing content validity. To assure that content is captured through the research questions; Creswell's (2014) Interview Protocol was used to elicit testimony from the participants (Appendix B). A panel well versed in the SIE reviewed the Interview Protocol. Dr. Amy Shore is one of the chief writers of the TIF grants. Dr. Sara Asmussen served as the lead data engineer for TIF 2 and 3. Ms. Carter Clawson was the Deputy Director and current Director of PICCS. All three professionals worked on the dissemination of the TIF grant since its inception (Appendix C). The semi-structured interview consisted of a set of questions related to the central research question and sub-questions of this study (Rubin & Rubin, 2005).

The semi-structured nature of the interview allowed the researcher to remain focused on the central research question and sub-questions, yet allowed for a relationship to be established during the interview and allowed the participant to feel comfortable responding to questions (Appendix B). An audio recorder was used to capture testimony, though the researcher recorded responses using traditional pen and paper. The audio recorder was a back-up so that the researcher could ask follow-up questions in an organic way. The audio recorder allowed the researcher to go back and reflect on the questioning and develop an anticipatory set of follow-up questions for additional face-to-face interviews so that the same follow-up questions could be used to ensure consistency of questioning with each subject. Participants also received a transcript and copy of their

recording to review to ensure that their testimony was accurate. Additionally, some members needed to elaborate or clarify on points they made during the initial interview (which was added to their testimony after they reviewed it). If these points did not get clarified during the face-to-face session, then a second interview with follow up questions was planned to achieve the desired clarity on the testimony electronically, although no follow-up sessions were required to achieve data saturation (Appendix B).

The other data sources related to teacher retention, student performance, and promotions was collected directly from public information sites. The New York State Education Department annually receives teacher retention and student performance data related to overall school performance. An independent evaluator, Measurement, Inc, collected the third data point on teacher promotions. These data are also published annually on the PICCS website. All three of these data sources were used to connect to the themes brought to light from participant testimony. This data collection is not being used to suggest growth of school performance year to year, as this is not the goal of this study, but to support the testimony of the participants related to their personal, professional growth, and how, PICCS tools contributed to the school's organizational health.

Procedures for Recruitment, Participation and Data Collection

The data collection began with the accepted invitations from the participant pool. Approximately 15 potential respondents were invited by telephone, email or in person invitation to participate in this case study. The respondents that accepted the invitation had the opportunity to choose a face-to-face or Skype interview within a set of dates offered in the invitation, though face-to-face interviews occurred for all of the participants. The

researcher collected the data using traditional pen and paper, and also through the use of an audio recorder to capture any testimony missed by the researcher. The face-to-face interviews lasted approximately 60 minutes for each participant.

As a follow up to the face-to-face interviews, an electronic survey would include follow-up questions, in addition to data on the cohort regarding teacher retention rates and promotions during the period of the grant, only if saturation did not occur during the face-to-face interviews (Appendix B). These additional sources of material allowed for data triangulation (Creswell, 2013), connecting the personal experiences of the participants with physical data on the impact on the organization as a whole, regarding retention and promotions that supported organizational health and learning.

Participants who completed the face-to-face interview were invited to review their testimony. For example, in an audio interview, participants were sent a transcript of the conversation and a schedule of events for the completion of this study, complete with a final copy of the study in appreciation of their participation.

Data Analysis Plan

Creswell (2014) described a series of steps that a case study researcher may use to analyze data:

a. Collect raw data
    i. participant face-to-face testimony
    ii. electronic interview data (if saturation was not achieved during face-to-face interview)
    iii. New York State Education Department teacher retention rates

iv. New York State Education Department school performance rates in reading and math

v. Measurement, Inc. school promotion data

b. Organize and prepare the data for analysis

c. Read the data

d. Code the data for themes and description by hand or by computer

e. Validate the accuracy of the information: Interrelate the data coding by themes/description through the case study parameters

f. Interpreting the themes/description (p. 247).

In this study, qualitative data analysis software, QDA Miner, was used to facilitate coding and analysis. Hand coding was also employed. Creswell (2014) recommended the use of a predetermined codebook when analyzing data on a theory. The codes developed for this study included the five disciplines as described by Senge (1990): personal mastery, mental models, shared vision, team learning, and systems thinking. The approach to coding involved pattern matching (Yin, 2009), so as to compare the trends to the codes predetermined from the organizational learning framework, and new themes that emerged from the testimony of the participant pool.

Issues of Trustworthiness

Issues of trustworthiness are inherent in qualitative research due to the personal nature of the research. The researcher is personally vested in the data (Creswell, 2013; Yin, 2009), which can lead to bias and ethical considerations. Yin (2009) suggested limiting bias by designing a case study protocol that lists the steps in the process of

conducting the research. In this way, the researcher can remain focused on the data collection, and limit detours from respondent testimony and other evidence collected.

Yin (2009) also suggested that working with an individual knowledgeable of the participant pool might help achieve saturation and sample size by reducing the size based on certain criteria relevant to the study. In this case, the original size of the participant pool, 150, was reduced to 15, based on the criteria of individuals still employed at the school and who were also promoted during the grant or immediately after the grant.

Ethical Procedures

Qualitative research is a very personal investigation because the nature of the research is focused on observing, speaking to and writing about people (Creswell, 2014). Due to the nature of the case study, following ethical procedures and demonstrating transparency with all participants from start to finish eliminates the potential for any violations. Yin (2009) recommended developing a research protocol that will help keep the researcher focused on the steps to maintain the validity of the research process, data collection, and analysis.

In this study, I developed a protocol (see Appendix A) that included the steps of the case study process. This process included a conversation and email correspondence with the Director of the PICCS program. Additional elements included written invitations to the case study participants, the online data collection form, the data collection form for live interviews, a data collection form for the triangulation of data, and analysis forms through QDA Miner and hand coding forms. Each of these steps in the protocol reduced the potential for ethical violations. In addition to the ethical considerations of qualitative

research, all policies and procedures were followed according to Walden University's Institutional Review Board (IRB).

Summary

In this chapter, I described the research design used in this case study. To limit ethical violations from both the research paradigm of case study research and the procedures set forth by the IRB of Walden University, a case study research protocol (Yin, 2009) outlined the steps taken to implement the research plan (Appendix A). Also, discussion of the narrative describing the data collection tools, as well as the tools used for data analysis. Included in this chapter is a description of an Interview Protocol (Creswell, 2014) to ensure content validity. In Chapter 4, a discussion of the themes captured from the testimony of the participants, teacher retention, promotion rates, and student achievement outcomes is detailed.

Chapter 4: Results

Introduction

The purpose of this case study was to investigate whether professional development tools like the SIE influenced individual growth and retention among teachers, and the organizational health of schools. The research questions reflect how each of the five disciplines from Senge's theory of organizational learning (1990) may promote teacher retention and the creation of healthy, successful schools. The sections of this chapter address the conditions and results of the data collection. The setting and demographics of the study, data collection, and analysis, evidence of trustworthiness and results describe how educators perceived the SIE tools and how it impacted the growth of their schools.

Setting

Participants worked in seven different charter schools in New York City. During the time of the grant, one school, School A, experienced a major disruption to staffing as a result of labor union organization. This unionization caused the staff before the end of the grant to leave their posts, including the school leader. While this was happening, implementation of the SIE tools occurred, and the testimony of the participants is reflective of building a strong staff, and then experiencing the disruption to the school organization. At the time of this study's completion, only three teachers in School A were still employed at the school. Two of the teachers were participants in my research who had received promotions as a result of their work on the TIF grant. Based on my knowledge,

participants at my other school sites did not experience any trauma that might influence the interpretation of the results.

Demographics

In Table 1, I provide demographic data on the 15 participants of the case study. I changed participants' names and school affiliations to protect their identity. The table includes the following for each participant: name, race, sex, age range, total years of experience, years at their school, and whether or not they had received promotions.

Table 1

Participant Demographic Information

Participant	Age range	Gender	Race	Total year teaching	PICCS school	Years employed at PICCS school	Promoted?
Participant 1B	45-50	Female	White	20+	A	8	Yes
Participant 2B	30-35	Female	White	13	A	13	Yes
Participant 3B	45-50	Female	White	12	A	12	Yes
Participant 4B	35-40	Female	Black	16	A	10	No
Participant 5B	35-40	Male	Black	16	A	10	Yes
Participant 1C	45-50	Female	White	20+	G	12	Yes
Participant 2C	45-50	Female	Black	20+	C	10	No
Participant 3C	50-55	Male	White	20+	B	20+	Yes
Participant 4C	60-65	Female	Asian	20+	C	5	Yes
Participant 5C	25-30	Male	Black	5	C	5	No
Participant 1D	25-30	Male	White	4	D	4	Yes
Participant 2D	25-30	Female	White	5	E	1	No
Participant 3D	40-45	Female	White	20	E	3	Yes
Participant 4D	25-30	Female	Black	3	F	3	No
Participant 5D	35-40	Male	White	10	F	3	No

Data Collection

After invitation/consent forms were received and responses recorded, each participant scheduled a face-to-face interview with me at the location of their choice. Ten

of the interviews occurred at the participants' schools, in private space such as the teacher's classroom or nearby office. Four interviews happened in my office, which is a confidential space. One meeting occurred at a local coffee shop, at the request of the participant. On average, the face-to-face interviews lasted thirty-five minutes. According to Creswell (2013), case study saturation occurs when no new information comes to light. The face-to-face interview testimony was consistent with the responses from the participants, eliminating the need for follow-up questions via electronic survey, as described as a possible additional data piece in chapter 3.

After settling into the private space with each participant, I reviewed the procedures of the interview via the Interview Protocol (Creswell, 2014). The members each gave their consent to have the interview audio-recorded. After a review of the agenda and consent was given, I began the audio recording of each interview. Once the session ended, I discussed the steps I would be taking to ensure that the testimony recorded was accurate and without personal bias. I transcribed each interview and emailed the transcript and audio recording to each participant. The participants were encouraged to read their transcripts and provide additional information if they wished to. One member added a statement to sub-question three after reading the transcript, which was added to the record and then sent back to the participant to ensure that the statement was correctly placed in the transcript. All members received their audio recording and transcript within three days of the scheduled interview. The data collection procedures as outlined in Chapter 3 were followed consistently, without variation. There were no unusual circumstances to the data collection that would impede analysis as described in Chapter 3.

Data Analysis

Data analysis is the key to understanding the themes that emerge from the participant testimony, as well as in understanding how it relates to the theoretical framework of the study, in this instance, Peter Senge's learning organization theory (1990). The case study approach employed for this research, interpretive in nature, is rooted in understanding participant testimony through the lens of the cultural and historical contexts of their experiences, as described in Chapter 3 (Creswell, 2009). These experiences, supported by state report card data on achievement and retention, including promotions, builds a clearer picture of how capacity building contributes to healthy schools.

The technique for this exploratory case study was to identify the themes that emerged from the participant testimony through two lenses: through Senge's five disciplines (1990) and also through emerging themes prevalent across cases. Following Yin's (2009) case study protocol, in addition to Creswell's (2013) interview protocol, I was able to remain consistent in my data collection procedures for each case, as outlined in chapter 3. Creswell (2014) recommended the use of a predetermined codebook when analyzing data based on a theoretical framework, such as Senge's (1990). These codes included the five disciplines as described by Senge (1990): personal mastery, mental models, shared vision, team learning, and systems thinking. I broke down the testimony from each participant by research question first and then coded each section according to the five disciplines (Senge, 1990). After I coded each interview, I then read the transcripts again, looking for emerging themes related to my literature review and repeated in the

testimony (pattern matching) among my cases (Yin, 2009). In addition to the five codes representing Senge's theoretical framework, five additional themes emerged: leadership, buy-in, collaboration, retention, and external factors. Table 2 contains examples of participant testimony related to these themes.

There were two discrepant cases in response to the central research question and sub-questions 2, 2b and 2c. Discrepant cases are important in analyzing case study data, as they help determine the validity of the testimony being collected (Yin, 2009). The discrepant cases were reflective of poor leadership and buy-in of the program. What was important in this testimony is that it supported a discussion of the impact of leadership and buy-in on student performance and retention data, which is discussed in detail in this chapter.

Table 2

Examples of Coding with Predetermined and Emerging Themes

Participant	Testimony	Code
Participant 5B	"I'll touch on the peer review first and I'll touch on it as a form of regret. It wasn't an opportunity that I took advantage of. Being in the mindset I was in at the time I was involved in this, I viewed my success as an individual endeavor, and though that I could consistently improve based on my individual efforts and did not take into consideration that as an educator I am a lifelong learner."	Personal mastery
Participant 4D	"We are able use that rubric to see what a highly effective/effective classroom looks like."	Mental models
Participant 3C	"Everyone is on the same page, more or less, obviously there are personality differences and all this other stuff, but generally everyone has the same goal."	Shared vision
Participant 4B	"…we were a strong team as it was and with that partnership, that first set of people that was involved would have been able to turnkey it to another group and then another group, until the entire school was operating on you know, an exemplary level. I think there are things that I have learned, especially with the data, with the peer review that I help teachers now, and they are like, how do you know this stuff, and I'm like I just had a really great start early in my career. I think a lot of that came, some of the best PD, came once we started our partnership with PICCS."	Team learning
Participant 1B	"Obliviously there were meetings about it, communications about it, but it wasn't truly understood what the function of the tools were."	Systems thinking
Participant 3B	"I came in 2004, our founding principal for several years and a lot more stability in a certain sense, job security was not where it is	Leadership

Table continues

Participant	Testimony	Code
	now, we have made gains there. I think that having the predictable expectations was helpful."	
Participant 2D	"The enthusiasm is really palpable among the staff. We can see kids growing and they are able to grasp concepts they weren't grasping at the beginning of the year and we have been in a lot of ways feeling like it's March already because we hit the ground running. All of the PD is all part of this puzzle."	Buy-in
Participant 1D	"If we like working each other, it impacts the way that the students like working with us as well. If we share ideas, then it spreads good ideas happening and it has a higher impact. If that's not happening, then it's the direct opposite."	Collaboration
Participant 4C	"That's a loaded question because staff retention is dependent on so many things- one mitigating factor has been competition to hire competent rendered by the DOE where charters can't possibly compete with the financial packages offered by the DOE. Absent that, during a period of time, where the DOE had a hiring freeze, I absolutely believe that the PICCS tools and the partnership definitely enhanced school's capacity and ability to retain quality staff."	External factors
Participant 4D	"Staying on- yes. It allows them to better understand the environment that we work in and the group of students that we are teaching."	Retention

Evidence of Trustworthiness

Issues of trustworthiness are inherent in qualitative research as a result of the personal involvement in the investigation process. The personal investment in the research procedures, as well as in the data collection requires several checks to ensure that bias and

ethical breaches are limited (Creswell, 2013; Yin, 2009). These checks included transcript review by the participants, storage of the audio recordings and final approval of the members after they examined the interview materials..

Credibility

To ensure the implementation of the data collection was consistent with the practices outlined in Chapter 3, Yin's case study protocol was developed (2009). In addition to the case study protocol, the use of an interview protocol (Creswell, 2014), further limited the appearance of bias in the data collection. By following both protocols, the focus was on the research questions and the participant testimony.

Yin (2009) also suggested working with someone that was knowledgeable of the participant pool. I conferred with the PICCS Program Director to ensure that the target participant pool matched the parameters outlined in Chapter 3. After working with the PICCS director and interviewing the consenting participants, I explained the procedures of the data collection and allowed participants to review their testimony and add to it if they wished. This method ensured that the data collection was accurate and vetted by the participant before analysis.

Transferability

To ensure transferability, I transcribed each interview. By transcribing each interview, I was able to digest the testimony in several formats: face-to-face with the participant, transcribing the interview, and then reading the interview in its entirety several times. During the multiple reads of the transcripts, I first coded the testimony according to Senge's (1990) five disciplines, and then I conducted pattern matching exercises (Yin,

2009) to find emerging themes from all of the cases. Excerpts of the testimony appear in several places in this chapter, giving the reader an opportunity to make connections regarding the research goals, and how perhaps they can transfer the information to their personal setting.

Dependability

As discussed in the credibility section of this chapter, several actions were put in place to ensure that the data collection and analysis was consistent with the practices outlined in Chapter 3. Yin's (2009) case study protocol (Appendix A) acted as the step-by-step procedures to conduct this case study research. In addition to following the protocol, I also followed Creswell's (2014) interview protocol (Appendix B).

After the interview data was collected and recorded, I transcribed each interview. Each participant received their transcript, along with the audio recording of the interview to ensure the accuracy of the data collection. Following these step-by-step procedures, and having participants vet their testimony provided that the data collection methods and analysis were consistent with the outlined procedures in Chapter 3.

Confirmability

As discussed in the dependability section, Yin's (2009) case study protocol served as the step-by-step activities outlined for the data collection. The data was collected and transcribed, vetted by the participants, and then coded by hand and by software to ensure reliability. The data was coded directly onto the transcripts, and then re-arranged via spreadsheet as responses to the research questions. Pre-designed codes were assigned to passages from the participants, followed by five additional codes that emerged after

several reads of the transcripts by using pattern matching (Yin, 2009). This work was done again using the QDA Miner software, ensuring reliability between open coding by hand and the software.

Results

The following results are presented as responses to the central research question and sub-questions for this study.

Central Question

In the view of case study participants, how did the PICCS School Improvement Engine programs provide opportunities for professional growth during and after the grant (TIF 2, 2007-2012, TIF 3, 2010-2014, and TIF 4 in progress)? The testimony from the participants in each of the TIF cohorts describes professional growth opportunities in their schools. In the TIF 2 cohort, participants who worked at School A and School B from 2007-2012, described a wide array of professional growth opportunities through the implementation of the tools. For example, Participant 2B felt that the data-driven practices helped long term practices:

> Teachers that were trying, teachers that were taking part in it more in a hands-on way, really did. I can speak for myself. When the person was doing the data left, it got put on me, and I became more aware and involved in the collection of data that helped me moving forward because that was one of the things that even four years ago I was able to sell on my point. I can not only collect data, I can aggregate it, I can look at it, I can dissect it, even doing it now by standards and creating trackers that I can now teach other teachers how to use. Professionally it helped me.

Several other teachers in the TIF 2 cohort also felt that they achieved professional growth. Participant 4B said the following about the professional growth made during that time:

> …Creating the tasks, especially for writing tasks or core knowledge projects- having another educator look at it- and say hey this is missing or hey why don't you try this…having someone else's feedback, not necessarily an administrator…but someone here who would have me try and refine my work and go back and fine tune and that was the biggest benefits of the program. Second to that, at that point in my career, you had data-driven instruction, but it was almost just a word that just got thrown out. But I don't remember if it was a meeting or a PD or what– someone breaking it down- but what is data driven instruction when you are using data - what exactly are you doing, how are you looking at it? How do you identify trends and what do you do after? Those two things have stuck with me, and I think I improved upon as I reflect back to those days that I still use in my career now.

In later cohorts, participants expressed similar feelings regarding professional growth. Participant 3C, a member in TIF 3 (2010-2015), stated, "I was happy to take part in it, it was a good experience, even with the ups and downs of it. In the end, it was helpful. More helpful than I have probably let on before." Participant 1D, a member of school D and in TIF 4, which is still in progress, believed that professional growth occurred at the school:

> I think I have had experienced growth because of it. I have been gradually taking a little bit on each year that I have been here. Last year was really cool as being the PLC lead…I know it's hard to lead PD, the cool thing was getting to play around with and finding things that worked with different teachers and improve student learning. That stuff directly correlates to working with different students in different ways and going to help students to improve their learning. Especially where my classes run: where the students are taking on a lot more of their learning without me making an effort to make them learn. That's where it has turned over for me.

The testimony of the participants demonstrates that the SIE tools provided opportunities for teachers to grow. Of the case study participant pool, 54% received promotions to leadership positions in their schools, or in other schools. While this data is not available for comparison against large school districts, other TIF cohorts, such as Mastery Charter Schools in Philadelphia, indicated that they also anticipated promotions in Year Five of the TIF grant implementation (Mastery Charter Schools, 2015). Recommendations to understand the statistics of staff retention in charter schools and large schools districts are discussed further in Chapter 5. While two of the participants were discrepant in their testimony (one did not remember many of the programs offered, the other did not see the value of the programs until serving in a leadership role), the remaining participants all shared experiences of the tools being offered at their schools, with the intent of improving instruction and "raising the bar on expectations" (Participant 3D).

Subquestion 1

According to case study participants, how were the School Improvement Engine tools implemented in the TIF cohort schools during and after the grant? While there was a consensus among all respondents that professional growth opportunities were available through the PICCS grant, there were many differences among schools in how those tools were implemented during the life of the grant and after. In school A, teachers reported that leadership did not support the use the SIE tools: "There are no footprints of TIF at the school at all" (Participant 1B). "I wish we were still doing PICCS" (Participant 3B). "I don't think it would be formally used, especially since I am not there. However I do feel that protocols will be used, they will use each other for critique, but it just won't be done in a formal way" (Participant 1C).

During the life of the grant, all participants responded that the tools were implemented in different ways. In the earlier cohorts, participants felt that they were asked to attend a training session and subsequently be held responsible for turning that knowledge over to their peers. Later cohorts felt that the tools were part of the vision of the leadership at the school, "from the moment I was hired, PICCS tools were a part of the professional development plan and remains an important part of what Bevor tells us to do throughout the year" (Participant 5D). Participant 3B stated:

> We would go to workshops, they would be brought back, certain people were chosen as leaders, and they were supposed to turnkey it into the school and it had mixed results to start with…But again, implementing and keeping it going were more difficult and more trouble than it was worth.

While Participant 3B discussed the difficulties of keeping the practices going with the staff at the school, other participants discussed a different approach:

> I observed that each school was able to focus in on a particular PICCS tool that best met the learning needs of their staff and also of their school leadership. Because of the independent selection of levers for change, I believe that the human capital management system was a source of rich professional experiential learning for schools (Participant 2C).

Another participant felt the implementation was done from a different lens, the external motivation of incentive pay:

> I do not feel it was modeled. I feel it was told; it was told to us with the motivation from the monetary perspective and it was not told to us the perspective of the level of professional growth it could allow and encourage for if they chose to be a part of it. I know my motivation, I just saw dollar signs. If my students achieve ABCD and I was able to do ABCD I was able to get this amount of money. I do not remember one it being modeled for us if were able to sit through a mock peer review, so we can what an actual peer review entailed, so I think from that perspective I don't want to say it was hidden, but for all the benefits that it served for educators that participated I don't think it was marketed to us in a way that we couldn't grasp what we could be a part of, and the level of benefits that it could provide us. If we presented it as this could something as a lifelong learner you can take this and learn from it, the level of which other teachers were invested, I don't think can be contributed to how it was marketed. I think it was more so the level of

> PD and the monetary aspects associated with the PICCS PD, since our PD at that point was not as desirable as it needed to be, PICCS just become a reflection of the negative and lack of targeted, differentiation PD that was offered here comes more PD and now here comes PICCS, so that must also be crappy PD. Outside of this monetary investment and hard to have teachers buy into a PICCS program unless it is coming from the perspective where there is a vibrant, targeted PD inside the school – we needed that first for PICCS to be able to take off from where it was intended to (Participant 5B).

As illustrated by the testimony of these participants, implementation methods varied at the schools, and the long-term implementation of the tools also varied, with some not happening at all. These comments demonstrate the importance of shared vision and systems thinking in schools (Senge, 1990). School leaders are responsible for providing opportunities to implement a shared vision among all stakeholders. This discussion of leadership acting as the foundation of Senge's five disciplines appears in Chapters 2 and 5. Additionally, this testimony adds a critical discussion of the notion of the impact of school leadership, addressed as a recommendation in Chapter 5.

Subquestion 2

How do teacher participants and administrators describe their professional growth, effectiveness, and retention, based on their experiences using the tools of the school improvement engine? Many of the participants reported seeing professional growth and increased effectiveness as teachers. According to the PICCS profiler, the TIF 4 retention average was 86% for the 2015-2016 school year (Measurement, Inc., 2016). The most

recent data available for New York City public schools comes from the Independent Budget Office, which reports that 80% of teachers remain on post after their first year on post (Independent Budget Office, 2015). This statistic, however, does not differentiate between and high and low poverty districts in New York City. Retention is not reported to New York State for the entire NYC Public School System, only by individual schools in the school system. Charter Schools are reported as part of the New York City Geographical School Districts (www.nyseddata.gov).

While schools to their authorizers and state accountability officials report this data, the participants did not express knowledge of the actual rates as reported above. Schools did not discuss retention data according to many of the participants, and therefore the experiences with teacher retention were told from a personal perspective. For example, School A in TIF 2 endured a significant external disruption, which resulted in all but four of the original staff members leaving the school. However, when asked the "what if" question if teachers would have stayed on at the school if the disruption had never occurred, the response from all participants in that school was yes. Participant 4B had this to say:

> Absolutely, absolutely! If that whole thing didn't happen…we were a strong team as it was and with that partnership, that first set of people that was involved would have been able to turnkey it to another group and then another group, until the entire school was operating on you know, an exemplary level. I think there are things that I have learned, especially with the data, with the peer review that I help teachers now, and they are like, how do you know this stuff, and I'm like I just had

> a really great start early in my career. I think a lot of that came, some of the best PD, came once we started our partnership with PICCS.

The idea of retention was also reflected as a package offering in which small schools could not compete with larger school districts. Several participants discussed the difficulty of keeping staff on post because of these offerings (pension, working hours, and tenure). Several other participants felt that leadership was an integral part of keeping teachers on post. The data shows that large district, such as New York City public schools, keeps teachers on post longer than their charter school peers (as described below). This data is supported by the testimony of these participants, that competition is difficult, but the school environment and quality of the leadership encouraged others to remain (Simon & Johnson, 2013).

As shown in Table 1 of this chapter, the average number of years of the participants at their schools during the time of the grant is 7.9 years (Measurement, Inc., 2016). According to the Independent Budget Office, high poverty schools in New York City retain teachers 10.3 years (Independent Budget Office, 2013). During the TIF 3 and TIF 4 grants when retention was measured, Measurement Inc reported that teacher turnover dropped by 7% for teachers, 42% for teacher leaders and 29% for school leaders (2016). Participant 3C reported, “I have seen tremendous growth in teachers from when I started implementing Danielson to now. They’re not perfect, but I don’t give out 2’s to the veteran teachers anymore.”

Subquestion 2a

According to participants, what elements of the school improvement engine had the greatest impact on their professional growth? What elements supported their decisions to remain on-post? Reductions in teacher turnover in TIF 3 and TIF 4 show that positive changes occurred in the cohort schools. The data shows that teacher leaders had the greatest change in retention, with 42% remaining on post from 2014-2015 to 2015-2016. In contrast, the pathways to leadership offered in NYC are administrative in nature. Teachers who wish to remain in the classroom and have leadership opportunities are not measured (Independent Budget Office, 2015). We can, however, review the retention rates of school principals. The PICCS leaders in TIF 4 report a significant decrease (29%) in turnover from 2014-2015 (Measurement Inc, 2016). In NYC, the principal turnover rate was 9% (Independent Budget Office, 2015). This turnover rate is an important data point because it supports a recurring theme in the testimony of participants on competition between small charter schools and large school districts. Recommendations for further research on this issue appears in Chapter 5. Participants describe the issues for charter teachers vs. teachers in large public school districts below:

> Retention- even last year, we counted over the course of the year there were 20 something teachers that left, there's still a big turnover. There's no pension; we have a 401 k, but that's it. There's no tenure. You go to DOE there is a lot more to offer in that regard. The hours are shorter and the pay is better in that regard. There's a lot of reasons to leave I guess. I think for most people it's one of those things, and I don't know how to change that (Participant 3B).

Participant 2C concurs with this notion of retention in charter schools by saying, "That is hard to say, as a non-union charter school. It's hard for us to compete. It's like asking for a bodega to compete with Whole Foods." Participant 4C also expressed similar sentiments:

> That's a loaded question because staff retention is dependent on so many things- one mitigating factor has been competition to hire competent rendered by the DOE where charters can't possibly compete with the financial packages offered by the DOE. Absent that, during a period of time, where the DOE had a hiring freeze, I absolutely believe that the PICCS tools and the partnership definitely enhanced school's capacity and ability to retain quality staff.

The table 3 shows which tools had the greatest impact on personal, professional growth:

Table 3

Tools that had the Greatest Impact on Professional Growth

Participant	Tool
Participant 1B	Peer Review
Participant 2B	Data Driven Instruction
Participant 3B	Peer Review
Participant 4B	Peer Review
Participant 5B	Data Driven Instruction
Participant 1C	Peer Review
Participant 2C	Peer Review
Participant 3C	Data Driven Instruction
Participant 4C	Curriculum Mapping
Participant 5C	Peer Review
Participant 1D	Peer Review
Participant 2D	Instructional Rounds
Participant 3D	Danielson Framework for Teaching
Participant 4D	Danielson Framework for Teaching
Participant 5D	Peer Review

Subquestion 2b

What relationship do participants view between SIE implementation and student performance in reading and math? All but two of the participants agreed that the implementation of the tools correlated to student performance in reading and math. For reporting discrepant cases, I am presenting the testimony of the two participants who did not feel there was a relationship first. Participant 1B expressed that the implementation of the tools was an imposition on some teachers:

> There was not a very strong connection. Because of the way it was presented, teachers felt imposed upon…So PD is being provided for math…the teachers didn't feel there wasn't such a great connect to what they were doing in the classroom, so they didn't see the value of it. Though I don't know if it was one of the things where the teachers didn't want to participate in general, and wouldn't see the value regardless.

The second teacher, Participant 5B, was succinct in the response, "Not to my knowledge at School A." This testimony from these discrepant cases demonstrates the impact of a lack of shared vision and systems thinking (Senge, 1990) from school leadership. When there is a lack of understanding of stakeholders, misunderstanding and a lack of buy-in prevents measures from being implemented that can create a shared vision and encourage team learning and collaboration (Senge, 1990).While the data for School A during the time of the grant demonstrates an increase in student outcomes, these results will not always be the case in the years following the school's participation in the grant. This type of data disparity is discussed by other participants from TIF 2, but as a reflection of the

difficulties of being a part of the external interruption that caused all but four of the original teaching staff, including school leadership, to leave their posts.

The significance of this discrepancy between cases also shows how organizational health pairs with the consistency and strength of the five disciplines that serve as its foundation. Without leadership to implement systems thinking and shared vision among stakeholders, inconsistency among team learning, collaboration, and mental models will prevent organizations from achieving health (Senge, 1990). The testimony of School A measures this relationship. These two examples of discrepant cases foreshadow the near decade of inconsistency and poor performance for School A during the external interruption immediately following the grant period.

There is a relationship between the remaining cases as described by the other participants. The SIE tools were intended to support personal mastery to improve team learning and collaboration in the organization through the use of mental models. Such an example is found in the Danielson Framework for Teaching, as reported by Participant 5C, "I think (it) is one of the tools that has mostly changed my way of thinking in regards to planning and how all four domains have to be interconnected at a higher level all the time." Even the other participants in TIF 2 from School A reported a correlation between student outcomes and TIF implementation:

> I think anything that improves your practice benefits your students. If you see this data and your student is struggling to decode words, addressing that need is going to benefit the child, and it will improve their performance. I think having the peer reviews, things you don't notice, it's very hard to look at yourself and even when

> you visit another teacher's classroom, just being open to other experiences and different modes of teaching is another way to address a child's needs (Participant 3B).

Here we can see evidence of Senge's (1990) five disciplines through their reflecting on personal mastery (data driven practices as discussed by Participant 3B) and mental models (Participant 5C discussing the Danielson Framework). Other participants from different cohorts expressed the same idea through collaboration and team learning:

> I think that any time that you improve a teacher's pedagogy; they are going to be more effective in the classroom. I think that's one way. Another way is when you are looking at the PR (peer review) piece, and the teachers can get feedback about how to see how they can improve their lesson, that will make that lesson; they will strengthen the lesson and get a good benefit from that (Participant 4C).

Collaboration was a strong theme in the testimony of the participants, even evident in the testimony of the discrepant cases for this question. Teachers and leaders value having access to peers to share in their own personal mastery (Senge, 1990). This builds the capabilities of the school as a whole unit, as the school can rely on the expertise of its stakeholders instead of venturing outside of the organization (Senge, 1990). Furthermore:

> I mentioned that a bit earlier…it allows all the teachers to get into the same way of thinking, the same mentality and approach the problems with the consistency so that the students see the same things in their classrooms instead of it being fragmented. It makes a united front in some of the things that we face instead of

> different strategy. The consistency leads to better grades, better learning… (Participant 1D)

The testimony from the participants, despite the discrepant cases, talks about the importance of systems thinking, shared vision, collaboration, mental models and team learning (Senge, 1990) as the inputs to an output like increased proficiency rates for their students. According to the PICCS Profiler for TIF 4, 81% of the participants in the grant reported sharing best practices around data in their PLCs (Measurement, Inc., 2016). Participants that describe a positive impact on their practice with the tools shared that they believed it was only natural that student outcomes would also improve. Furthermore, peers conveyed the idea of shared vision and collaboration through consistent practices classroom to classroom (1D). The importance of the discrepant cases points to systems thinking and shared vision; when school leadership failed to impart these two elements to the staff, individuals adopted their own ideas to improve student outcomes. These ideas were reflected in the testimony of the discrepant cases (Participants 1B and 5B). The data on student proficiency is discussed in detail below.

Subquestion 2c

How do participant responses about teacher retention and student achievement compare with district data that are available in the public domain? The relationship between the participant testimony and the data on retention and student performance tell the story about schools and the relevance of Senge's theory on organizational health. In the discrepant cases regarding implementation of the SIE tools, and the relationship that implementation had with student performance, a lack of systems thinking and shared

vision was considered deficient. Teachers forced into this PD that was assumed to be sub-par (Participant 5B) were left to their own devices to improve student outcomes (Participant 1B). Despite that impression from leadership, these discrepant cases spoke to the importance of mental models, team learning and collaboration as a means to improve student performance.

The data in Table 4 shows that TIF schools are reducing the turnover rates from year to year (Measurement, Inc., 2016) and that teacher leaders are more likely to remain on post than a teacher or principal (Measurement, Inc., 2016). When we look at this measure, and then review student proficiency rates in ELA and Math, student performance increased, with TIF schools outperforming other charters and the NYC DOE (Measurement, Inc., 2016). The table below shows how turnover changed from year to year for each TIF School during their participation in the grant.

Table 4

TIF School Staff Retention during the Grant Period

TIF School	Year 1	Year 2	Year 3	Year 4	Year 5
School A	30%	7%	39%*	25%	20%
School B	26%	5%	0%	12%	8%
School C	17%	18%	15%	15%	14%
School D	NA**	0%	17%	12%	In progress
School E	NA	NA	67%	40%	In progress
School F	NA	NA	80%	40%	In progress
School G	NA	NA	0%	20%	0%

Note. * During Year 3 of the grant for School A, turnover was high as a result of the school working with a third party for contractual negotiations. **Schools opening in 2012 did not have retention data available, as that data is reported from the previous year. Adapted from "New York State Education at a Glance" from the New York State Department of Education (2016). Retrieved from https://data.nysed.gov/

During the life span of the TIF grants, New York State adopted the Common Core standards. After 2012, an "apples to apples" comparison could no longer be conducted as a result of the testing structure changing for all grades (Measurement, Inc., 2015). Therefore longitudinal analysis for student progress in reading and math can only be investigated as a "pre-Common Core" measure, and then as a "Common Core" measure. There were no discrepant cases in this segment of the testimony. All participants reported knowing their school's proficiency rates and comparison data on some level. For example, participant 5C stated, "We were at or above the performance of the district, but I do believe after that partnership we exceeded the district performance." Other participants were able to report on increases in their school's proficiency rates, "Overall the school demonstrated a 75% increase in math achievement last year. Content knowledge in math and ELA was a rich area for focus (Participant 2C)." This understanding of student proficiency demonstrates consistency across TIF cohorts on the importance of understanding how student performance can be affected by professional development: "we definitely look at comparison data. From fifth and down just to see what concepts they need to own and understand, and then we look at it across the district (Participant 4D)."

The data on cohort performance from each of the TIF cohorts indicates that participating schools are outperforming New York City charter schools and New York City public schools (Measurement Inc, 2012; 2015; 2016). These data from Measurement Inc., report on the elementary and middle charter schools participating in all TIF cohorts. The two high schools that serve special populations are still without accountability plans for New York State, and were not included in Measurement Inc.'s analysis. However,

performance data in ELA and Algebra Regents exams indicate that both high schools are out-performing their cohorts per the most recent School Quality Snapshot (NYC DOE, 2016).

In order to keep school names confidential, Table 5 shows the school performance data for the fifth year of each TIF cohort and whether or not they out-performed the district. This table does not indicate growth over time due to the implementation of the Common Core Learning Standards in 2012.

Table 5

Year 5 TIF Cohort Comparison Data in ELA and Math

TIF cohort	ELA percent proficient	Outperform charters and NYS?	Math percent proficient	Outperform NYC charters and NYS?
TIF 2	55%	Yes	75%	Yes
TIF 3	33%	Yes	52%	Yes
TIF 4*	29%	No	43%	Yes

Note. *The TIF 4 grant is still in progress. Proficiency rates are based on the 2015-2016 NYS Assessments in ELA and math. Adapted from "Year Five Student Outcomes" by Measurement Inc. (2010; 2012). Retrieved from http://piccs.org/results/cohort-1-results/

Subquestion 3

What are the participants' perceptions of the effect of the SIE on the school as a learning organization? The overall response among participants was that the implementation of the SIE tools had a positive impact on the school as a healthy learning organization. As illustrated in Table 1, eight of the fifteen participants earned leadership positions, either as administrators or teacher leaders during the life of the grant or went on to leadership positions after the grant in the participating school or another school. These

new positions account for a 54% promotion rate for individual participants involved in the TIF cohorts. There is limited information about teacher promotions in the New York City Public School system, except in describing the Principal Leadership opportunities available (Independent Budget Office, 2015). Teachers remained employed by their participating TIF school an average of 7.9 years and turnover decreased in TIF 4 schools by 7% for teachers, 42% for teacher leaders and 29% for school leaders (Measurement, Inc., 2016). In contrast, the New York City Public School System retains teachers in high poverty schools on average 10.3 years (Independent Budget Office, 2016). While we see that the TIF grant was effective in providing leadership opportunities for teachers and that also resulted in them staying on post, the question remains whether other external factors (such as hiring packages, tenure and shorter hours) keep non-teacher leaders from staying on post, regardless of the quality of their work environment.

Individual responses were consistent with the data reported from Measurement, Inc., (2012; 2016) and the comparison data from the New York City Independent Budget Office

> I think there was a transformation happening once we partnered with PICCS. There was more collaboration. Before that it was closed door, every man for themselves, more people were kind of looking at what others were doing. I remember as much as I loved [redacted], I did not understand what she was doing. But then when you sit at the round table with her, and she's sharing her projects, this person really knows what she's doing! I want to step into her craziness. Now I am that teacher. Now other people are like what the heck is [redacted] doing and why on

> a snow day is she the only class with kids. I think I'm a better teacher for it it's not just what I think is best for students. I can take a little bit of what [redacted] is doing and make it my own, I can take a little bit of what [redacted] is doing and make it my own, I can take a little bit of what [redacted] is doing and make it my own- it becomes a melting pot of teaching style. I definitely think as a school we were becoming a collaborative unit before that whole thing happened (Participant 4B).

Participants in other cohorts also believed that their schools were becoming healthier, more successful learning environments as a result of participating in the implementation of the SIE:

> I think of a healthy learning organization as one in which all members have the opportunity to learn; where members feel they can express themselves without fear of repercussion, one in which members trust each other enough to transparently reveal their learning needs, invite feedback and hold themselves accountable for the well-being of the organization. The PICCS tools have provided opportunities for collaboration, collective action, and professional improvement. And so, I believe that they were instrumental in promoting the health of our schools. Each school leader embraced PICCS tools to different degrees. What stands out as an example is the differentiated level of participation in the deeper learning initiative. One school leader did not believe the staff was ready to engage in another initiative. The principal's focus was on literacy and numeracy support. The remaining school leaders formed deeper learning committees and actively worked with the PICCS team and PCG consultants to enhance key school programs. The

> key to a healthy learning organization is the school leader. A school leader who knows his/her staff's learning needs understands the depth of knowledge and rate of progress staff can make towards mastery and can simultaneously negotiate supports in the best interest of all learners in his/her school will create that perfect healthy learning organization (Participant 2C).

Themes

Through the research questions, it was evident that the pre-distinguished codes from Senge's five disciplines, personal mastery, mental models, shared vision, team learning and systems thinking, were embedded in each of the responses to the research questions. Participants spoke of their personal mastery concerning their professional growth opportunities (central research question). Participants also discussed how their school implemented the tools, and which of the tools had the greatest impact on them. When comparing school data to retention and the local district, testimony from the participants showed that schools improved when implementing and maintaining the use of the SIE tools in their school buildings.

Several themes emerged from the discussion of the research questions. Descriptions of these codes appear in Table 2: leadership, buy-in, retention, collaboration and external factors. Every participant discussed the theme of leadership in his or her response to each research question. Respondents discussed how school leaders introduced the project, such as in participant 1B's discussion of the implementation of the grant at the school:

> From when I remember supervisors coming in they had the rubric and they weren't trained on how to use the rubric and what it was supposed to be used for. I do remember when they used it was evaluative and not trying to help improve your practice. Curriculum mapping- I don't remember being part of that. I think that it was more this is what we are doing, and not so much the reasoning behind it (Participant 1B).

Not all participants viewed their school leadership in that way. Some respondents felt that it was the leader that was making the SIE a success:

> I learned the most in these last two years than I have in the previous 18- Instructionally, operationally no, but instructionally, which is our business, absolutely. If I had [redacted] under tech international through PICCS through the Sped Collab with [redacted], at age 22, I would probably be an unstoppable teacher (Participant 4D).

The school data for these accounts supports the importance of leadership in implementing systems thinking and shared vision through the SIE. In School A, the principal stepped down after the school elected to negotiate with a third party. Following this shift in leadership, participants from that school indicated that there were "no footprints of TIF" (Participant 1B). In addition to the inconsistency in leadership, increased turnover rates for School A (Table 4) led participants who remained with the school to reflect on the impact of the unrest: "The principal has returned, it's her third year. So we're getting into that place again…But I do think with the Danielson, and data driven instruction there are very positive changes in the building (Participant 3B).

Buy-in was an important theme to emerge in the testimony from the participants. The participants demonstrated in varying degrees their commitment to the project, or why they were not committed:

> I'll touch on the peer review first and I'll touch on it as a form of regret. It wasn't an opportunity that I took advantage of. Being in the mindset I was in at the time I was involved in this, I viewed my success as an individual endeavor, and though that I could consistently improve based on my individual efforts and did not take into consideration that as an educator I am a lifelong learner. One of the best resources for my continuous development was other teachers. I remember being involved in a peer review and having an attitude while I was there, and then fast forward to myself as a school leader now and having other teachers present particular ideas that they are working on in their classroom and having that be a part of a whole grade solution protocol that we dive into that teacher's ideas and brainstorm possible questions and then bring some solutions that continue to benefit that teacher and that idea. In retrospect I wish I had taken more opportunity to be more invested in the peer review sessions that I was part of and take the steps to actually facilitate one I think that was a missed opportunity and a miss opportunity for me to target my professional growth on something that I was personally invested in. But we live and learn and I learned that maturity is a beautiful thing and I viewed that as an opportunity for growth as opposed to viewing it as having 20 minutes being taken from my prep (Participant 5B).

While Participant 5B expressed regret at not being bought into the process of school improvement through PICCS, other participants were eager to detail their successes with the program. Participant 2C discusses how buy-in from the staff took time:

> Ongoing in house PD and through implementation, asking for volunteers, for peer review - Ongoing training with PP. Something like Performance Plus we did little by little. We didn't say you have to do all this in a year- we started it slowly, by the end of the grant is when it was more mandatory. We gave people a chance to get their feet wet. With PR started off by asking for volunteers and teacher leaders to take it on. I think it helped tremendously to have the teacher leaders take it on because they also received professional development and the teachers were able to participate and see the value in that. This was also true with teacher observations. At first it was challenging on everyone's part, but the more we did it, the better is got.

Buy-in is an important element of the implementation of the SIE tools. As a systems thinking and shared vision example within Senge's organizational framework, it is an essential function of a healthy school. The participants across cases discussed buy-in through their experience with school leadership. We can look to the retention rates of the TIF schools to understand the impact of buy-in, those teachers who bought in to the SIE tools and vision of the school remained on post. The greatest increase in retention was among teacher leaders (Measurement, Inc., 2016), which demonstrates that when leaders develop capacity, teacher leaders will turnkey their success to their peers. This increase in

retention among teachers was reported as a 7% increase from 2014-2015 to 2015-2016 in TIF 4 schools (Measurement, Inc., 2016).

An essential component of every participant's testimony was the idea of collaboration. This was well matched with Senge's (1990) "team learning," with many participants discussing the importance of being involved in peer review as the one thing that caused everyone to open their doors and start to share:

> One assignment that I submitted where people took it apart but in a good way and giving constructive feedback on parts of the lesson being so early in my career there things that I didn't know. Having other people explain it to me-it wasn't threatening, because it wasn't necessarily the principal telling me something that I was missing. I think I learned a lot of best practices being able to talk to other educators and having a lot of people looking at my work, and looking at other people's work that would give me ideas for the next task I would design for my students (Participant 4B).

One new feature of TIF 4, Instructional Rounds, furthered the idea that collaboration was an essential element to improving student outcomes, and supporting shared vision. "Being afforded the opportunity to learn at another school and use it at your own school- It's just instrumental (Participant 3D)." Participant 2C noted that after the grant ended, collaboration with other schools was missed:

> I think that PICCS offered so many opportunities for PD that a large amount of our staff was able to go attend and bring that knowledge back to the team. That was so

> valuable…It was really nice for me to build that type of relationship and collaboration with other folks that are in the charter school world.

Participants viewed collaboration and team learning as a very important part of their professional growth. The ideas of collaboration and team learning were discussed in the participant testimony 92 times among all fifteen participants (Table 5). When all participants see collaboration and team learning as an integral part of their personal mastery, they see their students' success in the same light; which is why all but two participants discussed the relationship between SIE tools and student performance, as described earlier in the chapter.

Retention was a natural discussion because of the research questions. Retention often paired with the other theme, external factors (contract negotiations with a third party). The data from the participants, as well as from the state show that retention is a complex issue. Teachers who left their original schools, such the case in School A, would have remained on-post if an external event hadn't taken place. In School B, the participant indicated that external factors related to the external contract agreements prevented tools from being fully implemented:

> (Curriculum mapping) It was good on one hand because it got them thinking about what they were doing. They got more engrossed in the process. They started to plan ahead. On the other side, the mapping tool itself turned out to not be very practical…per negotiations; we are not even allowed to ask them to do that (Participant 3C).

In addition to contract negotiations with third parties, the issue of charter school hiring packages often does not compare to large school districts, as stated by Participant 2C, "it's like asking a bodega to compete with Whole Foods." Participant 4C echoed this sentiment, outlining the details of large school district packages, and how charters cannot compete. Participant 3B also suggested similar reasoning related to pension and tenure.

A review of retention data (Table 4) and promotions (Table 1) shows the complexity of this issue. While the New York City Public School System retains teachers 10.3 years as opposed to TIF schools averaging 7.9 years, the NYC DOE does not report teacher leadership availability (Independent Budget Office, 2015). Teacher leaders are remaining on post at a much higher rate than principals or their peers not in leadership positions. Recommendations in Chapter 5 include further investigating the impact of hiring packages on retention and student performance data. Table 6 shows how many times the themes appeared in the testimony of the participants:

Table 6

Coding Frequency among Participants

Code	Count	Number of cases
Personal Mastery	91	15
Mental Models	33	11
Shared Vision	73	15
Team Learning	64	15
Systems Thinking	62	15
Leadership	57	15
Buy-in	37	11
Collaboration	28	10
External Factors	20	11
Retention	14	9

Summary

This chapter discussed the data collection procedures and the results of that data collection. Fifteen participants agreed to participate in face-to-face interviews, which lasted approximately 35 minutes in length. After the interview transcription, the researcher sent the transcripts back to the participants, along with the audio recording to ensure that the data collected was accurate. The adherence to the data collection plan outlined in chapter 3 was aided by the implementation of Yin's case study protocol (2009), in addition to Creswell's (2014) interview protocol.

Of the fifteen participants, 54% experienced promotions to leadership positions within the grant. Participants remained employed with their TIF schools an average 7.9 years (Table 1). Teacher turnover rates were also improved. According to the data collected from Measurement, Inc. (2016), turnover rates decreased by 7% for teachers, 42% for teacher leaders and 29% for school leaders. According to NYS performance data, TIF cohort schools outperform other New York City Charter Schools and New York City Public Schools (New York City Charter School Center, 2016). Participants found the schools they worked in during the life of the grant, and after, to be healthier organizations as a result of implementing the tools.

In addition to themes pre-coded from Senge's (1990) five disciplines (personal mastery, mental models, team learning, shared vision, systems thinking), five additional themes emerged from the participant testimony: leadership, buy-in, collaboration, external factors and retention. In chapter 5, these findings will be interpreted through the lens of

the literature review in Chapter 2, along with recommendations for further research and the implications of social change.

Chapter 5: Discussion, Conclusion, and Recommendations

Introduction

The purpose of this case was to investigate whether professional development tools like the SIE positively influenced individual growth and retention among teacher and the organizational health of schools. Teachers employed in high-poverty urban school districts are more likely to leave their posts due to poor working conditions rather than poor student performance (CEI-PEA, 2007; Milner et al. 2015). Because of the environments in which they work, some teachers are ill-equipped to overcome the obstacles involved in working with high poverty, urban students; as a result, many teachers feel inept as professionals (Simon & Johnson, 2013).

To make determinations about organizational health, I compiled the data collected from face-to-face interviews, teacher turnover rates (Measurement, Inc., 2015) and students' proficiency rates in ELA and math. Using the case study approach, I was able to take an in-depth look at schools participating in the grant and how the teachers viewed their success and that of their students and their school as an organization.

My findings suggest that teachers who work with school leaders who provide professional growth opportunities are more likely to remain in their positions. Analysis of the face-to-face interviews and retention data from the PICCS cohorts (Measurement, Inc., 2016) indicate that when professional development programs are designed to promote collaboration among the staff, annual turnover rates decline. This data reflect the relationship Senge's five disciplines (1990). When leaders involve all stakeholders in the mission and vision of the organization, all stakeholders feel valued and necessary for the

success of the whole organization (Senge, 1990). When leaders do not include teachers and other staff in the development and maintenance of the school mission and vision, the opposite takes root, as observed in the case of School A. Without strong leadership to support all of the inner workings of the school, growth is difficult to achieve and maintain long term.

If the environment in which teachers work does not support the five disciplines, then teachers may feel inept and are more likely to leave their positions, as in the findings of Simon and Johnson (2013). Other qualitative studies in Chapter 2, such as in Rao and Salunkhe (2013), indicated that collaboration and trust building were necessary for improving learning outcomes. While not all of Senge's (1990) five disciplines were evident in the research described in Chapter 2, collaboration and trust building are essential to adult learning (Chester, 2012; Hopkins et al. 2015) and likely result in teachers remaining on post. Based on the testimony of the 15 participants and public domain data from PICCS and New York State Department of Education, teachers were more likely to stay at their schools and grow when leaders supported collaboration and participation in school-wide initiatives related to mission and vision (Table 1).

Interpretation of the Findings

The literature review presented in Chapter 2 indicated a gap in the research regarding individual professional growth and its impact on the whole learning organization. The perspectives of teachers who received professional development from their schools offered an in-depth view of how teachers saw their success (Simon & Johnson, 2013). The participant's testimony provided insight into the benefits that

professional development had on their personal practice, and how it affected the school as a learning organization. In qualitative research, these perspectives gathered from the testimony of the participants provide insight into the case of professional development and its relationship with organizational health (Creswell, 2009). These views illuminated why organizations succeed and fail and why teachers in urban settings stay or leave their positions.

Research shows that when teachers learn and feel fulfilled in helping their students become better learners, they remain on post (Schleicher, 2016). The results from this case study concur with those of other qualitative researchers (see Fitzgerald & Theilhemer, 2013; Rao & Salunkhe, 2013; Schleicher, 2016; Shaffer & Brown, 2015) on the working conditions and personal growth teachers need to feel success. The participants of this research discussed personal mastery through professional development outcomes and their own students' academic progress. In these studies, individual teachers and collaborative teams shared their viewpoints on collaboration, but not from the lens of organizational influence (Rao & Salunkhe, 2013). The relationship between professional development elements for individuals and the school-wide mission, as in the case of Rao and Salunkhe's (2013) study, was not investigated.

My interview data indicates when leaders planned professional development to be inclusive of all stakeholders and focused on school mission and vision; then all participants are working towards a common goal. As a result, teachers in the PICCS TIF cohort schools remained on post an average of 7.9 years (see Table 1). While non-PICCS charter school retention rates are not available from the New York City Department of

Education, the average in high poverty schools is 10.3 years (Independent Budget Office, 2014). This data is an important distinction, as charters have a hard time competing with the offerings a large school district, such as the New York City Public School system.

When schools continuously build capacity among their teachers and promote teachers from within the community, student achievement increases as well. According to the data collected from the public domain, all TIF cohort schools outperform other New York City charters, as well as New York City public schools (see Table 4). Also, 54% of the participants earned promotions in their schools (see Table 1). While these are promising data, there are no recent publications within the New York City Public Schools or New York State that measure promotion rates for teaching staff. A TIF 3 cohort in Pennsylvania reported an "anticipation" of increased teacher retention and promotion for Year Five of their participation in the TIF grant (Mastery Charter Schools, ND). These data indicate that while connecting teacher professional growth with retention improves student performance, retention data collected from the TIF schools furthers the notion that teachers who remain on post and grow professionally also improve the health of the organization (Senge, 1990). This data collection shows that programs like the SIE may improve organizational health when leaders implement the tools as a school-wide initiative.

A discussion of professional development programs that focused on promotions occurred in the literature review of Chapter 2. The findings of this study show that when teachers receive professional development and participate in opportunities for professional growth, they can transcend the notion of "experience equates to increased performance"

(Costa & Garmston, 2015). Instead, professional growth results for all teachers. Participant 4B stated, "We were a strong team as it was and with that partnership, that first set of people that was involved would have been able to turnkey it to another group and then another group until the entire school was operating on you know, an exemplary level." Promotions, in this case, do not just improve the efficacy of the promoted teacher; it begins a ripple effect that reaches every corner of the school building. Performance data shows, as indicated in Table 4, that student achievements rates grow when promoted teachers can turnkey their knowledge to others.

Motivation is a significant factor in teacher growth in this study and the review of the literature. Firestone (2014) found that evaluation was an important part of the intrinsic motivation for teachers; however, the findings suggest that extrinsic motivators such as performance-based pay, was ineffective in instilling motivation in staff. Like Firestone, Hitka, Stachová, Balážová, & Stacho (2015) found that motivation, when part of a school-wide program, can make a difference in student achievement and teacher effectiveness. The intrinsic factors, such as in Firestone (2014), can unify faculty and push change in schools.

Participant testimony supports Firestone's (2014) ideas regarding incentive pay in their schools. Participant 5B was motivated to increase the students' performance to receive the incentive check, but not necessarily to participate in the PICCS tools. It was only in hindsight (discussed in Chapter 4) that this participant realized the value of the opportunity. Participant 3C echoed a similar idea regarding incentive pay; that the incentives mainly motivated his team to get started with the work; however, once the

processes were actualized, the staff saw the value. These two ideas were not common to the participant testimony; instead, the motivation to support the learning organization as a whole was rooted in collaboration and team learning (Senge, 1990). The participants in this study reflected on collaboration as significant in their professional development needs, citing the SIE tool Peer Review as the most important tool at their school (see Table 3).

Organizational frameworks are an essential component of understanding professional development regarding this case study, particularly in recognizing that Peter Senge's work in organizational health is just as relevant today as it was in 1990. The crux of this study is asserting that professional development must be rooted in strong leadership that promotes and builds individual growth from within its ranks to create an organization that generates its learning (Senge, 1990). When an organization, such as a school, can turnkey learning among the staff, the five disciplines that comprise organizational health (personal mastery, team learning, shared vision, systems thinking and mental models), result in a successful school. Achievement, retention, and promotion all act together to create a stable learning organization.

Ash and D'Auria (2013) established the importance of creating a "learning system" that proposed that four drivers were necessary for collaboration. These drivers include trust, collaboration, capacity building, and leaders at all levels. If we were to evaluate this work regarding Senge's (1990) five disciplines, the idea of collaboration, trust, and leadership is inherent in both models. The results of the case study mirror this, with the emerging themes suggesting that personal mastery is a result of collaboration and

team learning supported through leadership. Ash and D'Auria (2014), Bobeth-Neumann (2014) and Quan-Baffour and Arko-Achemfuor (2014) were highlighted in representing portions of Senge's theory but expressed a gap in establishing a teacher's growth in the learning organization and how it contributes to the learning organization.

Limitations

There were three limitations in this case study. The first limitation in this case study was related to the target population of potential participants, described in Chapters 1 and 3. The PICCS program had three cohorts that received TIF funding. While Creswell (2013) recommended using four to five cases for research, a saturation point would not occur due to the nature of the study. Therefore, with the guidance of the PICCS Director, I developed a list of potential participants based on the eligibility criteria described in Chapter 3.

A second limitation was the amount of time that had passed for some of the participants involved in the PICCS program. For example, participants from TIF 2 participated in the SIE tools from 2007-2012. Three of the five teachers interviewed are no longer at the school, and they struggled to recall implementation moves from school leadership (subquestion 2). Other participants in TIF 3 had similar issues, as they participated in the grant from 2010-2015. Thinking back to the implementation of the tools presented a challenge for some of the participants.

The third limitation was the shift to the Common Core learning standards. While this change did not affect the implementation of the SIE tools, it did provide some limitations in evaluating longitudinal data for student performance in reading and math.

As noted in the findings in Chapter 4, an “apples to apples” comparison could not be conducted due to the nature of the assessment changes (Measurement, Inc., 2015). These limitations did not affect the results of this study.

Recommendations

The findings of this study suggest that organizational health occurs when school leadership implements professional development programs that promote individual growth and collaboration among its staff. Throughout this study, more research and support from the testimony of the participants emerged. The following recommendations address this need for future study.

Recommendation 1: Leadership Training

Participants discussed leadership style as an important lever to program implementation, and buy-in among the staff. The testimony from the participants ranged in negative reflections (“we were just told to do it”); to a positive assessment of school leaders (“I have grown in the last two years with my principal more than I have in the last 18”). This evidence shows teachers need consistent leadership support. Research into leadership preparation and ongoing supports of school leaders could potentially show gaps in leader performance that affect overall school functions from teacher growth to student achievement measures.

Recommendation 2: Study of Hiring Packages and Teacher Retention

In several of the participant’s testimony regarding retention, a comparison between charter school offerings and that of large public school districts indicated a disparity in benefits ("it's like asking a bodega to compete with Whole Foods"). Investigating the

hiring packages and retention rates in schools with different offerings may show that external factors like hiring packages impede retention of teachers in charter schools in particular. This study should include a comparison of high-poverty, urban charter schools, and other school districts with similar demographics.

Recommendation 3: Relevance of Incentives on Teacher Motivation

There are several examples of incentive plans (Chicago, Washington D.C., and New York City) where teachers participating in the programs earned compensation for performance measures. The participants in this study were also eligible to receive incentives; however, this was not the focus of this study. Research shows that the data correlating incentive pay to student performance is inconclusive (What Works Clearinghouse, 2012). A comparison study of these plans, with a mixed-methods approach, could show teacher motivation and assessment of incentive programs through interviews or surveys. The teacher responses coupled with student performance may widen our understanding of performance-based compensation and how it can be revised to be more effective in increasing student learning outcomes and teacher efficacy.

Implications of Social Change

As described in Chapter 1, teachers receive scrutiny over student achievement. Research shows that teachers are leaving their posts because they feel unfulfilled and ill-equipped to handle the sometimes harsh conditions of a high-poverty, urban school (Firestone, 2014; Ingersoll, 2012). When teachers leave their posts, schools have to scramble to find talented teachers that work with students and their peers to generate learning for the school community (Senge, 1990). The results of this study indicate that

cultivating Senge's framework through programs like the School Improvement Engine can be individualized to state, district, and individual school needs.

The participant testimony and data on retention and performance in ELA and math results in grades 3-8 show that teachers can grow and reflect with strong leadership to support them. School leaders that employ Senge's framework in their schools do not necessarily need to have the tools of the School Improvement Engine at their fingertips to promote growth and change in their buildings. Leaders need professional development programs that cultivate teacher leadership and collaboration. The data are clear in this respect; teacher leaders were 42% less likely to leave their posts (Measurement Inc, 2016).

Professional Development programs exist in any school model. As participants testified, good leaders create buy-in, collaboration opportunities, and professional growth that are rooted in the foundations of the school model. When everyone is on the same page and dedicated to the same goals, it is much easier to achieve positive change in the health of the whole organization. Leadership cultivates individual school members that turnkey learning to their peers. Their peers, in turn, generate new knowledge, and pass that down to their peers, until the whole school, as stated by Participant 4B, is "operating on an exemplary level." Professional development designed off of the school's mission and vision and includes collaboration among peers results in higher student achievement and a strong school.

Schools that are seeking to develop positive practices as a whole organization need look no further than the talent in their walls. Plans should be developed that tap into the skills of the teachers already on board and provide them with space and tools to grow and

turnkey their learning to others. The SIE tools were a vehicle for schools to push Senge's theory forward into their buildings: develop staff leadership, cultivate collaborative environments through tools like Peer Review, and set measurable goals for school-wide measures like performance data. When these five disciplines build the individual (personal mastery) up through the whole organization (systems thinking), improvements result: individual teachers grow and then the classroom learning improves, and then the whole school achieves better learning outcomes.

Conclusion

Teachers today have a lot of pressure placed upon them. The pressure to improve student learning relies on the relationship that the teacher has with the student (McMurray, 2012). Retention rates in high-needs areas, such as high-poverty, urban schools are plummeting, at a time when the students need good teachers most (Milner, Murray, Farine, Delale-O'Connor, 2015; Ronfeldt, Loeb & Wyckoff, 2013). The purpose of this case study was to investigate whether professional development tools like the SIE influenced individual growth and retention among teachers, and the organizational health of schools.

The results of this study indicate that healthy organizations are a product of good professional development programs. These programs contain the five disciplines of Senge's (1990) organizational learning theory which promotes teacher leadership, collaboration among staff and ultimately increases student achievement. Participants in the SIE from PICCS remained on post 7.9 years, with 54% of the pool earning promotions as a result of their participation in the program. Furthermore, teacher leader turnover

decreased by 42% in the TIF cohort (Measurement Inc, 2016). Regarding student performance, TIF cohort schools outperformed their New York City charter school peers, and public school peers, even during the Common Core transition. This data shows that schools that build capacity in its teachers develop healthy learning organizations.

School professional development programs across the country can achieve the same results in their organizations. Schools have always had the power to effect positive organizational change. The ingredients for such change include the themes that emerged from the participant testimony: strong leadership, staff buy-in, collaboration, positive retention models and limiting negative external forces (such as third party negotiations or poor leadership). It is clear that schools can all embrace the positive changes that occurred with the SIE by developing similar tools that fit their mission and vision: plans drawn up by the teaching staff, and supported by strong leaders that encourage growth from within. Having a strong, healthy school takes time and hard work, but is achieved when everyone is on board with improving school practices from the ground up. Personal mastery results from strong leadership: the employment of mental models, shared vision, team learning and systems thinking (Senge, 1990). When schools use this as the foundation of their professional development plans, achievement for all stakeholders is realized.

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Appendix A: Case Study Protocol

Using a case study protocol is one way to increase the reliability of case study research (Yin, 2009, p. 79). The following protocol was used to ensure that all data collected is relevant to the research questions and establishes that content as valid.

- Introduction to the Case Study and Purpose of the Protocol

The purpose of this case study was to investigate whether professional development tools like the SIE positively influenced individual growth and retention among teachers and the organizational health of schools. The research questions below reflect how each of the five disciplines from Senge's theory may support and promote retention and promotion in creating healthy, successful schools.

- Case study research questions

Central Question: In the view of case study participants, how did the PICCS School Improvement Engine programs provide opportunities for professional growth during and after the grant (TIF 2, 2007-2012, TIF 3, 2010-2015, and TIF 4 in progress)?

Subquestion 1: According to case study participants, how were the SIE tools implemented in TIF cohort schools during and after the grant?

Subquestion 2: How do teacher participants and administrators describe their professional growth, effectiveness, and retention, based on their experiences using the tools of the school improvement engine?

Subquestion 2a. According to participants, what elements of the school improvement engine had the greatest impact on their professional growth? What elements supported their decisions to remain on-post?

Subquestion 2b: What relationship do participants view between SIE implementation and student performance in reading and math?

Subquestion 2c: How do participant responses about teacher retention and student achievement compare with district data that are available in the public domain?

Subquestion 3: What are participants' perceptions of the effects of SIE on their school as a learning organization?

- Theoretical Framework: Peter Senge's (1990) organizational learning theory
- Role of the researcher: Researcher uses the protocol in order to establish content validity. Research questions will be presented to participants in face-to-face interviews, ensuring that the themes elicited from the participants will support or refute the proposed success of using the SIE tools to promote personal growth and contribute to the overall health of a learning organization. Secondary information collected from public domain sites (New York State Department of Education and PICCS) will also be collected to support or refute the proposed claim of the researcher.
- Data Collection Procedures
- Interview sites: locations will be determined by the participants' preference, in order to assure that participants are comfortable answering the research questions.
- Data collection plan:
    - 15 participants interviewed face-to-face at a location of their choice audio recorder will capture testimony

  - Interview Protocol (Appendix B, Creswell, 2014) will be used to collect testimony of the participants
  - If needed, a secondary electronic interview form will be sent out (to be developed if face-to-face interviews require additional information in order to achieve saturation)
- New York State Department of Education retention data of participating schools (https://data.nysed.gov/)
- New York State Department of Education school performance data in reading and math (https://data.nysed.gov/)
- PICCS promotion data collected by Measurement, Inc. (http://piccs.org/results/)
- Expected Preparation prior to site visits: Interview questions prepared, audio recorder working, interview protocol prepared
- Case Study Questions: Interview Protocol (Appendix B).
- Outline of Case Study Report and Evaluation
- Description of the themes illuminated through participant testimony
- Data triangulation (participant testimony with performance, retention and promotion data)
- Discussion of the results
- Discussion of the implications for social change

Appendix B: Interview Protocol

I followed an interview protocol to ensure content validity and stay on-topic with regard to my research questions. Creswell's interview protocol (2014) was adapted for this case study. It consists of the central research question and subquestions.

- Interview of (Participant Identification) and Location
- Standard Interview Procedures/Agenda
- Welcome and Introduction
- Review of Agenda
- Interview
- Closing Comments from Researcher
- Participant Closing Comments
- Close of Interview
- Questions
    - Ice-breaker question: What was the funniest thing that happened to you today with the kids?
    - Research questions:
        - Central Question: In the view of case study participants, how did the PICCS School Improvement Engine programs provide opportunities for professional growth during and after the grant (TIF 2, 2007-2012, TIF 3, 2010-2015, and TIF 4 in progress)?

- Subquestion 1: According to case study participants, how were the SIE tools implemented in TIF cohort schools during and after the grant?
- Subquestion 2: How do teacher participants and administrators describe their professional growth, effectiveness, and retention, based on their experiences using the tools of the school improvement engine?
- Subquestion 2a. According to participants, what elements of the school improvement engine had the greatest impact on their professional growth? What elements supported their decisions to remain on-post?
- Subquestion 2b: What relationship do participants view between SIE implementation and student performance in reading and math?
- Subquestion 2c: How do participant responses about teacher retention and student achievement compare with district data that are available in the public domain?
- Subquestion 3: What are participants' perceptions of the effects of SIE on their school as a learning organization?

- Follow-Up Questions
  - Tell me more about your feelings/experiences on…
  - Could you tell about a time when "situation related to first set of questions" did not work?

  - Can you elaborate on your experience with…
- Time given to record in between questions must be consistent among all participants
- Thank you and closing remarks
- Document log
  - Primary source- Participant interviews (enumerated with participant identity and how that participant will be logged for anonymity, such as Participant 1, Participant 2, etc.)
  - Primary source- Secondary interview data collection, if needed, electronically. Responses will be coded consistent with the face-to-face interview documents (such as Participant 1 electronic responses identified as Participant 1e.
  - Primary source- New York State Department of Education school data identified with the participant (Participant 1 is connected to School 1, Participant 2 is connected to school 2) on teacher retention and student performance.
  - Secondary source- Measurement, Inc data is collected on promotions. This data is summarized through each cohort; schools are not individually recognized in the data discussion.

Appendix C: Interview Protocol Review Panel

Carter Clawson

Carter Clawson is the Program Director for the Partnership for Innovation in Compensation for Charter Schools (PICCS). She integrates and coordinates the programs related to the SIE for schools. She serves as the grant monitor for reporting to the Federal Government. She provides technical assistance to principals in recruitment, retention, induction and school-wide planning with regard to grant goals.

Dr. Amy Shore

Amy Shore, PhD, is a co-creator of EASOL, on open source learning environment built on the Ed-Fi data standard and designed to support interoperability and effective data use. She has helped design and lead innovative projects in education for two decades, including a Teacher Incentive Fund initiative in New York and New Jersey for 31 independent charter schools. Dr. Shore is also a practicing teacher, appointed as Professor in the English Department at the State University of New York at Oswego. Her academic research focuses on use of media for social movements, including use of interactive media to advance educational initiatives.

Dr. Sara Asmussen

Sara Asmussen is the Founding Executive Director of New Dawn Charter High School, an alternative high school for students who are over-age and/or under-credited. For the past 15 years, Sara has been pioneering the use of data, particularly assessment data, to transform the way schools operate. As Director of Research at the Beginning with

Children Foundation, she led teams in building standards-aligned curriculum. As Director of Accountability and Compliance at JVL Wildcat Academy Charter School, she developed strategies to monitor data key to implementing an effective Response to Intervention approach. As the founding Director for Data Use at PICCS, she guided educators at participating charter schools in the use of a data warehouse as well as online curriculum mapping and assessment builder tools. Sara holds a Ph.D. and MA in Experimental Psychology from the University of Toledo.