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Teacher Observations as Professional Development Opportunities

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TEACHER OBSERVATIONS AS PROFESSIONAL DEVELOPMENT
OPPORTUNITIES

by

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DEDICATION

Mom, Dad, Olivia, Ray, Scarlett, and Brecken

This dissertation is dedicated to my family: Nancy and Sam Padgett; Scarlett, Brecken, Olivia, and Ray Spence. You've made sacrifices, listened to me ramble, asked questions, provoked my thoughts, and loved me as I accomplished one of the greatest dreams of my life. I pray you know how much your encouragement and support during this doctoral journey meant to me. I will never come close to repaying you for the grace, kindness, patience, and love you have shown me, but I hope more than anything that I have made you proud. Thank you for giving me the time to experience one of the greatest joys of my life. Cheers to you, now we celebrate!

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ABSTRACT

This research project sought to understand how the complexities and challenges of offering high-quality professional development district-wide impacted teachers' ability to implement their new learning. The literature posits that to be considered effective, professional development must include six distinct design elements: (1) Data driven, (2) Incorporates active learning utilizing adult learning theory, (3) Supports collaboration, (4) Context-Specific, (5) Feedback-centered, and (6) Supported by principal leadership (Darling Hammond et al., 2017, p. 4). While each of these design elements seems appropriate and rooted in best practices, when planning professional development, the scheduling and unique circumstances of secondary schools makes incorporating these elements challenging, leading to frustrations and inconsistencies.

Thus, this Improvement science Dissertation in Practice sought to create a Teacher Observation Tool that will serve as Professional Development when implemented and used effectively. The tool was created using a Strategize- Implement- Analyze- and Reflect cycle. The research questions of this study focused on (1): What makes a teacher observation tool an effective professional development opportunity for teachers? (2): What components are necessary in a framework to ensure the tool successfully meets the criteria necessary to be considered effective professional development?

This study will provide building leaders with recommendations, guidance, research, and best practices for implementing teacher observations for use as professional development at the secondary level that equips and empowers teachers to change their current classroom practices.

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CHAPTER ONE

INTRODUCTION

National Context

Prior to the COVID-19 Pandemic, school districts in the United States spent an estimated average of \$18,000 per K-12 teacher on providing professional development (“The mirage,” 2015). Yet, these school districts lack noteworthy data suggesting a true increase in student achievement as a result of such expenditures (“The mirage,” 2015). As noted in the legislative decisions since the early 1980s, there was a major systematic focus on successful professional development, yet the people who were most impacted by these experiences have been consulted the least. The *Every Student Succeeds Act of 2015(ESSA)* enacted expectations for school instruction and leadership. In the ESSA legislation, schools were tasked with “Developing and providing professional development and other comprehensive systems of support for teachers, principals, or other school leaders to promote high-quality instruction and instructional leadership” (ESSA, 2015, p. 121). Current Secretary of Education, Dr. Miguel Cardona, laid out his vision for improving education across the United States. In his vision, he focused on three main areas, one of which was teacher professional development to ensure that all classrooms were equipped with high-quality educators (press release, 2022). However, the changes necessary to see a difference in instructional strategies and student performance requires a plan committed to supporting, mentoring, and guiding teachers

(Ball et al., 1999; Borko, 2004; Burke, 2014; Durff, 2017; Ertmer, 1999; Guskey, 2003; Stanhope et al., 2014). Despite research that describes specific qualities associated with effective professional development, there was often a disconnect between knowing what works and having the resources (financial, human capital, etc.) to implement professional development following those specified guidelines (Darling- Hammond et al., 2017). For example, when school districts were only allotted a certain number of days for professional development, ensuring teachers receive the number of hours of professional development necessary to see change in classroom practice was almost impossible (Guskey et al., 2017; Rogers et al., 2007). In each major educational legislative reform, *Goals 2000, A Nation at Risk, No Child Left Behind, and the Every Student Succeeds Act*, professional development was a major focus. Yet, despite support from both the legislature and school district personnel who understand the specific qualities of professional development, there continues to be a divide between knowing what works and implementing it. Likewise, there was a significant body of research supporting professional development and its effective qualities, but very little research that has sought out the opinions and wants of teachers themselves.

Professional development programs often lack the specificity and narrow focus necessary to create any sort of lasting impact on a teacher's classroom instruction (An et al., 2012; Blank, 2013). There were several important factors necessary to offer and provide effective professional development. First, high quality professional development that increases student achievement requires time. Staff developers must use time wisely to ensure the learning was organized, linear, structured, purposeful, and focused (Masuda et al., 2013). Secondly, for professional development to return a school district's

considerable financial and time investment, the learning opportunity needs to occur within the teaching context (Blank, 2013; Borko et al., 2009; Hunzicker, 2011; Ottenbreit-Leftwich, et al., 2010; Ruggiero et al., 2015). Professional development must be specific to the school demographics, content, personal professional development plan, and other contextual factors. Next, professional development models should focus on the necessary foundation and conditions required to progress teaching to consummate levels rather than exemplary teaching (Kuijpers, Houtveen, & Wubbels, 2010) and a lack of ongoing support and accountability (Guskey, 1994; Johnson et al., 2017; Rogers et al., 2007). While many instructional leaders and educational studies agree that professional development effectiveness was tied to its duration, there was not a clear definition of duration when it came to professional development. Yoon and colleagues (2007), however, found that “effective professional development models examined in these studies offered an average of 49 hours of development per year, with an associated average boost in student achievement of 21 percentile points” (p. III). Similarly, these professional development models need to ensure they were creating long-term ongoing environments conducive to learning. For example, when teachers felt they had support for planning and implementing new ideas, there was a positive correlation to teacher learning transfer (Penuel, 2007). Finally, studies show that when teachers were exposed to content specific teaching strategies as the topic for professional development, instead of general processes, the new learning was more easily transferred to a teachers’ context and had a greater impact on student learning (Buzynski et al., 2010).

While there were several notable qualities of professional development, this Improvement science Dissertation in Practice seeks to begin addressing the gap between

teacher attitudes and perceptions towards professional development and professional development by asking teachers what they need to feel empowered and confident to try their new learning. Because learning transfer remains the key to effective professional development, those learning experiences for teachers can only be considered effective when their classroom practices changed. While there are myriad factors—including time, autonomy, experience, student achievement level— influence what educators feel can be successfully and effectively implemented into their classroom practices, this can be directly correlated to collective and individual efficacy. If teachers did not feel that professional development was applicable to their context, they may experience hesitation or resistance to the new learning. Therefore, it was important that professional development tap into the collective efficacy of teachers. Collective efficacy was defined as the combined efforts that have a positive impact on students (Goddard et al., 2004). Results from Paxson and colleagues study (2014) suggested that implementing professional development with fidelity and integrity increases collective efficacy within schools. Furthermore, Tschannen-Moran and Barr (2004) state that “collective self-perception that teachers in a given school make an educational difference to their students over and above the educational impact of their homes and communities” (p. 190). Researchers affirm that collective efficacy has a greater impact on student achievement than socioeconomic status (Donohoo et al., 2017). According to Donohoo and Katz (2017), increasing collective efficacy through professional development ensures that student achievement increases because teachers’ practices changed and improved (p. 23). Effective professional development opportunities tap into the sources of collective

efficacy and create conditions for teachers to see links between their collective actions and student achievement.

Local Demographic Context

This Improvement science research occurred in Clearview School District (a pseudonym). This school district was just outside the city limits of the state capital where the research study took place. State-specific references and data have been removed to protect participants' identity and confidentiality. Clearview School District had two high schools, four middle schools, six elementary schools, and offered multiple 4K programs. Clearview School District employs over 900 faculty and staff and serves over 9,000 students. The school district was spread over 100 square miles and had vast diversity in the different communities and municipalities it served. All schools qualified for the Federal Title I program based on the overall poverty index. This school district was attempting to overcome many challenges, such as new district leadership (Superintendent, Director of Instruction, Chief Operations Officer, Chief Financial Officer, K-12 Science Coordinator, K-12 Math Coordinator, Director of Title One, and ELL Director), pandemic associated learning losses, high teacher turnover rates (14% turnover in 2020, which continues to grow each year), and inconsistent expectations between buildings. While several of these challenges were unique to Clearview School District, some were consistent with statewide trends.

Based on the 2021 school district report card posted on the State Department of Education website, Clearview School District did not perform as well as the state average on any of the end-of-year tests. On the middle grades English Language Arts section of the test, only 32.4% of students scored Met or Exceeding grade level expectations,

indicating their proficiency on grade level standards (see Figure 1.1). The state average for the same test section was 42.6%. Specifically, approximately 31% of sixth grade students, 32% of seventh grade students, and 35% of eighth grade students scored Met or Exceeding on the reading and writing portions. Students in sixth through eighth grades in Clearview School District did not perform as well as their counterparts around the state. Important aspects of the local context include English Language Arts skills on state end of year assessments, the COVID-19 Pandemic, and school district specifications.

English Language Arts (Reading and Writing) - [Percent Met or Exceeding](#)



Figure 1.1 *Percentage of Students Scoring “Met” or “Exceeds” on End of Year Assessment*

Students in grades 9-12 take a different assessment at the end of the year, but the goal was the same: to measure student mastery against state standards. The state considers scoring a “C” or higher on the exam as a demonstration of mastery. For the English Language Arts assessment, 55.7% of students scored a “C” or higher. However, the state average was 63% (see Figure 1.2).

English - Scoring C or Higher

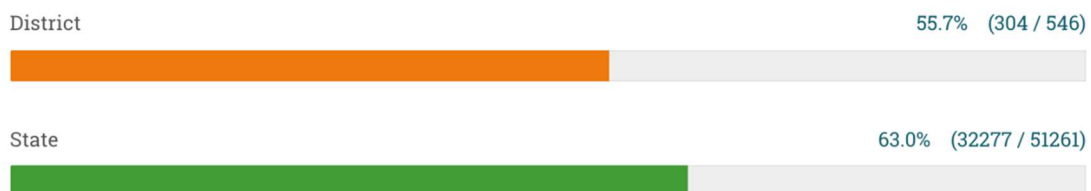


Figure 1.2 *Percentage of Students Scoring a “C” or Higher on End of Course Assessment*

These discrepancies have caused educational leaders within the district to begin to analyze how they can better support teachers to increase student achievement. Because of the difference in achievement between the district and the state, three elementary schools in the district have been identified as State Priority Schools. These State Priority Schools received additional support from the State Department of Education because a significant percentage of students were not showing adequate progress and growth towards grade level standards. One of the specific conversations that Cabinet Members and Clearview School District Stakeholders had were focused on how professional development can better support these teachers and schools. It was clear that the current model of professional development in Clearview School District did not provide all the support necessary for these schools to be successful. Therefore, district leaders were beginning to ask questions about what professional development needs to entail in order to see lasting change within classroom instruction.

Clearview School District teachers recognized gaps in their own learning and professional understanding about how to teach readers and writers. Each year, teachers in Clearview School District were asked to partake in a broad and encompassing survey about their experiences with professional development. The survey ranges each year between 40-50 questions. Those questions asked teachers to identify areas they feel were a strength as well as areas in which they identify as opportunities for growth. The survey was anonymous but delineated by content and grade level to provide further context for district administrators. Responses to the district's annual professional development survey indicated that teachers continue to struggle with implementing the new English Language Arts curriculum and reaching their diverse learners. When teachers were asked

through a survey what they felt was the major barrier preventing them from implementing new understanding about teaching reading, the majority of responses cited the need for more time to learn and process new ideas and information, which was consistent with findings from other research (Hsu, 2016; Park & Ertmer, 2007). The annual professional development survey should theoretically guide leaders' and district office personnel decision making for professional development. However, previous commitments to specific companies or initiatives made pivoting difficult. Some studies go as far as to suggest that teachers need between 50 and 80 hours of job-embedded, context-specific, intense professional development to see significant changes in instructional practice (Darling-Hammond et al., 2009; Yoon et al., 2007).

While teacher vacancies were a concern on a large scale across the United States, it was a concern that was also impacting Clearview School District and its state. The Center for Educator Recruitment, Retention and Advancement was tasked with analyzing teacher turnover rates across the state. According to their report, "districts reported a 52% increase in the number of vacant teaching/service positions for 2021-22 compared to last year" (CERRA). The report further states that, "This [was] the largest number of vacancies reported since the Supply and Demand Survey was first administered in 2001" (CERRA). Similarly, in Clearview School District, there have been concerns with teacher retention rates. Clearview School District had twelve unfilled teacher positions for the entirety of a school year, with additional positions vacated throughout the year. By the midpoint of the 2021-2022 school year, Clearview School District had eighteen classroom teaching vacancies. Teacher dissatisfaction played a significant role in the reasons teachers left the profession (Ingersoll et al., 2003). According to Farber (2000),

the lack of support, instructional resources, and opportunities inhibit the ability for districts to retain teachers long-term.

As part of Clearview School District's response to the teacher retention challenges and the results from the state assessment, the local school board approved the hiring of an English Language Arts Curriculum Specialist tasked with supporting all English Language Arts teachers in the school district. As the Curriculum Specialist, the researcher worked with Secondary English Language Arts teachers to model, coach, mentor, and provide professional development opportunities that would provide them with more effective teaching strategies within their classrooms. By working closely with individuals and teams of teachers, the researcher was able to forge relationships and build trust with teachers (Frank et al., 2004; Heineke, 2013; Kondacki et al., 2017; Liu et al., 2017; Parise et al., 2010; Penuel et al., 2007). As such, teachers were vocal about their concerns and frustrations stemming from ineffective professional development.

While the COVID-19 Pandemic certainly had an impact nationally, the impact in Clearview School District was still being felt in 2022 as the school district aimed to address the academic deficiencies that arose during the pandemic. In 2020, Clearview School District ended in-person instruction on March 15. On March 17, students began synchronous and asynchronous learning experiences across all grade levels. When students returned in August of 2020, the educational setting was a hybrid experience, where students attended school face-to-face two days per week and attended virtually two days per week. While this district had applied and been selected as part of the South Carolina Department of Education pilot program as an "eLearning District," this pivot and complete transition took everyone by surprise. The selection as an eLearning District

occurred two years before the COVID-19 Pandemic and gave Clearview School District the opportunity to experience and experiment with virtual instruction in lieu of using make-up days to satisfy the 180-day requirement due to weather or other school closures. The eLearning distinction meant that Clearview School District had already begun the arduous process of ensuring students, teachers, and families were prepared for virtual instruction by establishing protocols that would support student learning. For example, all students had mobile devices to complete their work, families were provided with hotspots, school buses were strategically placed in neighborhoods to provide additional internet capabilities, and free meal programs were established. Due to a federal waiver, end of year testing was suspended for the 2019-2020 school year. There was a significant and noticeable decrease in test scores in 2020-2021. Finally, in the third year of the pandemic, 2021-2022, scores were still significantly below their previous years', but teachers and administrators were beginning to make changes and think of next steps by providing after school tutoring, remediation supports, additional personnel, and social emotional curriculum.

The second year of the pandemic (school year 2020-2021) teachers, administrators, and families continued to navigate the unprecedented times with which they were faced. Clearview School District offered a virtual academy for students who elected to participate in the online learning provided by the district's teachers. Other students, who did not attend the virtual academy, attended school in a hybrid, A/B rotation. This meant that students would attend class in person two days per week and then would attend classes virtually two days per week. Finally, one day per week was allocated for asynchronous instruction in order to give the sanitation crews the time and

space they needed to complete the necessary cleaning processes. The constant uncertainty made learning and teaching difficult. Likewise, the technology issues, mandated quarantines, and lack of engagement often made instruction sporadic and inconsistent. Many of these challenges noted with student learning were common trends also seen as part of the adult professional learning.

Not only was student learning drastically different beginning in March of 2020, but so was teacher learning. In July 2020, Clearview School District followed in the footsteps of state, national, and even global responses to teaching virtually and mandated technology professional development and training to support teachers' shift to hybrid teaching. Over the summer, teachers were expected to complete twenty hours of technology professional development. There were some mandated sessions (for example, Using Google Classroom) and other sessions they could choose (Flipping the ELA Classroom). The intent was to provide training that all teachers would need while still honoring their specific contexts, personal goals, and individual needs by allowing them the opportunity to make autonomous choices. Teachers were financially compensated for their attendance and were also provided with continuing education credits.

While many teachers cited a lack of technology skills as a major concern for the shift to remote teaching and learning, few were satisfied with the professional development offered during the summer. Specifically, the survey data showed that 67% of teachers wanted more support with differentiating lessons virtually, 63% of teachers wanted support with engaging all students, 52% of teachers wanted managing student questions/concerns, and 51% of teachers wanted support with using effective methods of checking for understanding. The biggest concerns were based on translating best

practices from in-person instruction and making them work for virtual instruction. Likewise, the timing seemed to put an additional strain on teachers who were already frustrated, concerned, worried, and overworked. Beyond the mandated technology training, no other professional development was offered or encouraged for teachers. Clearview School District had previously offered teachers professional development through a variety of experiences, but with the pandemic and shift to online learning, the school district paused all professional development. Prior to the pandemic, Clearview School District provided in-service professional development, after school professional development, and allowed teachers to travel to additional professional development opportunities like conferences or content-specific meetings. Some of these meetings were canceled altogether and some were moved to a virtual platform, in lieu of meeting in-person. Clearview School District was beginning to offer professional development opportunities to teachers in the 2022-2023 school year and had lifted their travel ban.

The pandemic exacerbated the learning issues already being noticed statewide. Teachers felt like they were being pulled in every direction with little appreciation for what they did or success to show for their hard work and dedication, with teacher burnout at an all-time high. Pas et al., (2012) suggests that teachers who struggle with emotional exhaustion were at increased risk for physical and mental health problems. Teachers who have left the profession over the last two years or who have conveyed their frustration during exit interviews, cited the protocols and challenges unique to the COVID-19 Pandemic as a primary reason for their decision.

Setting

This Improvement science research took place in Clearview School District in the southeastern United States. Clearview School District was composed of six elementary schools, four middle schools, two high schools, one alternative program, and one inpatient treatment facility. This Improvement science research specifically focuses on the Secondary English Language Arts teachers at the middle and high schools. The names of the middle and high schools have been replaced with pseudonyms to protect the confidentiality of the participants and school district. Table 1.1 provides the attendance of students and teachers at each of the secondary schools:

Table 1.1 *Student and Teacher Population Per School*

School	Number of Students	Total Number of Teachers
Maroon Middle School (MMS)	444	34
Blue Middle School (BMS)	625	49
Green Middle School (GMS)	561	43
Yellow Middle School (YMS)	432	34
Silver High School (SHS)	1301	76
Garnet High School (GHS)	1117	78

Each secondary school in Clearview School District had a different focus for academics, behavior, or social emotional support. Clearview School District is solely comprised of zoned public schools. The smallest middle school, Yellow Middle School,

focused on STEM courses and providing students opportunities for enrichment and advancement in Science, Technology, Engineering, and Mathematics. The school faculty worked closely with the Technology Integration Specialists and the Science Coordinator to promote 3-D printers, family technology nights, and community partnerships. Maroon Middle School was an arts-integration school that focused on providing students with engaging and rigorous experiences in the arts. The school was known for their unique opportunities and artist-in-residence programs that they provided. Students who attended MMS chose an arts pathway (visual or performing) to focus on for their three years there. Blue Middle School was the largest middle school in Clearview School District, which was also an award-winning School to Watch school. The school had received this distinction from the National Forum to Accelerate Middle-Grades multiple years. BMS's focus was the Advancement Via Individual Determination (AVID) model. The AVID program promoted college attendance by holding students accountable to high expectations. The AVID model utilized a specific protocol to provide social, academic, emotional, cultural, and behavioral support for students. The final middle school, Green Middle School, focused on student leadership and Positive Behavior Interventions and Support (PBIS). These two programs work seamlessly together as the faculty and staff promote ethical behavior by encouraging students to accept leadership roles and responsibilities. Students were taught leadership skills and focus skills each month as they work to become the leaders of the building.

One major implication of the autonomy for each school to choose a focus like those in Clearview School District was how it impacted what support teachers needed and wanted. For example, Yellow Middle School focuses on STEM education. Therefore,

many of their teachers need additional support and professional development around implementing STEM lessons across the content areas. Similarly, the AVID program, in order to be most effective, should be implemented schoolwide. The program came equipped with specifics about note taking, college acceptance, and classroom experiences. If teachers did not have the professional development to support such an implementation, it was often disregarded, leading to low teacher morale and decreased student engagement and achievement.

A second major consequence of such autonomy was the way it trickled into any district decisions. Because so many decisions were “site specific,” there was a lack of unity, cohesiveness, and buy-in necessary to ensure all teachers understood the importance of one district’s mission and vision. This had been particularly problematic when implementing district-wide curriculum expectations. Schools had been given autonomy and extensive freedom to make schedules, focus decisions, and professional development plans that only pertain to their teachers. Yet, when district-wide professional development was offered, it rarely met the needs of all the schools, leaving teachers and administrators frustrated.

As with the middle schools, the two high schools also had specific priorities. The first high school, Garnet High School, was centrally located within its attendance zone, making it the center of the community. It was the original high school for Clearview School District, and often referred to as the flagship school. This school was known for its long-standing traditions and deep-rooted history. Students at Garnet High School choose one of three academies: Legacy, Quest, or i2Tech. Students in the Legacy Academy will focus on Project-Based Learning with a Career and Technology Education

(CATE) emphasis. Students were housed in smaller learning communities and “looped” with teachers each consecutive year to build relationships, trust, and community. The Quest Academy focused on providing a rigorous learning experience to best prepare students to be college and career ready. The Quest Academy used the skill of the 21st Century Learner to center their curriculum. This academy focused on technology integration and providing students with real world technology experiences. Finally, the i2Tech Academy offered a strong emphasis on Project-Based Learning and STEM subjects. Students in the quest academy focus on Project Lead the Way and engineering coursework to foster a growth mindset. This academy was also focused on providing high-quality Advanced Placement and Honors courses.

The second high school, Silver High School, focused on college and career readiness by offering dual enrollment courses and working closely with the Clearview District CATE center. Students at SHS were provided the opportunity to receive an associate degree before graduating from high school, depending on their participation in dual enrollment courses. This degree was extremely valuable to all students, regardless of their plans after high school. Some students used their associate degree to immediately enter the workforce and were more equipped and better compensated because of the degree completion. Other students planned to attend a four-year university, and the associate degree helps them get ahead, save on college funding, or add additional degrees during their college enrollment. The focus of each school was unique to the population, community expectations, and demographics for that school.

There were some details about the structure of each school that help to frame how professional development was supported within the specific contexts. It was important to

note that each middle school had one principal, one assistant principal, and one assistant administrator. There was also one media specialist, one school counselor, one social worker, one translator, one service provider for Multilingual Learners, and a Special Services department. All schools qualified for and received funds from the Federal Title One Funding program. They also operate with a minimal support system. They had exactly what was required but lacked additional Full Time Equivalent allocations to serve teachers and students with instructional coaches, interventionists, ESOL teachers, assistant administrators, etc., limiting the ability for instructional coaching or follow-up after professional development. Since principals and assistant principals were inundated with numerous other tasks, coaching teachers through instructional practices was often laborious and time consuming and dismissed as a luxury instead of a necessity.

Finally, to truly understand the setting of this research, it was important to know the class and teacher schedules and how that can impact teachers' ability to attend professional development. Middle schools were on a seven-class schedule. Core classroom teachers taught four classes with two planning periods and one period for lunch. Teachers kept the same schedule and students for the four core classes all year. The schedule was arranged in such a way that the two planning periods were always back-to-back, allowing teachers a longer period of time for planning, team meetings, IEP meetings, and other responsibilities. On the other hand, related arts teachers taught shorter classes, but they teach six classes per day with one period without students for their additional responsibilities. Each middle school had an extended homeroom for intervention and acceleration activities. The intervention and acceleration time was treated as any other class, with teachers planning and executing additional remediation lessons.

The two high schools were on a four-by-four block scheduling model, meaning that each teacher taught three blocks per day with a planning block and a lunch period. Students attended four classes each day with a mid-year change in other courses. Class periods were ninety minutes. The planning block was protected for IEP meetings, PLC meetings, Intervention meetings, and additional responsibilities. Given these schedule limitations, one of the most significant concerns from teachers about professional development was the lack of time provided for professional development and the additional responsibilities of being a teacher. If professional development occurs during planning periods, it means that other duties usually accomplished during that time must be completed at some other time, often after school. As with the middle schools, the high schools lack additional support personnel to follow-up on professional development activities. This frustration created a barrier to learning and listening since many teachers were worried about the other tasks that they should be accomplishing. As a school district, it was expected that professional development experiences would be embedded within the school day. However, based on the literature that professional development should be content and context specific, it was logistically impossible to ensure all content areas meet at the same time at the secondary level.

Understanding the Problem

Teacher Survey

Post-pandemic teaching and learning shifted significantly as a result of the Coronavirus. Student learning and K-12 education changed forever, as did the ways schools and school districts approached professional development. The most significant change was perhaps the way in which “the pandemic adversely affected the [professional

development] system that was the major source of continuous support to teachers in their instructional endeavors” (Muhayimana, 2020, p. 67). Teachers no longer had the collegiality and built-in professional learning communities they were accustomed to. Instead, teachers were thrust into a world of online teaching—a world that previously only 62% of teachers nationwide had any training or experience implementing (Muhayimana, 2020). One of the major shifts specific to professional development was the lack of learning opportunities being offered. Muhayimana writes that, “during school closures, teachers lacked the support that could help them continue their professional learning related to sustaining instructional skills development in general and enhancing online teaching strategies in particular” (2020, p. 68). When schools shut down and shifted to online and virtual learning platforms, school districts ceased to offer professional development offerings essential in supporting teachers through the chasm of online teaching. As society has returned to a new normal, so has professional development. Professional development post-pandemic looks as varied as teaching with multiple modalities being offered and teachers being provided choices they have not necessarily had before.

The researcher chose a survey as the data collection instrument for the first part of the research study because it helped identify specific trends, needs, and wants for professional development. Efron and colleagues (2019) state that “Surveys can be used to gather a variety of information about people’s opinions, perceptions, and attitudes, and in planning and evaluating programs” (p. 112). This research study focused primarily on evaluating the needs in professional development, which lent itself to the use of a survey instrument. Furthermore,

Some advantages of Likert-scale questionnaires [were] that (a) data can be gathered relatively quickly from large numbers of respondents, (b) they can provide highly reliable person ability estimates, (c) the validity of the interpretations made from the data they provide can be established through a variety of means, and (d) the data they provide can be profitably compared, contrasted, and combined with qualitative data-gathering techniques, such as open-ended questions, participant observation, and interviews. (Nemoto et al., 2019, p. 2)

The Teacher Survey (see Appendix A) was administered to teachers in Clearview School District to gain a better understanding of their general feelings and past experiences with professional development within this specific district. This survey method ensured that all teachers were given the same questions with framed feedback responses in order to identify trends and similar experiences. The four-point Liker scale was used to minimize the usage of the midpoint (or neutral) category; researcher can either delete the neutral category altogether or increase the scale to at least seven points (Garland, 1991). One such reason for the four-point Likert scale was because in order to minimize the usage of the midpoint (or neutral) category, the researcher should either delete it altogether or increase the number of points used in their scale to at least seven (Garland, 1991). Because the author was not willing to increase the Likert scale to a seven-point, she chose to eliminate the option. As Garland (1991), further suggests, “market researchers would prefer respondents to make a definite choice rather than choose neutral or intermediate positions on a scale” (p. 1). For this reason, a scale without a midpoint was preferable, provided it did not affect the validity or reliability of the responses. Secondly, the author

chose not to use a five-point Likert scale because of the significance of the wording of the midpoint and the way it could skew data. For example, Chyung and colleagues (2017) suggest that “Neutral (or Neither Agree nor Disagree) as a midpoint represents a neutral level of opinion. If, however, Undecided [was] used for the midpoint, it [was] questionable whether it [was] truly a midpoint of opinion between disagreement and agreement or whether it should be treated as an absence of opinion” (p. 16). The distinction between using a four-point Likert scale instead of a five-point scale was that the scale changed from an interval to an ordinal scale. The four-point Likert scale was an ordinal scale, which required the use of “median or mode rather than the mean as the measure of central tendency. Furthermore, you should describe a summary of ordinal data with frequencies or percentages of responses in each category” (Chyung et al., 2017, p. 16). Finally, the four-point Likert scale was most appropriate for this study because it forced participants to make a choice, thereby avoiding the “dumping ground” often associated with a midpoint Likert scale (Chyung et al., 2017, p. 17).

All teachers were invited to participate in the survey which consisted of the following categories: (1) introduction and signed consent, (2) demographic and background information, (3) personal beliefs about education, (4) current perceptions of professional development, (5) future professional development needs. The author shared multiple drafts with colleagues who lead professional development or who worked with Secondary teachers to gather their feedback. The author revised the survey instrument based on the recommendations provided by colleagues familiar with professional development, survey creation, and the Clearview School District to eliminate confusing or ambiguous questions.

The final draft of the survey was emailed to participants using their district email as a Google Form. In that same email, participants were invited to participate and were given a brief overview of the nature of the study. Finally, if participants chose to continue with the survey, they signed using an “e-signature” and began answering the questions.

Introduction and general demographics

The first section of the survey asked participants to consent to the study before moving forward. After participants consented to participate, they were presented with the first set of questions. Each participant completed the demographic section, which included questions about years of experience, grade level currently teaching, their highest level of education, and any additional certifications they may have earned. These demographic questions were important for better understanding the context of the participants as well as any trends that may be observed based on education and years of service.

Personal beliefs about education

The second section of the survey focused on participants’ personal beliefs about education and their teaching. It was important to know how they would define their belief and value system around questions like “I am a lifelong learner” and “I believe education has changed and evolved significantly in the past forty years” because these questions provided insight into their general attitudes towards learning new skills and practices. Participants were provided with a list of statements that ranged in specificity about education and professional development. These questions addressed changes in education, teaching philosophies, and professional development. Each question was paired with a four-point Likert scale: (1) strongly disagree, (2) disagree, (3) agree, and (4)

strongly agree. A four-point Likert scale was chosen because these scales “are easy to understand and they require less effort to answer” (Nemoto et al, 2019, p. 5). Secondly, “a neutral category [was] unnecessary because researchers should only include items on a questionnaire that respondents can answer, and this should be confirmed through piloting” if participants feel they were unable to answer a question, it should be skipped instead of using a neutral category” (Nemoto et al., 2019, p. 5). The questions were adapted from the Theoretical Framework presented in Chapter Two, the National Assessment of Educational Progress findings presented in chapter one, and the list of questions for staff developers posed by Gall and colleagues (1994).

Thoughts about current professional development experiences

This section of the survey used what Gall and associates (1994) and other researchers have identified as best practices for professional development and turned them into statements for teachers to evaluate. Teachers were asked about the applicability of their professional development experiences by rating how often they felt they needed the professional development, how specific it was to their context, how psychologically safe they felt to try new learning, how credible they determined the staff developers to be, whether there was a connection to other school or district initiatives and mandates, and their preference for content specific professional development. Participants were also asked to rate various qualities of their teaching environment: collegiality, collaboration, incentives, and coaching/follow-up.

Desires for future professional development experiences

The final section of the survey asked teachers to identify attributes they felt would best describe professional development that was effective in changing classroom

practices. These questions were similar to the previous set but asked for more in-depth responses. For example, rather than just asking teachers to rank how important staff developers' credibility is, this section of the survey asked teachers to state how they determine credibility. This section asked teachers how administrators could show support and provide a safe space for learning. Overall, these questions were a continuation of the previous section but with more depth to help plan future professional development.

Empathy Interviews

The teacher surveys provided an overall thematic basis concerning professional development from the perspective of Secondary English Language Arts teachers. The surveys also answered questions about when teachers would prefer to attend professional development; what topics they found relevant; how they could be supported; who were the most credible staff developers; and why they felt there was often a disconnect between the professional development experiences and the change to classroom instruction. A key component of improvement science was root cause analysis. The teacher empathy interviews allowed a deeper analysis than provided by the surveys alone. So, as a next step, semi-structured empathy interviews were planned which allowed the researcher to gain a better understanding and insight into the thoughts and feelings of teachers and their specific experiences with professional development. These semi-structured interviews were appropriate in situations that require more clarification, or when the researcher wants additional information based on thoughts, attitudes, or perceptions that were revealed. Through this process of semi-structured interviews, “participants [were] invited to co-construct the narrative and raise and pursue issues that [were] related to the study but were not included when the interview questions were

planned” (Efron et al, 2019, p. 103). According to Efron and colleagues, (2019) “This method of inquiry provides an understanding of the participants’ experiences from their own perspectives because it allows them to voice their ideas, opinions, values, and knowledge on issues related to the investigation” (p. 103). These interviews provided detailed information about concerns, thoughts, feelings, expectations, and frustration. Likewise, interviews provided possible solutions to the problems. As Bloomberg and Volpe (2008) explain, interviews like the ones used were important because they allow the participant to share

How experiences influenced the decisions they made, whether participants had a change of mind or a shift in attitude, whether they describe more of a constancy of purpose, what elements relative to their objectives participants perceived as important, and to what extent those objectives were met. (p. 70)

These interviews allowed the researcher to construct a whole picture with detailed information regarding professional development.

By using a semi-structured interview format, the author was prepared with an initial set of questions based on the survey questions, but the open-ended questions allowed the author to ask follow-up and probing questions based on anything the teachers had shared (Whiting, 2008). While this was a very personal topic for the researcher, she remained dedicated to a reflexive mindset. The researcher knew the purpose of the study was to gain a better understanding and to recognize the disconnect, and often, inadequate professional development opportunities. It was important that the researcher remain neutral with her body language and her responses. The researcher did not want participants to feel as if they were being judged or criticized for their responses, so she

made sure that probing questions were free of bias and personal prejudices or judgements (Creswell, 2014; Whiting, 2008).

Six interview participants were chosen randomly using a random number generator. Each participant who completed the survey was assigned a number and those numbers were entered into the random number generator, found on Google's homepage. After the participants were chosen, the author emailed each of them the consent and invitation to participate in the interviews. The author used Creswell's (2014) advice and scheduled interviews at the time and location most convenient for the participants to avoid interfering with their duties and responsibilities as much as possible. Each interview lasted between 30 and 45 minutes. During the interviews, the author took notes for follow up questions and recorded the conversations to aid in transcription, coding, and thematic identification.

The semi-structured interviews began with follow-up questions to questions that had been answered on the survey. For example, the author asked teachers to describe their best and worst professional development experiences in hopes of being able to define precisely the characteristics that impact professional development and make it either a positive or negative experience. The interview had a total of eight questions with a few sub-questions also included. These open-ended questions allowed participants the chance to use their words and language to describe their attitudes and perceptions about professional development. It also enabled the identification of emerging trends. When teachers struggled to use precise language, the author would offer alternatives and ask them to choose the one most appropriate for what they were communicating. For example, several teachers had trouble identifying what the precise characteristics were of

a successful professional development opportunity they had attended. During the conversations, the researcher offered suggestions by asking deeper questions “was it successful because it was specific to you and your context?”, “Was it successful because the presenter was very effective?” or “Was it successful because you felt you had the support of your colleagues and administrators to make these changes?” The author avoided providing answers but did aim to further support their thinking by providing them with choices to help the teachers focus their thoughts.

Findings: Personal Beliefs About Education

The first question participants were asked was whether they believe that education has changed significantly in the last forty years. Of the responses, 15.4% of the participants “agreed” that education has changed significantly and 84.6% “strongly agreed” that education has changed significantly. Second, participants were asked if they often find themselves teaching the way they were taught. To this question, 15.4% of respondents answered, “strongly disagree,” 69.2% responded “disagree,” and 15.4% responded “agree.” Next, teachers were asked if they consider themselves to be a lifelong learner, to which 100% of the respondents answered, “strongly agree.” Similarly, 38.5% of the participants strongly agree that professional development is an effective way to help teachers modify their current practices. Meanwhile, 46.2% of participants agree and 15.4% of participants disagree. Next, teachers were asked about their current knowledge and familiarity with current classroom practices. Three participants (23.1%) disagree that they are up to date on current research classroom practices, whereas 53.8% agree and 23.1% strongly agree. When asked about the expected longevity of professional development, 7.7% of participants strongly agree that professional development is just

one more thing. Whereas 30.8% of participants agree, 38.5% of participants disagree, and 23.1% of participants strongly disagree that professional development changes so quickly it is difficult to invest in. The last question in the overview section asked teachers about their feelings when they leave professional development. According to the survey, 7.7% of participants strongly agree and 38.5% of participants agree that they leave professional development feeling encouraged, supported, and equipped. Meanwhile, 30.8% of participants disagree and 23.1% of participants strongly disagree that they leave professional development feeling prepared for implementation. This section helped to uncover how teachers see themselves as learners. Research suggests that part of what makes professional development ineffective at times, is its ineffectiveness at meeting teachers where they are.

Fishbone Diagrams

Additionally, the researcher used Fishbone diagrams to better understand the problem. She created two diagrams based on feedback from the Empathy Interviews and the Teacher Survey previously discussed. Figures 1.3 and 1.4 show the diagrams.

Five Whys Protocol

Finally, to have a complete understanding of the problem from the teachers, the researcher used the Five Whys Protocol with three participants to provide context around how this specific problem exists within their daily expectations. Figures 1.5, 1.6, and 1.7 are three of the Five Whys Protocols that were conducted.

FISHBONE DIAGRAM

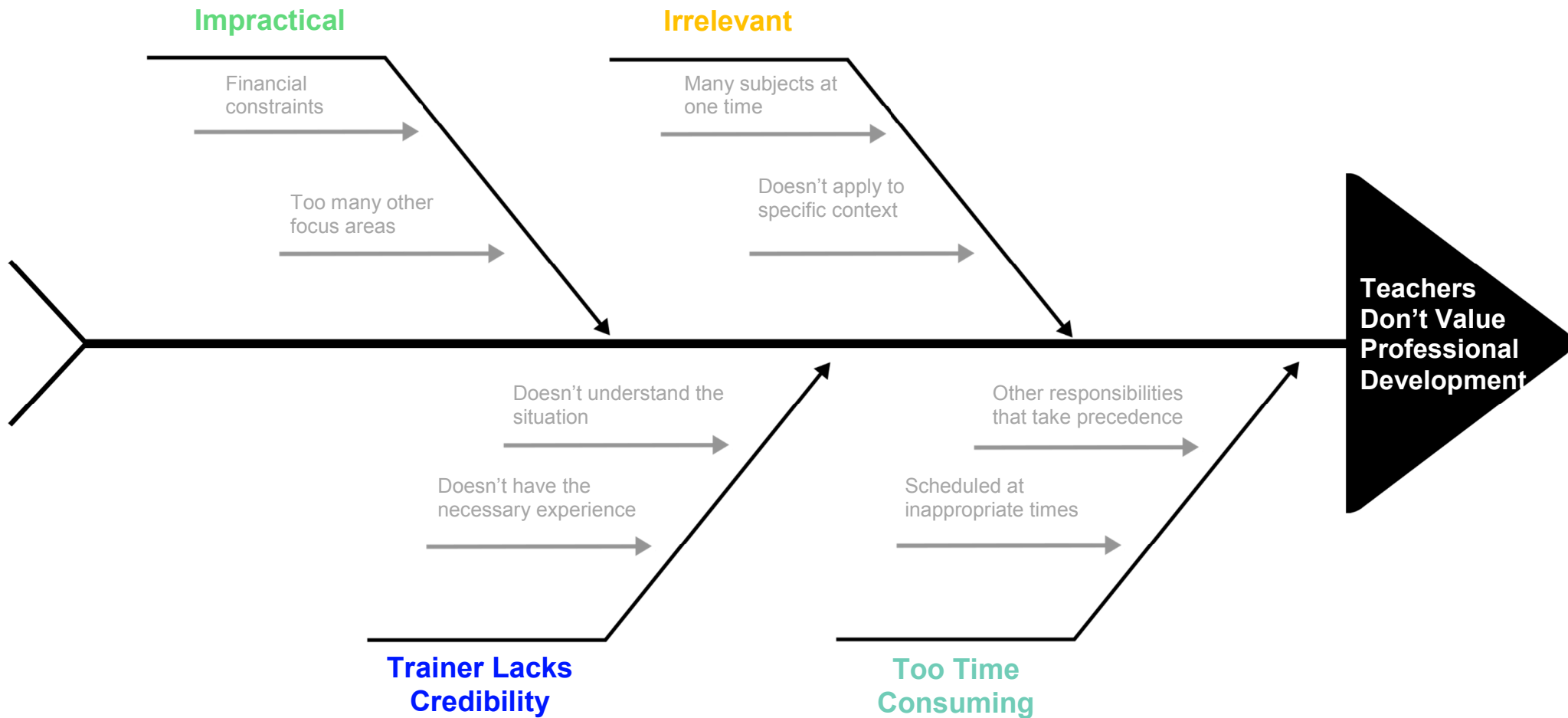


Figure 1.3 *Fishbone Diagram One*

FISHBONE DIAGRAM

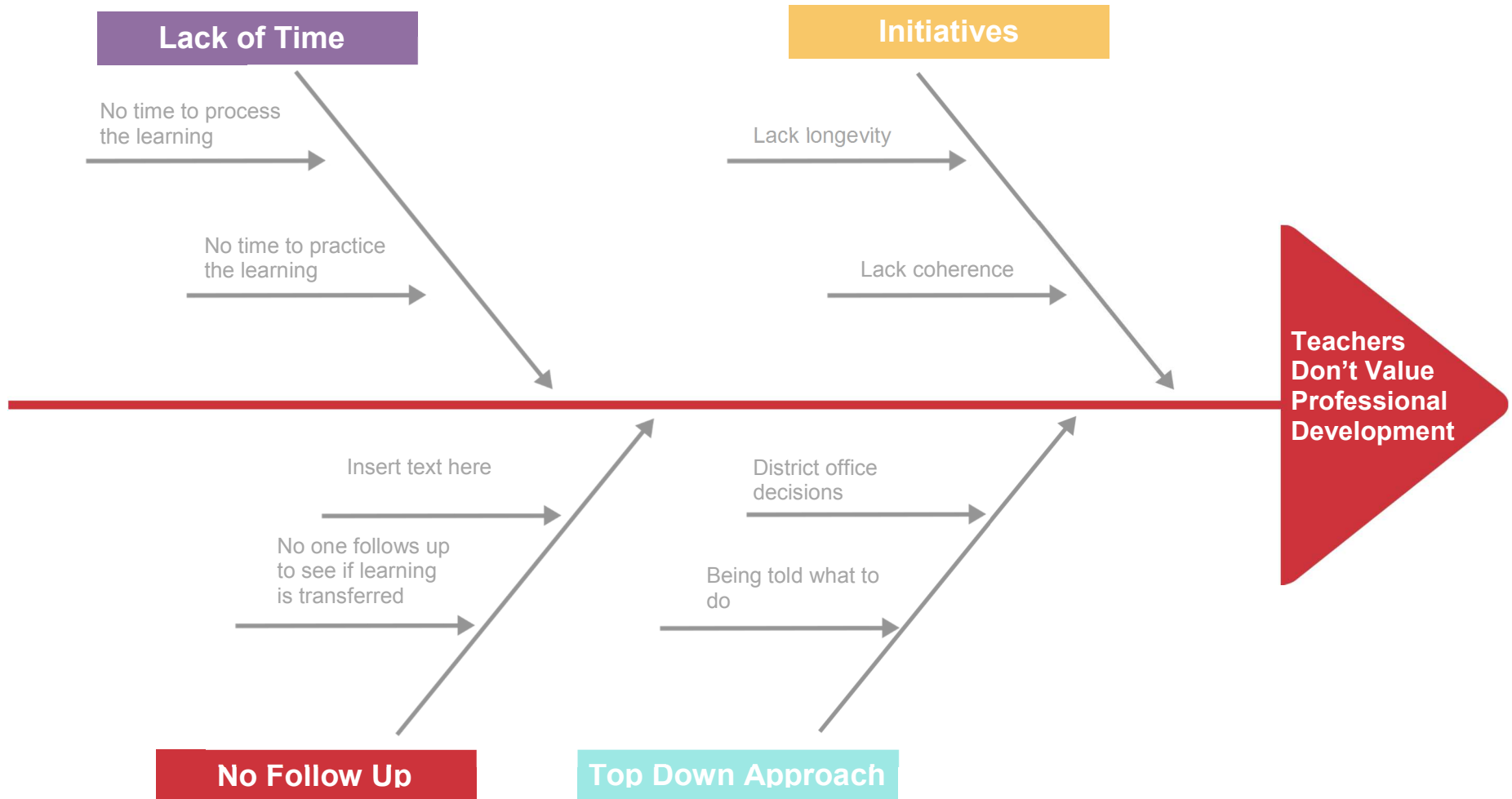


Figure 1.4 *Fishbone Diagram Two*

FIVE WHYS PROTOCOL ONE

- Opening Question: What do you need from professional development for you to consider changing your current classroom practices?
 - **Answer:** I need it to be applicable.
 - **Why #1:** My students aren't "textbook students" and I need to know it will work with them.
 - **Why #2:** I don't have time to try new things without a guarantee it will be successful.
 - **Why #3:** Testing demands and school pressures.
 - **Why #4:** It's more important to be successful than innovative.
 - **Why #5:** Our school is underperforming and it will look bad if we don't get better.

Figure 1.5 *Five Whys Protocol One*

FIVE WHYS PROTOCOL TWO

- Opening Question: What do you need from professional development for you to consider changing your current classroom practices?
 - **Answer:** I need time to be able to try something new.
 - **Why #1:** We have so many demands and learning a new way of teaching takes time.
 - **Why #2:** I've been teaching for 13 years and I already know what works.
 - **Why #3:** My students need to be taught in specific ways.
 - **Why #4:** It's most important for them to get the content than to be entertained.
 - **Why #5:** My job isn't about make sure they enjoy my class, it's about making sure they are prepared.

Figure 1.6 *Five Whys Protocol Two*

FIVE WHYS PROTOCOL THREE

- Opening Question: What do you need from professional development for you to consider changing your current classroom practices?
 - **Answer:** I need it to be relevant. So many times we go to professional development and it has nothing to do with what's really happening in my classroom.
 - **Why #1:** Professional development is decided by the district and it's irrelevant.
 - **Why #2:** Doesn't match our school professional development needs.
 - **Why #3:** The district office is out of touch with what's really going on.
 - **Why #4:** They only visit schools for a few minutes each year.
 - **Why #5:** They are busy handling district-wide business and it's impossible for them to intimately know what's happening in each school and what each school needs. Which is why professional development should be a principal decision.

Figure 1.7 *Five Whys Protocol Three*

Statement of the Problem

Professional development opportunities were widely available as a form of support and an opportunity for growth for teachers; however, these current opportunities provided do not meet the needs of teachers in order to increase student achievement on the English Language Arts state end-of-year assessments. After identifying a disconnect between the professional development teachers were receiving and the student growth and achievement on state assessments, the researcher determined Improvement science

research would be the best way to learn more about the problem. This disconnect was the impetus for beginning the Improvement science research Strategize-Implement-Analyze-Reflect cycles. With the exception of rare instances like homegrown institutes or conferences, professional development in Clearview School District was often presented holistically, meaning all teachers in a building receive the same content. Likewise, professional development was often general in nature, instead of context and content specific. These professional development experiences lack the specificity, safe learning environment, follow-up, and administrative support necessary to ensure teachers feel equipped to transfer the learning to their own classrooms. Many teachers will attend professional development, but never felt as if they leave with a toolkit of strategies ready for implementation within their classrooms.

The specific problem being addressed through this Improvement science Dissertation in Practice was how leadership capacity can be increased to better support the learning environment for teachers (James et al., 2009) and the development of novice teachers (Flores et al., 2006) and what tool, protocol, or framework was needed to make learning walks and teacher evaluation more effective. One way that leaders can support the professional development of teachers was through authentic feedback that provided opportunities for their reflection and a conversation around next steps (Runhaar, 2010). Many leaders miss the professional development opportunity that was embedded within teacher evaluations (Tuytens et al., 2011). Yet, professional development was one of the main goals, next to accountability, of teacher evaluations (Stronge, 2006). According to researchers, the purpose of teacher evaluations should be to increase teachers' effectiveness and support through applicable follow up in professional development

(Beerens, 2000; Danielson et al., 2000; Fletcher, 2001; Stronge et al., 2003). Likewise, the very conversations, feedback, and reflections that stem from teacher evaluations should also serve as a point of professional development (Tuytens, et al., 2011). However, many leaders do not have the capacity to lead these conversations in such a way that promotes teacher learning (Sandholtz et al., 2006). Finally, “meaningful feedback provided through good teacher evaluation can lead to significant improvement in classroom performance” (Tuytens et al., 2011).

Purpose Statement

The primary purpose of this action research was to grow the capacity of educational leaders to set the proper conditions for learning transfer for teachers. While there were clear characteristics of professional development as it relates to teacher learning, there was less clarity as it relates to changing teacher classroom practices. This study seeks to improve current professional development models can be changed and improved to better support teachers’ transfer of learning from professional development to their classroom context. Next, the focus shifts from teacher implementation to leader support to better identify the qualities and characteristics that school leaders need to effectively provide accountability for teachers who attend professional development to implement changes into their classroom practices. Specifically, one goal of this study was to provide building and district leaders with a protocol or framework for learning walks and observations in order to more effectively provide teachers with feedback about what they were noticing within classrooms.

Research Questions

Specific research questions for the study include:

Research Question 1: What makes a teacher observation tool an effective professional development opportunity for teachers?

Research Question 2: What components are necessary in a framework to ensure the tool successfully meets the criteria necessary to be considered effective professional development?

Conclusion

The introductory chapter to the study provides a brief overview and synopsis of the context and how the study will be approached by the researchers. The research statement, purpose for the study, problem statement, specific research questions, and researcher positionality were also provided. By gaining a deeper understanding and sense of the problem, the Improvement science and Strategize-Implement-Analyze-Reflect (SIAR) cycles will be more easily applied. Improvement science using SIAR cycles will be addressed in subsequent chapters. Ultimately, the teacher surveys and the interview data provided the causal impetus for moving forward with improvement science in this situation. Because Improvement science aims to address an issue in the system, it was helpful to know and understand each player in the system before providing possible change agents.

CHAPTER TWO

LITERATURE REVIEW

Introduction

The purpose of this Improvement science Dissertation in Practice was to determine what protocol could be created and designed that would support and grow school leaders' capacities for providing effective feedback for professional development so teachers' classroom practices change. Through this study, the researcher was interested in better understanding what effective professional development entails; how leaders impact professional development; and what tool is needed to ensure that leaders are equipped to provide effective feedback to teachers. Too often teachers attend costly professional development that results in little to no change in classroom instruction (Sandholtz et al., 2006). The author's specific research questions are: (1): What makes a teacher observation tool an effective professional development opportunity for teachers? (2): What components are necessary in a framework to ensure the tool successfully meets the criteria necessary to be considered effective professional development?

Literature Search Strategy

After reviewing the literature on professional development and professional development impacts on student achievement and engagement, the researcher found many studies that were helpful in defining and designing effective professional development models. Linda Darling-Hammond's research brief submitted in 2017 was

particularly insightful in identifying positive trends in professional development opportunities. The researcher read and synthesized the majority of the references from Darling-Hammond's research and then branched out based on those references. Oftentimes throughout the research, the author felt conflicted because the research suggested a lot about ineffective professional development practices (Borko, 2004; Guskey et al., 2002; Buczynski et al., 2010; Verloop, 2001; Akiba et al., 2016; Patton et al., 2015; Little, 1993; Weiss et al., 2006; Fullan, 2007) and offered many definitions and descriptions of effective professional development (Brion, 2020; Antoniou et al., 2013; Easton, 2008; Durksen et al., 2017; Qablan, 2019; Trotter, 2006; Moolenaar et al., 2012) but very little in the way of a specific model, and even less in the way of teacher perspectives and perceptions. It seems that there are a variety of aspects that contribute to a professional development opportunity's level of effectiveness. However, many of those items do not often seem realistic for implementation in a K-12 setting. For example, third grade teachers can meet and discuss specific math strategies during their planning periods, because they are often on the same schedule. However, the scheduling constraints on Secondary English Language Arts teachers' schedules makes this almost impossible since they are unable to all meet at one time. The suggestions can occasionally contradict each other— especially from the lens of teachers' time.

The researcher used a variety of search engines accessed through the University of South Carolina Libraries' website. The researcher primarily utilized four main databases to conduct her research: *ERIC (EBSCO)*, *Google Scholar*, *Education Source*, and *Education Source and Eric*. In the search, the researcher used a variety of key words and phrases: "professional development," "professional learning," "effective professional

development,” “ineffective professional development,” “measuring professional development effectiveness,” “high quality professional development,” “professional development models,” and “approaches to professional development.” While the searches were limited to those that were written in English, the researcher used studies and research conducted in other countries to aid her understanding of how the United States differs in professional development expectations and offerings to other, highly successful countries. Primary searches sought articles published since 1980, though some subsequent searches returned valuable foundational information around the history of professional development and how it has come this far.

Conceptual Framework

Adult Learning Theory

The term “andragogy” is not a new term when it comes to evaluating and supporting adult learners. First conceptualized in the 1830s by German educator Alexander Kapp, it was made increasingly popular and relevant in the United States by Malcom Knowles whose 1960s work developed a framework for adult learning theory. Kearsley (2010) writes that andragogy is the art and science of adult learning. Recently, the andragogy framework has seen an uptick in prevalence as the number of adults returning to educational environments has significantly increased. When working with adult learners, it is imperative to note the unique differences between how adolescent learners and adult learners perceive and approach learning experiences. Adult learning is a systematic and cyclical approach to exploration through collaborative and collegial practices (Brookfield, 1986). Thus, it is advantageous to remember that adult learners bring a personal set of experiences, skills, motivation, and knowledge which influence

how they set and achieve goals (Brookfield, 1986). Knowles' understanding and identification of adult learning theory led him to the creation of four main principles that define the andragogy framework. Since his first rendition of an andragogy framework, his latest iteration now includes six specific principles.

Mews (2020), Knowles (2012), and Sang (2010) provide six imperative principles for teaching adult learners. These principles are echoed in other learning theories, but it is important to remember that adult learners do differ from students. When developing professional development opportunities, these six principles should lead the creation and design work in order to be most effective. Teachers need to feel that the professional development is relevant to their current reality; it is necessary (they would be less effective without this training); there is a clear mission and vision statement for the training accompanied by learning objectives; their prior experiences are honored and respected; their self-direction is appreciated; and that they are motivated to learn (Mews, 2020). When these principles are appropriately addressed, educators and teacher leaders are more likely and more able to have key takeaways from professional development experiences. Table 2.1 below details the andragogy framework.

Table 2.1 *Andragogy Framework*

Principle	Description
Learner's Need to Know	Creating a sense of why for adult learners is essential in education and leadership. Adults need to understand the value in what is being presented and how it can apply to their current life objectives (Sang, 2010). Correlating short-term objectives with long-term goals is likely to yield higher sustained interest in learning and progress.

Self-Concept of the Learner	As a person matures, his self-concept moves from that of a dependent personality toward one that is self-directed. Adult learners often have a sense of responsibility for their own decisions and want to be treated by others as being capable of self-direction (Knowles et al., 2012). Allowing adults to learn together through collaboration and autonomy helps create a self-directed environment that may increase the retention of core information and problem-solving abilities.
Prior Experience of the Learner	An adult accumulates a growing wealth of experience, which is a rich resource for learning. Drawing on prior experience and knowledge is another way adults can learn for themselves and collaborate with others (Sang, 2010). Educators and administrators should incorporate learning experiences that account for similarities and differences among the group, utilizing activities such as collective discussions, case studies, and simulation exercises (Knowles, 1976). Introducing concepts through discussion may open adult learners to new ideas that may challenge or solidify existing biases as they comprehend the information (Knowles et al., 2012).
Readiness to Learn	The readiness of an adult to learn is closely related to the developmental- and life-related tasks of his or her social role. Adults tend to know when they are ready to learn based on the content and how useful it is at the time (Sang, 2010). Educators and administrators can identify this level of readiness by exploring areas of interest and experiences through group discussion and other assessments and then relating back to program- and course-specific goals and outcomes (Knowles et al., 2012).
Orientation to Learning	There is a change in time perspective as people mature—from future application of knowledge to immediacy of application. Therefore, adult learners are more likely to embrace and commit to problem- and life-centered methods than subject-centered learning. Rather than concentrating on subject matter for future implications as the sole orientation to learning, adults prefer having information as it pertains to real-life application (Knowles et al., 2012).
Motivation to Learn	The most potent motivations are internal rather than external. Adults are motivated to learn as they experience needs, interests, and benefits that are satisfied through learning. Factors such as career needs, advancement opportunities, family obligations, setting standards for children, and overall self-satisfaction are some of the various reasons that adults further their education (Park and Choi, 2009). These factors are often the driving force that keeps adult learners motivated to progress and achieve (Knowles et al., 2012). Educators and administrators should be aware and respectful of these motivators as they are unique and often personal, with ties to self-esteem and quality of life.

Learners' Need to Know

Adult learners need to know *why* they are expected to learn certain concepts and material. They also need to have a clear understanding of *what* they are expected to learn and *how* they are going to learn it and know they have learned it (Knowles et al., 2014). This is the first principle in the andragogy framework and one of the delineating factors between adolescent learners and adult learners. For instance, “unlike the pedagogical assumption that young learners’ need to know is driven by what they must learn to pass a test or achieve an academic accolade, andragogy assumes that the adult learners’ need to know is prompted by a desire to apply learning to some aspect of their professional or personal lives” (Ferreira, 2018, p. 11). Not only do adult learners need to know *why* they need to learn the material, they also need to know how it will benefit their next steps. There needs to be an explicit connection made between their learning and their future experiences. Recognizing this allows the staff developer to overcome any issue hesitations or concerns by addressing learners’ need to know and supporting them in gaining new knowledge. Likewise, designing appropriate professional development experiences means considering multiple ways of ensuring that learners are made aware of what they are learning, why it is important, and how they will know when they have learned it. For example, creating a knowledge gap by having learners participate in a variety of pre-work is one way to demonstrate learners’ need to know. Otherwise, adult learners often avoid fully engaging in the learning. One such implication for professional development experiences is providing adult learners with the learning objectives and outcomes (Collins, 2004). However, this knowledge gap must go one step further and provide adult learners with discussion of how their learning will be applied outside of the learning experience (Ferreira, 2018).

Self-Concept of the Learner

Through the self-concept of the learner, adults move away from being dependent thinkers reliant on the teacher and instead, need and want to be given opportunities to collaborate in a collegial environment with their peers. Bandura (1977) and Vygotsky (1978) suggest that learning happens best through social interactions. Bandura's (1977) research demonstrates that the world powerfully influences a person's behavior. People also learn by observing one another. Specifically, one person may perform an action and another person may attempt to replicate what he or she has seen. In this system, a model and an observer may be unaware of their involvement in such a process. A key component of this theory is reward and motivation (Bandura, 1961). For example, if the observer sees the model positively rewarded for their behavior, the observer may imitate the behavior in hopes of a similar outcome. Bandura's work recognizes that people often learn through observation and modeling.

Likewise, Vygotsky (1978) strongly advocated for social interaction in order to produce desired, learned results. He believed that learning first takes place on a social plane, and then a psychological plane. His term "zone of proximal development" referred to his understanding about how a person could learn a new skill just outside their current skill level by working alongside a more experienced learner. This social interaction helped learners do something independently by first attempting it collaboratively. Professional development, therefore, should be a place of collaboration that encourages all participants to engage with the learning authentically and actively, by asking questions, analyzing for contextual fit, and challenging their thoughts to equip participants to transfer their new learning into their current context.

Prior Experience of the Learner

Integrating prior experience is one of the most important aspects of the andragogical framework, pioneered in many ways by Lindeman (1926). Not incorporating learners' lived experiences would be one of the greatest missteps of an adult learning theory. Lindeman (1926) wrote:

The resource of highest value in adult education is the learner's experience. If education is life, then life is also education. Too much of learning consists of vicarious [sic] substitution of someone else's experience and knowledge...In teaching children it may be necessary to anticipate objective experience by uses of imagination, but adult experience is already there waiting to be appropriated.

Experience is the adult learner's living textbook. (p. 9)

Thus, it is noteworthy that Lindeman suggests that using adult experiences to guide teaching and learning serve as a core approach. Furthermore, Schön (1987), suggests that reflection is stepping away from the action and reevaluating to improve the action or learn from it. Schon (1987) explained:

The practitioner allows himself to experience surprise, puzzlement, or confusion in a situation which he finds uncertain or unique. He reflects on the phenomenon before him, and on the prior understandings which have been implicit in his behaviour. He carries out an experiment which serves to generate both a new understanding of the phenomenon and a change in the situation. (p. 68)

Schön suggests that experience is what really teaches individuals. He argues that the most important aspect of learning is the ability to be present within an experience and reflect on what is seen and felt. This act of dissecting the complexities of the experience

allows the learner to either confirm their current understanding or gain new knowledge. Allowing learners to reflect on the process of learning and how their new learning matches their previously held beliefs allows learners to revise or create new schema. All professional development experiences should allow teachers the opportunity to grapple with new learning and reflect on their own beliefs and practices.

Readiness to Learn

Adult learners have many identities: citizen, parent, friend, sibling, employee, child, leader, etc. Each of these roles has certain built-in expectations and characteristics. Readiness to learn, therefore, occurs when adult learners “experience a need to learn in order to cope more satisfyingly with real-life tasks or problems” (Holyoke et al., 2009, p. 15). Life roles, current problems, and upcoming experiences determine an adult’s readiness to learn (Forest III et al., 2006). One such way to ignite a readiness to learn is by gauging prior knowledge with specific content, strategies, or experiences (Cochran et al., 2016). This allows the adult learners to share what they already know and enables the teachers to leverage this prior knowledge while also ensuring that participants will engage authentically with the learning. Because adults tend to be ready to learn what they believe they need to know, it is beneficial to have teachers think in terms of current problems and issues that teachers are facing when designing professional development experiences (Chan, 2010). Forest and colleagues (2006) write that “without relevance, students feel little reason to engage in the learning process. With relevance, students become active, willing participants in their own education” (p. 119). Then, professional development opportunities can be used to collaborate and crowdsource for support and additional ideas. Moreover, “teachers of adults must be able to contextualize issues that

need to be learned” (Forest III et al., 2006, p. 119). If there is no immediate, obvious reason for learners to engage in the learning, it is the responsibility of staff developers to suggest an applicable opportunity. Often, the moments of heightened readiness to learn occurs during a teachable moment. When adult learners are experiencing an uncomfortable situation that begs to be solved, their readiness to learn often surfaces (Forest III et al., 2006).

Orientation to Learning

Orientation to learning is closely related to adult learners’ readiness to learn. Typically speaking, adults are life-, mission-, or problem centered in their learning (Forest III et al., 2006). Adult learners are interested in how the new learning is applicable to their life and how it can be handled in a variety of situations (Forest III et al., 2006). According to the andragogical framework, “adults learn because they need to address issues in their lives. Thus, they enter the learning process from a performance-centered or problem- centered mindset” (Forest III et al., 2006, p. 119). Regardless of learners’ stage in life or career, all adult learners are motivated to stay engaged in learning when the applicability is apparent and clear. For example, because the adult learners in this study are teachers, the orientation to learning would need to focus on their teaching (Forest III et al., 2006). However, that might take many forms. For instance, it could be content focused, context specific, school based, or even address various district and state initiatives. Orientation to learning can take a different form of open-ended problems and questions. In this sense, there is no right answer being sought. Instead, adult learners become co-constructors of the learning and the outcomes. This authentic approach to solving problems encourages adult learners to engage with the learning, even

when the specific problem being discussed is not applicable because adult learners can walk away with other skills from the learning. For example, they may take away a new protocol, a new technique, or a new practice that they can later use themselves.

When designing professional development experiences and expectations, the application of the learning needs to be made abundantly evident. Teachers will need to see how professional development can be immediately applied to their teaching context. Setting up the learning with this level of intentionality will better support teachers as they work to stay fully engaged.

Motivation to Learn

When motivating adult learners, professional development designers should note Barbuto's (2005) identification of various motivational types: (1) intrinsic process motivation, (2) instrumental motivation, (3) self-concept external motivation, (4) self-concept internal motivation, and (5) goal internalization motivation.

When people are motivated to learn certain things or perform certain tasks for their own enjoyment, that is intrinsic motivation. Thus, "this motive also has been articulated as intrinsic motivation to obtain task pleasure and intrinsic task motivation devoid of external controls or rewards" (Barbuto, 2005, p. 29). The intrinsically motivated learner finds enjoyment and pleasure from the actual task of learning. In this case, adult learners may be intrinsically motivated by two separate ideologies: by the process of learning or by the newfound knowledge that was learned.

While intrinsic motivation looks inwards at ideologies and enjoyment, instrumental motivation "motivates individuals when they perceive their behavior will lead to certain extrinsic tangible outcomes, such as pay, promotions, bonuses, etc." (Barbuto, 2005, p.

29). Similarly, instrumental motivation may also be in the form of satisfaction of the need for power, safety, or existence (Barbuto, 2005). Instrumental motivation refers to physical, tangible rewards. Unlike other extrinsic motivating factors that may focus primarily on social or interpersonal opportunities, instrumental motivation focuses only on receiving a tangible reward (Barbuto, 2005).

Third, self-concept external motivation refers to learners who are “other-directed and seek affirmation of traits, competences, and values from external perceptions” (Barbuto, 2005, p. 29). This motivating source can be compared to the social identity theory that focuses on the social ladder and implications of being more highly respected socially (Barbuto, 2005). Finally, self-concept external motivations often refer to those learners who seek out learning opportunities to improve their membership and seniority, gain approval from leaders, and earn respect in social groups (Barbuto, 2005).

Next, the self-concept internal motivation is internal when individuals are inner-directed (Barbuto, 2005). Through this type of motivation, adult learners are motivated by the “internal standards they have set for traits, competencies, and values that become the basis for their ideal selves” (Barbuto, 2005, p. 30). Adult learners who are motivated through self-concept-internal-motivation are often secondarily motivated by the need for achievement, the need to publicly overcome challenges, and the need to increase job performance through intentionally developing one’s potential (Barbuto, 2005).

Furthermore, Bandura (1986) “describes self-evaluative mechanisms, self-regulation, and personal standards” as defining characteristics of significant self-concept internal motivation factors (p. 98).

Finally, “behavior motivated by goal internalization occurs when individuals adopt attitudes and behaviors congruent with their personal value systems” (Barbuto, 2005, p. 31). These adult learners have developed a deep sense of cause and are motivated to work toward the goal for the good of the whole. These learners are motivated by self-actualization (Barbuto, 2005). This motivation is different from the previous four motivation identifications because it is marked by the absence of self-interest. Instead, these adult learners are invested and engaged because of their belief in the system and the ultimate goals.

The Importance of Professional Development

Professional development’s necessity is justified for a variety of reasons. Most instructional leaders and school administrators agree that professional development is a cornerstone of school improvement (Akiba et al., 2007; Gall et al.; Garet et al., 2001; Kuijpers et al., 2010; Akiba et al., 2016). However, when thinking specifically about how professional development can improve a school, it is necessary to think in terms of three trends: student and teacher equity (Akiba, 2016; Wenglinsky, 2000; Meissel, 2016; Hollins et al., 2004; Fields et al., 2012; Darling-Hammond et al., 2017), teacher impact (Kyriakides et al., 2009; Akiba et al., 2007; Wenglinsky, 2000; Guskey, 2002; Garet et al., 2001), and the pressure to improve (Antoniou et al., 2013; Borko et al., 2010; Pritchard et al., 2002; Desimone et al., 2005; Akiba et al., 2016; Weiss et al., 2006; Torff et al., 2005; Fields et al., 2012). These three trends are most vital to understanding the importance of professional development because of their direct impact on student achievement and engagement.

Student and Teacher Equity

To provide all students with access to high quality teachers, educational leaders recognize the importance of professional development, specifically when working with diverse student populations. In a North Carolina study, researchers found that supportive environments that provided effective professional development, increased teacher effectiveness by 38% more than peers in schools without supportive environments (Berry et al., 2021). Schools can, therefore, begin to close the achievement gap by implementing effective professional development (Akiba et al., 2007; Akiba et al., 2016; Kyriakides et al., 2009; Yoon et al., 2007). Effective professional development can overcome barriers to student growth (Antoniou et al., 2013; Akiba et al., 2016; Kyriakides et al., 2009; Meissel et al., 2016). For example, some studies have noted that access to highly qualified teachers can minimize inequalities in school resources, opportunities for learning, or socio-economic status in high-achieving Asian countries (Akiba, 2016). These same studies found that high performing countries use intentional and strategic professional development plans as a support for teacher growth (Akiba, 2016). This difference in student achievement and growth can be attributed to the way that countries view professional development. Wenglinsky (2000) found that “professional development in cultural diversity, teaching students with limited English proficiency, and teaching students with special needs were all linked to higher test scores” (p. 29). Furthermore, “students whose teachers receive professional development in working with different student populations outperform students whose teachers lack professional development on this topic. Also, students whose teachers receive professional development in higher-order thinking skills outperform students whose teachers lack such

professional development” (Wenglinsky, 2000, p.23). Wenglinsky’s research of the correlation between professional development topics and student achievement supports that high quality professional development impacts student learning in very specific, tangible ways.

Providing equitable, high-quality teachers to each student has far less to do with a teacher’s preparation program than a teacher’s reception of continuous learning (Meissel, 2016). While teachers are often tasked with seemingly impossible challenges of overcoming a students’ prior educational experiences:

These inequities, to a considerable degree, provide the impetus and reasoning for educational interventions which aim to reduce such gaps by improving achievement overall and accelerating rates of progress for those in the lowest-achieving groups. Increasingly, the focus has been on school reforms, centering primarily on (re-)educating and developing teachers, since teachers are considered to have the largest single system-level impact on student achievement. (Meissel, 2016, p. 163)

The need for continuous learning is vital to student achievement because teacher preparation programs often lack consistency between schools and states. As such, places like Singapore and Hong Kong have addressed this need by providing equal resources and ongoing, high-quality opportunities for teacher learning to compensate and overcome any initial gap in teacher quality (Akiba, 2016; Kyriakides et al., 2009; Alton-Lee, 2003; Fields et al., 2012; Nye et al., 2004). In contrast, however, the funding system of the United States does not promote the same learning opportunities. Because most of the educational funding is reliant on property taxes in the United States, this gap in initial

teacher qualification is often only exacerbated (Akiba, 2016). Being a teacher is not something that should only be supported during a four-year college preparation program. Instead, learning is a continuous, lifelong process that occurs most effectively and authentically within the context of a teacher's experience. Through reflection, collaboration, and conversations teachers begin to construct new and powerful knowledge (Hollins et al., 2004).

For secondary or departmentalized teachers, content focused professional development provides the opportunity to learn new contents beyond their assigned subjects. Fields and colleagues (2012), found that many secondary teachers increase their knowledge and confidence in other content areas by seeking out content specific professional development that was different from their current subject. For example, some teachers might seek professional development about teaching Biology 1 even if they were teaching chemistry. This vertical alignment ensured that teachers were gaining background knowledge and experience, regardless of their current placement (Fields et al., 2012). Professional development should not be considered an option or bonus (Fields et al., 2012). Instead, it should be seen as a regular, necessary part of school reform and student achievement, especially when considering implementing new curricula or programs (Fields et al., 2012).

Darling-Hammond and associates (2017) reported findings that suggest professional development is a critical part of implementing new curriculum or classroom strategies and without the support of staff developers, teachers failed to implement new curricula or strategies effectively. Professional development is no longer a nicety provided for the more affluent schools or the ambitious teachers; instead, it provides the

necessary training to create equitable learning and teaching environments (Darling-Hammond et al., 2017). Further, Fixsen and Blase discuss the way in which implementation happens through implementation team members (2016). They suggest that having implementation teams to support innovative solutions to educational problems ensures that teachers receive feedback from individuals who have the ability, experience, skill, and knowledge to focus on solutions (Fixsen et al., 2016).

Teacher Impact

Researchers have confirmed what educators have known for decades: the key to increasing student achievement is having high quality teachers in every classroom (Kuijpers et al., 2010; Rockoff, 2004; Hanushek, 2016; Stronge et al., 2011; Aronson et al., 2007; Gess-Newsome et al., 2019; Canales et al., 2018; Ding et al., 2006). Kyriakides and colleagues (2009) discovered that over the period of the last twenty years, various studies have revealed that the classroom is a stronger indicator of future student success than the school effect. Furthermore, these same studies also show that the quality of teaching is more important than any other factor at the classroom level (Kyriakides et al., 2009). While there are many factors that influence student achievement and engagement, teacher quality continues to be acknowledged, recognized, and respected by administrators, politicians, and educators as the most important school-controlled influence on a student's academic achievement (Akiba et al., 2016). Borman and colleagues (2005) report that the importance of strong teachers in each classroom can be quantified by a year of growth and achievement for students. According to Darling-Hammond and associates (2002), teachers are far more important to students' academic achievement level than other factors such as class size. Furthermore, "at least 7% of the

total variance in test-score gains” can be attributed to teacher quality (Darling-Hammond et al., 20002, p. 13). Teachers often receive localized support and experiences while going through their teacher education programs, but it is the ongoing, context-specific professional development that will create the space necessary for shifts in practice (Akiba et al., 2007).

Teacher quality is a fundamental part of conversations about education quality. It is often hard to separate the two, and “teacher” and “education” are often used interchangeably. Former Secretary of Education Margaret Spelling believed so much in the power of classroom teachers that she felt teacher proficiency and quality was the key to continuing America’s competitiveness in the global marketplace (Akiba et al., 2007). During former Secretary of Education Betsy DeVos’s tenure, she suggested and promoted a personalized approach to professional development (Press release #2). Her aim was to empower educators through incentivized programs to find and attend professional development opportunities that were relevant to their context, interests, goals, and needs (Press release #2). Just providing teachers with content-specific professional development is not enough to change student performance; instead, professional development must be so powerful that it challenges teachers to change classroom practices which improves student performance (Wenglinsky, 2000). This means that more students are actively engaged in their learning when provided with rigorous, authentic, and high-quality instruction. High quality teacher professional development improves teaching practices, which leads to student growth (Antoniou et al., 2013). Guskey (2002) suggested that professional development activities should be rated based on the immediate change within teachers’ knowledge and practice. The most

effective professional development opportunities lack clout when not implemented. Just because teachers have been exposed to evidence-based approaches to their classroom practices, does not guarantee a meaningful implementation. However, without this consistent implementation, the effectiveness of professional development should not and cannot be measured (Donohoo et al., 2020). Further, Donohoo and Katz (2020) suggest that “when professional learning is embedded in daily practice (such as progressive inquiry), it becomes relevant for teachers because the dilemmas they encounter every day become the impetus for the inquiry” (p. 74). Quality implementation should be defined as “innovative and lasting change that becomes accepted practice and produces positive outcomes” (Donohoo et al., 2020, p. 398). It is impossible to analyze professional development effectiveness without admitting the role, responsibility, and impact of classroom teachers. This responsibility only grows when considering large scale reform and improvement. While the impact of teachers is hard to measure, there is no denying that,

Teachers are necessarily at the center of reform, for they must carry out the demands of high standards in the classroom. Thus, the success of ambitious education reform initiatives hinges, in large part, on the qualifications and effectiveness of teachers. As a result, teacher professional development is a major focus of systemic reform initiatives. (Garet et al., 2001, p. 916)

Pressure to Improve

Teachers, administrators, and district office personnel have become accustomed to the constant pressure to improve student learning. Darling Hammond and colleagues (2017) note that providing high quality professional development is a prerequisite for

high quality schools. Thus, it is no surprise that many districts and schools rely heavily on creating a professional development plan that will support student growth and achievement (Akiba et al., 2016; Darling-Hammond et al., 2020; Leithwood et al., 2020). One such way that administrators feel the weight of accountability is by being tasked with creating a collaborative school culture that provides teachers time to work together, while also maximizing the instructional time for students (Leithwood et al., 2020). Furthermore, this culture must be one that promotes risk taking and trust amongst colleagues (Leithwood et al., 2020). Because of the scrutiny on improvement, teacher and instruction quality remains a key factor in these reform efforts. Recently, the demand to improve teaching and learning has reached an all-time high, increasing accountability measures and the need to address issues with high quality professional development (Antoniou et al., 2013). There is more emphasis and focus placed on the continued development of educators than ever before. The belief that professional development can increase student achievement speaks to the ideology that teaching is a constant exercise in learning (Borko et al., 2010). The center of these reform initiatives are teachers and their instructional practices (Borko, 2004). Professional development is a costly and financially risky undertaking. With these increased expenditures, attention is now being paid to the effectiveness of professional development opportunities (Sessions et al., 2008). Researchers, policymakers, and educators are asking questions about how to structure and provide professional development to ensure its impact on student performance (Sessions et al., 2008). Not only does effective professional development improve schools, but it also has the power to retain teachers and impact their self-efficacy (Darling-Hammond et al., 2020). Oftentimes, professional development is seen as the

basis for school reform efforts (Pritchard et al., 2002). Professional development has now been deemed essential for increasing teachers' content knowledge and improving classroom instructional practices (Darling-Hammond et al., 2020). Thus, policymakers and school reform initiatives often rely on effective professional development to increase teachers' ability to engage students through rigorous, authentic lessons (Desimone et al., 2005).

Schools and districts recognize the value of providing professional development and know that teachers should be attending professional development regularly and consistently because it is critical for increasing their capacity and knowledge of teaching and learning (Akiba et al., 2016; Brion et al., 2020; Buczynski et al., 2010; Easton et al., 2008; Darling-Hammond et al., 2020; Masuda et al., 2013). In order to produce sustained gains in student learning, adequate opportunities for teachers to enhance both their pedagogical skills and content knowledge must be provided. System-wide professional development can have significant impacts on instruction (Weiss et al., 2006).

However, making such gains relies heavily on the school leadership. The school leader must set the conditions for teachers to transfer their learning (Grissom, 2021; Bredeson 2000; Gurr et al., 2006; Youngs et al., 2002; Postholm, 2012; Dinham, 2005;).

According to researchers at the Wallace Foundation, "effective principals focus their work on feedback, coaching, and other instructional improvement work that is grounded in classroom observations and other data about teaching and learning" (Grissom, 2021, p. 92). Principals must not only conduct classroom observations, score them, and track scores over the year, but also provide feedback and plan for professional development for teachers based on what they observe (Grissom, 2021). However, the responsibility of the

school leader to improve student achievement should focus on providing effective professional development for school staff members. Principals must understand and recognize the characteristics of high-yield professional development and use such experiences to orchestrate professional growth (Grissom, 2021). Given the growth often associated with professional development, Brown and Militello (2016), identify it as one of the most effective ways to empower teachers, alongside promoting teacher leadership and building a strategic mentor plan. Because of the impact that professional development activities can have on teacher practice, it is no surprise that schools and districts continue to invest billions of dollars in offering professional development to teachers (Borko, 2004). Finally, policymakers and other stakeholders have started to focus on the workforce of teachers, namely how teachers maintain their licensure and accreditation (Borko, 2004).

Many states now require teachers to earn continuing education credits by attending professional development (Torff et al., 2005). The continuation of education and professional development experiences is aimed at ensuring teachers stay updated on current practices and research while also encouraging them to take intellectual risks within their classrooms (Torff et al., 2005). Professional development is a vital component of any school reform efforts. However, when considering professional development opportunities to offer, it is important that administrators and leaders understand teacher motivation and the reasons they attend professional development. For most teachers, attending professional development helps them gain skill and experience with the content they teach, curriculum they implement, and which pertain to the teaching field (Fields et al., 2012). By better understanding teacher motivations for attending

professional development, there can be a more authentic and supportive system for feedback and follow up.

Issues with Current Professional Development Models

While there is no shortage of recognition of the ways that current professional development models do not work, the literature suggests specific themes that are prevalent with each failing professional development attempt. These themes can be categorized into four specific issues. Table 2.2 highlights the themes and supporting literature for problematic professional development.

Table 2.2 *Issues with Current Professional Development Models*

Theme	Supporting Literature
Ineffective evaluation of professional development	Buczynski 2010; Easton, 2008; Guskey, 2002; Kennedy, 2016; Little 1993; Qablan, 2019)
Failing to recognize teachers as learners	Akiba et al., 2016; Antoniou et al., 2013; Fields et al., 2012; Keller, 2016; Putnam et al., 2000; Verloop, 2001; Sessions et al., 2008; Masuda et al., 2013; Hollins et al., 2004
Lack of follow up or follow through after professional development	Guskey et al., 2002; Kuijpers et al., 2010; Little, 1993; Guskey, 2002; Qablan, 2019;

Professional development that is isolated from teachers' current classroom contexts	Buczynski et al., 2010; Akiba et al., 2016; Masuda et al., 2013; Putnam et al., 2000; Weiss et al., 2006; Garet et al., 2001; Patton et al., 2015; Borko, 2004
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Ineffective Evaluation of Professional Development

After investing time, money, and additional resources into providing professional development for educators, changes (in both instruction and student achievement) are anticipated soon after the event. However, these changes are often a difficult and gradual process (Qablan, 2019). For far too long, educators have not known how to analyze the results of professional development to determine its effectiveness. When confused by the results, this often leads to believing that the professional development was ineffective and abandoning it in favor of trying something new. However, it is this stop and start that makes teachers and administrators hesitant and unsure about how to set an expectation for professional development that will continue to support teaching and learning (Easton, 2008). Often, professional development activities are abandoned too quickly and too readily.

Oftentimes, policymakers or administrators look for new and different professional development opportunities if clear, consistent, and abundant evidence of teacher and student improvement is not immediately available (Buczynski, 2010). However, educational leaders should consider how teachers learn and the steps that must be taken for change to occur within classrooms before abandoning professional development activities and implementing yet another professional development initiative.

Successful change in classroom practice is summed up by “three-step process: PD alters teachers' knowledge, which in turn alters their practices, which in turn alters student learning. If there is slippage in any one of these steps, we might expect effects to be diminished” (Kennedy, 2016, p. 960). One current issue with many professional development models is the failure to remember that professional development opportunities alone do not directly impact student achievement (Guskey, 2002). For professional development to be deemed effective, teachers must be equipped to transfer their learning to their contexts.

Misunderstanding Teachers as Learners

When the goal of professional development is changing teacher instruction to positively impact student achievement, specific and intentional focus is required for teachers developing new skills at the level they are willing to implement into their classrooms in real time. Moreover, “cognitive psychology has produced a range of models of how teachers and other professionals develop expert skill” (Antoniou et al., 2013). A specific area for improvement when it comes to professional development is realizing the unique needs of adult learners, specifically teachers. Teacher motivation, reason for attendance, and personal investment are not always considered (Keller, 2016). There must be a motivation to learn for the new learning to be effective. John Keller’s Attention, Relevance, Confidence, and Satisfaction (ARCS) model is one way to analyze and understand this gap (2016). Keller’s work around learner motivation is applicable to all opportunities for learning, including a mandated professional development experience. Piquing a learner’s attention is imperative because it creates a sense of curiosity, arousal, and interest which engages their minds in learning something new (Keller, 2016).

Secondly, relevance refers to learners' perceptions that the instructional requirements are consistent with their goals, compatible with their learning styles, and connected to their past experiences (Keller, 2016). Confidence refers to the effects of positive expectancies for success, experiences of success, and attributions of successes to one's own abilities and efforts rather than to luck or to task challenge levels that are too easy or difficult (Keller, 2016). Finally, the fourth condition of motivation required is called satisfaction. It includes the appropriate mix of intrinsically and extrinsically rewarding outcomes that sustain desirable learning behaviors and discourage undesirable ones (Keller, 2016).

This issue of lacking teacher engagement stems from the fact that staff developers struggle with how to ensure that the professional development is specific enough to teacher needs that it transforms teachers' instructional practices (Putnam et al., 2000). Learners need a safe space to wrestle with new ideas, including ideas that may challenge their current belief system. However, not all formal professional development opportunities are "safe spaces" in which teachers are encouraged to have honest, authentic conversations about their beliefs and how those may or may not have shifted (Akiba, 2016). However, it is through these conversations that teachers can come to terms with their learning and begin to rethink their current practices. True change and advancement of teaching practices occur when teachers are given the opportunity to talk to their colleagues about specific and specialized issues. As Verloop (2001) points out, professional development opportunities fail when the learning context does not consider teachers' current contexts or belief systems.

Another specific issue with current professional development models is that they rarely consider teachers' years of experience. Torff and Sessions (2008) found that years

of teaching experience was the most accurate predictor of a teachers' attitude about professional development. Teachers in their first ten years of teaching demonstrated a marked increase in attitude positivity as compared to their more veteran peers (Sessions et al., 2008). Professional development rarely accounts for teachers' level of experience. Similarly, Masuda and colleagues (2013) noted that some teachers suggested that they were more likely to have a positive attitude if they were compensated for their attendance, but teachers in the late-career stage of the profession stated they were primarily focused on how worthwhile and relevant the professional development was. Beyond the teacher contexts, it is important for professional developers to understand the unique challenges and characteristics of teaching. For example, many staff developers are,

concerned about putting new demands on their time. We were careful about how we scheduled and used time in the school. We questioned whether we had understood the school well enough during the research planning process, how we might have acquired a better understanding of the school and whether our collaboration with the school district was inclusive enough. (Hollins et al., 2004, p. 262)

It is this concern and intentional focus that creates an environment conducive to learning.

A challenge with working with teachers is the varied experiences, contexts, expectations, and assignments gathered in one room, making it difficult to create a professional development experience where teachers feel they learned something. Gall and associates (1994) reports that it is challenging to determine what knowledge and skills teachers want and need most because a teacher's specific contexts (their classroom

dynamics), their years of experience, and other historical factors greatly influence their perceptions of what a professional development experience should accomplish. Because teachers are learners, they have their own preferences for learning. For example, some teachers are interested in the researcher and theoretical frameworks, while other teachers are only interested in professional development that is immediately applicable (Gall, n.d.). Likewise, content focused professional development provides teachers the opportunity to learn new content beyond what they are currently teaching (Fields et al., 2012).

Lack of Follow Up/Follow Through

A key component of effective professional development is providing teachers opportunities to try new practices and develop new skills through supportive coaching (Berry et al., 2021). Unfortunately, current models and methods of professional development are often not “powerful enough, specific enough, or sustained enough to alter the culture of the classroom and school” (Fullan, 2007, p. 92). There is often a lack of significant effect on student achievement from professional development opportunities. According to Kuijpers and colleagues (2010) one reason for this is that often there is too little attention paid to the conditions needed to support teachers, such as job embedded, continuous, and ongoing professional development. Instead, follow through and follow up on learning is lacking (Kuijpers et al., 2010; Waters et al., 2000; Bradshaw, 2002; Printy 2008; Trust, 2012; Guskey et al., 2009;). In one study in North Carolina, teachers identified follow-up coaching as particularly effective and insightful for their professional development experiences. This is an alternative to the shallow, fragmented content and the passive teacher roles observable in much implementation

training. Teachers do not assume an active professional role simply by participating in a "hands-on" activity as part of a scripted workshop (Little, 1993).

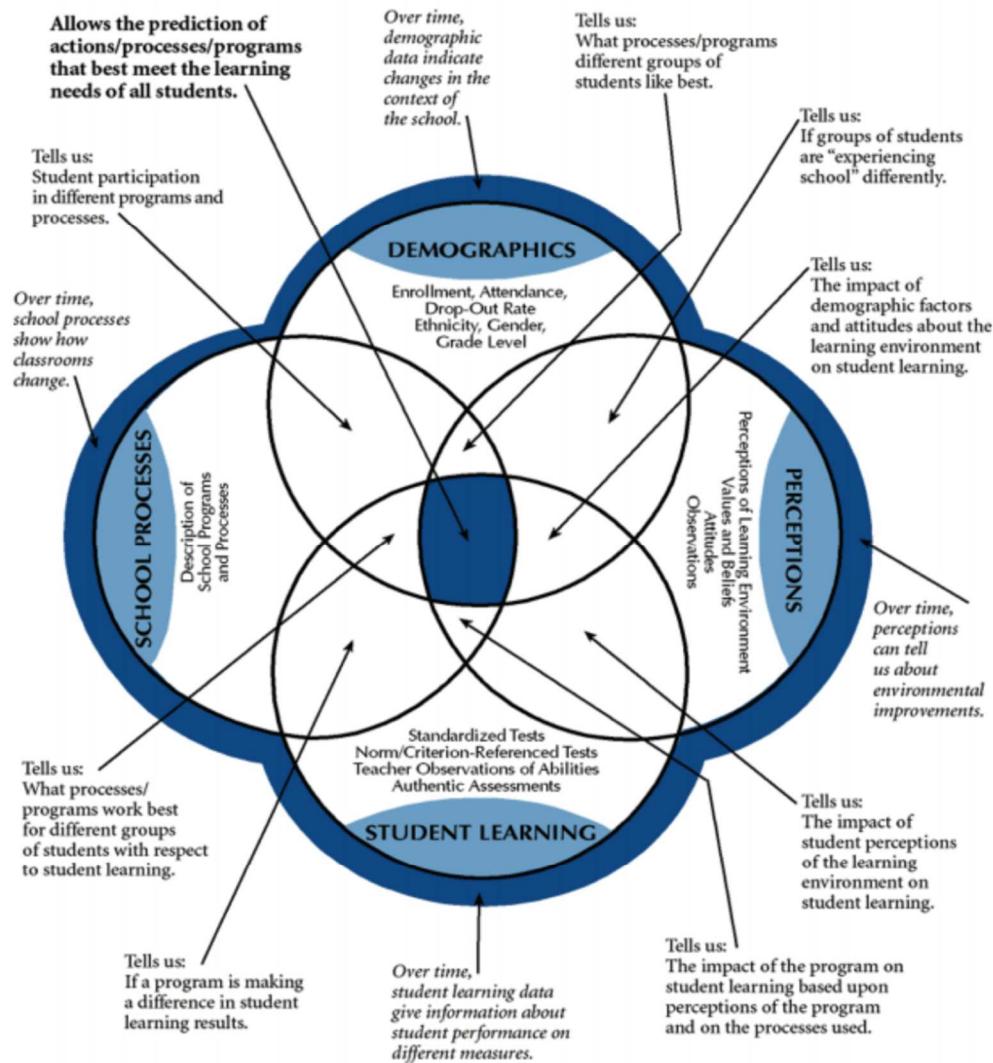
According to Guskey (2002), administrators do not directly influence student learning, but their indirect influence through conversations, supervision, evaluation, and coaching do have significant indirect impacts on student learning. One specific concern from teachers who attend professional development is the way that those experiences often present new ideas or ways of doing something (Lortie, 1975). Change is often threatening, stressful, and anxiety-inducing, which makes teachers more hesitant to implement new ideas (Lortie, 1975). Trying something new means risking failure. Therefore, teachers can be reluctant to try something new unless it is clear they have support from their administration that minimizes their fear and honors the risk they are taking as necessary and courageous (Qablan, 2019). One of the main qualities of healthy, effective professional development is its focus and commitment to providing coaching and expert support (Darling Hammond et al., 2017). Furthermore, providing teachers with coaching and feedback allows them the opportunity to engage in "sense-making" activities and truly change their instruction, instead of dabbling in new practices when or if time allows (Darling Hammond et al., 2017). These coaching and follow up conversations are extremely important to teachers' practice and students' achievement. For example, researchers found that participants who had engaged in a professional development opportunity that provided coaching and feedback saw an improvement in writing 2.9 to 3.5 times the expected rate and improved reading 1.4 to 1.6 times the expected rate (Darling Hammond et al., 2017). Therefore, through ongoing coaching,

context specific support, and additional follow up, teachers are equipped and empowered to implement new learning even in the face of failure.

Professional Development in Isolation

A third issue present in many professional development scenarios is how often they are isolated from the true context in which teachers are teaching. The current model of mandated professional development—a few in-service days per year—has been shown in research to be ineffective in improving teaching (Weiss, 2006). Ineffective professional development opportunities are characterized by their “fragments, misalignments that are incapable of meeting teachers’ needs as they work to gain a deeper pedagogical understanding” (Weiss, 2006, p. 1). Because the content of existing professional development programs is often disconnected from teachers’ lived experience and little follow-up support exists, teachers and administrators are frustrated and hesitant to try to implement anything new (Weiss, 2006). Professional development is often unsuccessful because it is “too conventionally taught, too top-down and too isolated from school and classroom realities to have much impact on practice” (Buczynski, 2010, p. 600). Even when professional development is school focused, those goals are often too global to make an impact on teaching and learning. While these activities can be appropriate at times, rarely are they applicable at the individual teacher level (Buczynski, 2010). Rather than just focusing on school test scores as the impetus for school change, school leaders should shift their focus to Bernhardt’s Multiple Measures of Data (Bernhardt 2005). Figure 2.1 provides a visual of the four measures of data and corresponding questions that each type of data helps to answer.

MULTIPLE MEASURES OF DATA



Note. Adapted from Data Analysis for Comprehensive Schoolwide Improvement (p.15), by Victoria L. Bernhardt, 1998, Larchmont, NY: Eye on Education. Copyright © 1998 Eye on Education, Inc. Reprinted with permission.

Figure 2.1 *Bernhardt's Multiple Measures of Data*

Generally, schools and districts create a plan to push through initiatives or broad ideals instead of focusing on specific teacher needs (Akiba, 2016). However, using Bernhardt's view of data, school leaders are more likely to choose professional development programs that are applicable and appropriate for the school context in which they work. The current model does not always provide for teacher choice and voice, but according to

Akiba and Liang's study, it is vitally important to organize formal collaborative activities around the problems of practice experienced by teachers. In other words, learning must all be connected to their lived and perceived classroom experiences (Akiba et al., 2016). In Wilson and Berne's examination of research on professional development, they observed that teachers are reluctant to attend one-day workshops conducted by staff developers who claim to be experts, since they seem to lack knowledge of the specific context in which the teachers work (Wilson et al., 2002).

There must be a professional development plan that is connected, long term, and teacher specific. The duration of professional development "should be considered in terms of weeks, months, and years" (Bates et al., 2018, p. 625). However, many teachers only experience "one-shot, sit-and-get" workshops that are less than eight hours in length (Bates et al., 2018; Wei et al., 2010). Garet and colleagues (2001) report that one criticism of current professional development models is that activities and experiences are often disconnected with teachers struggling to determine how everything unifies in their classroom. There is often a lack of a coherent program to inform teacher learning and development (Garet, 2001). Current research around professional development suggests that while the traditional, single day workshop may provide information, it is unlikely to change instructional practice, which further suggests that effective professional development should be part of a bigger plan (Patton et al., 2015). Interestingly, regardless of teacher level of experience, teachers voice their frustrations that professional development experiences are often disconnected from their context and the day-to-day activities expected of teachers (Putnam et al., 2000). Akiba and Liang (2016) suggest that one of the specific issues with an approach like the single day

workshop is that it does not allow teachers the opportunity to engage in accountable talk with their peers. The disconnected workshop approach does not consider teachers' context or allow them to collaborate to develop lessons and solve context-specific problems. This approach is considered disconnected because it is not specific to teachers' context or their unique needs (Akiba et al., 2016). This disconnection can also prevent collaboration, which is one of the key necessary components for effective professional development (Akiba et al., 2016; Brion 2002; Brookfield, 1986; Moolenaar et al., 2012; Durksen, 2017; Moolenaar et al., 2012; Fields et al., 2012; Putnam et al., 2000; Garet et al., 2001; Darling-Hammond et al., 2017). Without a clear picture of the purpose, goal, and intent of the professional development activity, teachers often felt like it was a mandated initiative instead of a support put in place to promote student engagement and achievement (Masuda, 2013). Fragmented, disconnected in-service programs do not consider how teachers learn, their motivation to learn, or what they feel they need to learn (Borko, 2004).

Designing Effective Professional Development

Research suggests that effective professional development will be:

1. data-driven (Brion, 2020; Keller, 2016; Antoniou et al., 2013; Kuijpers et al., 2010; Penuel, 2007; Easton, 2008),
2. context-specific (Brion, 2002; Garet et al., 2001; Antoniou et al., 2013; Putnam, 2000; Darling Hammond et al., 2017; Scher, 2009; Hollins et al., 2004),

3. collaborative (Akiba et al., 2016; Brion 2002; Moolenaar et al., 2012; Durksen, 2017; Moolenaar et al., 2012; Fields et al., 2012; Putnam et al., 2000; Garet et al., 2001),
4. active (Easton, 2008; Darling-Hammond et al., 2017; Brion, 2020; Garet et al., 2001; Little, 1993; Penuel et al., 2007),
5. feedback centered (Easton, 2008; Brion, 2020; Kuijpers et al., 2010; Antoniou et al., 2013; Pritchard et al., 2002; Darling-Hammon et al., 2017; Qablan, 2019), and
6. supported by principal leadership (Wallace Foundation, 2013; Knapp et al., 2010; Louis et al., 2010; Halverson et al. 2007).

Brion (2020) defines high quality professional development as: “Adult learner-centered, job embedded, and an ongoing process. Focused on educators/leaders attaining the skills, abilities, and deep understandings they need to improve student achievement, and based on research and best practices” (p. 37). As Fields and colleagues (2012) note, “professional development must have the right content (the discipline teachers are actually teaching), at the right time (when they are assigned to teach that discipline), and in a stable environment” (p. 46). Therefore, high quality and effective professional development programs model and explicitly discuss sound teaching practices while providing teachers active learning opportunities (Weiss et al., 2006).

Data-Informed

A second key component of effective professional development is relying on data to drive the decisions about what professional development should be offered, how it needs to be delivered, and what goals it is expected to achieve. According to Brion

(2020), “to have high quality PD events, it is imperative to assess the needs of the teachers, analyze student disaggregated data to understand where the gaps are, and determine the focus of the PD to help improve student achievement” (p. 37). As Brion (2020) states, student test scores are not the only data driving professional development decisions. Instead, staff developers should look at teacher data, classroom observation data, anecdotal information, and other observational data to ensure the professional development offerings actually address a need. John Keller (2016) refers to this as the “felt gap” (p. 5). That is, to do something that creates an awareness and acceptance that the learning is needed because it is not something they currently know (Keller, 2016). Adult learners, specifically teachers, are often reluctant to engage in the new learning unless they perceive a gap between what they know and what they want to know or need to know (Keller, 2016). There should be a clear and explicit explanation of the need for the professional development, so that teachers have a clear understanding of how the learning that day will positively impact student performance (Antoniou, 2013).

Data should also include informing and guiding the next steps. For example, after professional development, there should be formative evaluations and data collection to determine the effectiveness of the professional development provided and the specific next steps based on current trends (Antoniou, 2013). Another example of important data is ensuring teachers understand why the decisions are being made and ensuring those decisions are based on relevant data (Kuijpers et al., 2010). One example might include creating a shared vision among staff members about the reform and its importance to student achievement and engagement (Kuijpers et al., 2010). In Penuel’s (2007) study, he found that “at the teacher level, perceived coherence of the professional development

activities with teachers' own districts' goals for student learning and with their goals for professional development was a strong predictor of success” (p. 951). Measuring the effectiveness of professional development is a longstanding concern of stakeholders (Easton, 2008). Using the data to evaluate effectiveness should involve three different levels. The first level addresses teacher behavior and how teachers structure their instruction as a result of their learning (Easton, 2008; Guskey, 2002; Desimone 2011; Linn et al., 2010; King, 2014). Next, professional development leaders should evaluate how the new learning is changing student behavior. Finally, administrators and staff developers should analyze student growth and achievement from a variety of sources like anecdotal records, achievement tests, student work, and observations (Easton, 2008; Bernhardt, 2017). Finally, for professional development to have long lasting and far-reaching effects, it must begin with teachers identifying what students need and how they themselves can address this need through additional learning experiences (Easton, 2008; Brown 2012; Ceven McNally, 2016; Taylor et al., 2011).

Context-Specific

Professional development needs to be job embedded so that teachers are given the opportunity to apply new learning to their contexts, monitor results, and reflect on the implementation (Brion, 2020). Teachers need to be able to make sense of their learning by linking ideas shared in the professional development to their specific content and context (Garet et al., 2001). Since each teacher and group of teachers have specific needs for improvement, the content of any professional development opportunities should vary accordingly (Antoniou et al., 2013). Staff developers can provide a grounded and context-specific professional development program by conducting the professional

development within the actual school buildings where the teachers are practicing educators (Putnam, 2000). Giving teachers the opportunity to learn new practices and then implement their learning within the right context leads to a greater increase in student achievement (Darling-Hammond et al., 2017). Darling-Hammond and colleagues (2017) report that when teachers are offered sustained, integrated professional development experiences they begin to learn even outside the formalized meeting. For example, teachers may learn through conversations with their colleagues, noticing something new in their classrooms, or continuing their learning through research. For instructional leaders and professional development organizers, this means that the duration of a professional development opportunity goes well beyond the seat time that teachers are together. Context means more than the specific student needs, geographical location, or socioeconomic status. Context specific addresses additional factors like content, teacher experience, local and state expectations, etc. Therefore, while teachers may appear similar through their years of experience, background, teaching context, qualifications, or subject matter, this does not suggest they will have the same needs and priorities for professional development (Antoniou et al., 2013). Scher (2009) also notes that the increased accountability measures have necessitated a move to more intense, standards, and content-focused professional development specific to state and district initiatives. These district and state standards are contextually specific for teachers and their classrooms, ensuring that the learning is relevant and meaningful. Furthermore, research suggests that professional development be specific to the school district by focusing on the actual curriculum being implemented and real student work samples (Scher, 2009).

Staff developers (individuals who provide professional development to teachers) should also recognize their role in understanding and supporting the current context. Hollins and associates (2004) realized that their interactions as staff developers helped establish credibility. Staff developers accomplished this by experiencing school culture before leading any professional development; this allowed them to more authentically understand the students, the context, the community, and the challenges (Hollins et al., 2004). Another important aspect for staff developers is the pretraining. According to Brion (2020), “pretraining includes the orientation of supervisors and facilitators so that they can support the PD event once it has begun” (p. 39). Pretraining also includes communicating expectations to trainers and trainees and explaining who will benefit from training (Brion, 2020). Pretraining should be seen as a required prerequisite for professional development. As part of pretraining, staff developers should be keenly aware of the unique challenges and successes for the school in which they are working so that they can seamlessly tie in appropriate anecdotes, vignettes, and comments that will support the teachers.

Collaborative

The need for collaboration in professional development cannot be overstated. According to the findings of Akiba and Liang’s (2016) study, promoting teacher-centered collaboration around research-based learning activities is likely to increase student performance. It is nearly impossible to describe high quality professional development without also including the impact of collaboration among teachers (Brion, 2020; Darling Hammond, 2017). High quality professional development sustains a collaborative learning process among teachers which systematically nourishes the growth of educators

and leaders as individuals and within teams (Brion, 2020). In many high performing schools and school districts, the educational reforms focus on using collaboration to improve instruction and student learning (Moolenaar et al., 2012). Specifically, Moolenaar and colleagues (2012) note the significance of teacher collaboration for building teaching capacity and increasing student achievement through the educational reform studies of Asia, Australia, Europe, Africa, and the Americas (Moolenaar et al., 2012). Teachers need time to talk to each other to digest their learning, mull over new ideas and discoveries, and commiserate with others in their context (Durksen, 2017). Encouraging a collaborative and supportive environment for teachers as they engage in complex and high-level learning helps teachers become engaged professionals who realize their true potential through self-efficacy (Durksen, 2017). An empirical, longitudinal study conducted by Akiba and Liang, suggests that teacher-centered collaborative professional development was more effective at improving student outcomes than other professional development opportunities that did not involve such communication (Akiba et al., 2016). Because there are suggestions that robust professional communities of teachers increase student achievement, there is a clear preference towards teacher collaboration within educational policy and practice (Moolenaar et al., 2012).

Along with the opportunity for teachers to collaborate, they also need time. Instead, teachers are often frustrated by the lack of time they seem to have. It continues to be one of the greatest barriers to instructional change. Teachers cite a lack of time as a concern with attending professional development, but also with being able to continue the learning through conversations and collaborations (Fields et al., 2012). Time continues to

be a constraint on all professional development activities. Ensuring effectiveness within the time constraints means that professional development activities should include time to attend, time to implement new strategies, time to collaborate with colleagues, and time to reflect (Fields et al., 2012). Only providing time for structured professional development will not promote effectiveness (Fields et al., 2012). When expecting teachers to change their classroom practices, it is important to provide them with opportunities to share their new learning, questions they may have, strategies they have tried, or risks they have taken (Putnam et al., 2000). These conversations are beneficial and support the risk and struggle often associated with changing instructional practice (Putnam et al., 2000). These discussions are especially prudent when teachers in similar contexts are given the opportunity to collaborate and talk with each other. For example, “an ongoing discussion among teachers who confront similar issues can facilitate change by encouraging the sharing of solutions to problems, as well as by reinforcing the sense that, with time, improvement is possible. There is some evidence, for example, that networks of teachers involved in change can help sustain motivation” (Garet et al., 2001, p. 928). In conclusion, teacher collaboration and communication are essential components of effective professional development because these in-depth context-specific conversations impact teacher knowledge and practice, which leads to improved student achievement and engagement (Akiba et al., 2016).

Teachers as Active Learners

One of the final prominent features of robust, high quality professional development is the level at which teachers can be active learners. The working definition of active learners will focus on two main considerations in this context: (1): active in the

process and given the opportunity to make choices about their learning; and (2) active during the learning when thinking about how it applies to their knowledge and their students' achievement (Easton, 2008). It is no longer realistic or appropriate to design professional development experiences that are more training or informational in nature (Easton, 2008). Rather, these experiences need to be about growing teachers in such a way they are equipped to apply their learning to their own circumstances. Easton suggests that for teachers to feel this way, they must be given the opportunity to immediately apply their learning to their classrooms (Easton, 2008). According to Darling-Hammond and colleagues,

active learning, in sharp contrast to sit-and-listen lectures, engages educators using authentic artifacts, interactive activities, and other strategies to provide deeply embedded, highly contextualized professional development. Active learning is also an “umbrella” element that often incorporates the elements of collaboration, coaching, feedback, and reflection and the use of models and modeling. (2017, p. 7)

Brion reported that the single day in-service workshop has less “than a 5% impact on student learning” (2020, p. 38). Therefore, the most effective methods of professional development encourage teachers to be their genuine, authentic learner selves and to ask questions while also providing unique perspectives (Little, 1993). One element of active learning is the opportunity for teachers to observe expert teachers, be observed teaching in their own classroom, and obtain feedback (Garet et al., 2001). The professional development experience should only be the beginning of the learning (Penuel et al., 2007). Professional development should not be seen as a single unit of reform, and

instead, needs to be seen as part of a wider program and set of reform initiatives that all connect (Garet et al., 2001).

Another way of creating active learning opportunities is to incorporate teacher choice and voice. Teachers' experiences and personal growth should be honored by allowing them the opportunity to choose professional development that they are interested in. For example, Akiba and Liang determined that conferences were highly beneficial for improving student achievement because conferences provide teachers with choice, offering them flexibility, autonomy, and options. This method of professional development is popular amongst teachers because it honors them as experts in their classrooms (Akiba et al., 2016). When teachers can choose their professional development opportunities, they are more likely to be active, engaged learners (Darling-Hammond et al., 2017). Finally, according to Darling-Hammond's (2017) study, adult learners have experiences that have shaped their belief systems. These experiences should be tapped into and used as a resource for new learning. Likewise, it is advantageous to allow teachers to choose their own learning opportunities as often as possible. Teachers know their needs and their interests, and providing teacher chosen opportunities increase investment and positive outcomes (Darling-Hammond et al., 2017).

Feedback Centered

Feedback, as it relates to this study, refers to opportunities for teachers to receive constructive criticism (Bates et al., 2018). Feedback can take many different forms like coaching, conversations, informal, or formal (Bates et al., 2018). For professional development to be successful, learning should be embedded within opportunities for coaching, mentoring, and observing (Easton, 2008). The most effective strategy for

implementing professional development includes ongoing practice and feedback (Brion, 2020). The cycle of assessment, feedback, and corrective action is central to this improvement approach (Kuijpers et al., 2010). When designing professional development experiences, it is key to create opportunities for learners that embed a need for further exploration, coaching, support, or conversation (Garet et al., 2001). Staff developers who provide professional development are uniquely positioned to provide follow up in the form of facilitation, coaching, and conversations (Antoniou, 2013). Effective and healthy professional development is often characterized by “long-term support, coaching in teachers’ classrooms, or ongoing interactions with colleagues” (Pritchard et al., 2002, p. 118). The role of coaching as a necessary component of professional development models should not be understated. Both early and recent literature provides evidence that coaching is a more effective way to support teaching in changing practice than traditional professional development (Darling-Hammond et al., 2017). If professional development and the associated activities are to be considered successful, involved teachers need to receive continuous assessment and feedback on the impacts of their efforts (Qablan, 2019). However, according to a study conducted by MetLife, only 22% of teachers surveyed reported classroom observations followed by feedback as a support they receive from their colleagues and administration (Wei et al., 2010). Darling-Hammond and colleagues studied a coaching model that showed significant gains and higher student achievement when the students were taught by teachers who participated in the coaching model (Darling Hammond et al., 2017). Furthermore, providing teachers with specific, timely feedback on any new practices they have implemented is crucial as a follow-up step to ensure the longevity of a professional development program (Qablan, 2019).

According to Darling Hammond and colleagues (2017), “Coaching or other expert scaffolding can support the effective implementation of new curricula, tools, and approaches by educators,” thus supporting the focus of professional development sessions (p. 13). In yet another study conducted by Landry and associates (2009) teachers who received a comprehensive professional development plan that included detailed feedback became better teachers. They improved their overall quality of teaching as well as the specific focus areas from the professional development. Even when considering the amount of variability in sites, the effectiveness of using a feedback-centered approach was not negatively impacted (Landry et al., 2009). Another key takeaway from this study and its implications for teacher professional development is that the effects on changing teacher practice were seen immediately (Landry et al., 2009). It did not take multiple rounds or exposures to become highly effective and transformational with teacher practice (Landry et al., 2009). Finally, this study suggests that feedback is one of the simplest, yet most efficient ways to increase teacher efficacy within their classroom (Landry et al., 2009). In conclusion, the multidimensional model of learning transfer, “suggests that pretraining and [feedback] play a key role in enhancing learning transfer” (Brion, 2020, p. 39). Without this intentional feedback cycle of teachers learning new strategies in professional development, attempting the strategies within their context, and then receiving feedback with potential next steps, teachers often implement new strategies erratically (Scheeler et al., 2004). Teachers attempting to implement new practices should receive consistent and leader-focused feedback based on student learning and engagement (Bates et al., 2018). While it is most common for supervisors and school leaders to provide feedback, effective feedback can also come from colleagues and peers

(Bates et al., 2018). Study after study suggests that teachers who participate in professional development that is feedback centered are far more effective educators (Darling Hammond et al., 2017).

Leadership Support

Effective school leadership is impossible to overvalue. Moreover, the Wallace Foundation (2013) has found that while teacher quality remains the number one factor impacting student achievement, close behind it is principal leadership, “outstripping matters including dropout rates, STEM (science, technology, engineering, and math) education, student testing, and preparation for college and careers” (p. 5; Branch et al., 2013; Day et al., 2001; Cotton, 2003; Hitt et al., 2016). Further, while there are many factors influencing student achievement, none have a statistically significant impact when considered individually (Knapp et al., 2010). School leadership is second only to classroom instruction of the factors impacting student success (Knapp et al., 2010; Glasman, 1984; Leithwood et al., 2004; Cotton, 2003; Harris et al., 2011). School leadership increases student success when it focuses on the quality of instruction by holding high expectations for teachers, addressing teachers’ isolation, and building relationships with teachers by being present in classrooms (Knapp et al., 2010). Furthermore, effective principals become most effective when they support and encourage teachers’ continued learning through professional development opportunities (Louis et al., 2010). Louis and colleagues (2010) point out that there is a presumption about leaders’ ability to provide constructive feedback to improve teaching. This presumes that leaders understand the basic tenets of quality instruction, they have sufficient knowledge of the curriculum being taught across each subject area, and they

are researched and up to date on current best practices. Because of the robust academic offerings in secondary schools, leaders cannot be expected to understand each disciplines' curriculum nuances. Leaders, then, become responsible for improving the learning environments for teachers and challenging teachers' practices to become more innovative (Halverson et al., 2007).

Chapter Summary

Looking at the current collective body of research, there are suggestions about ways to design effective professional development as it relates to student achievement. These suggestions include ensuring professional development is (1) data-driven, (2) context-specific, (3) collaborative, (4) active, (5) feedback centered, and (6) supported by principal leadership. However, while these characteristics are consistently cited across studies, they lack the practical applicability unique to a K-12 setting. Through this study, a protocol or model for learning walks and teacher observation will be studied using the Improvement science framework to more effectively grow leaders' capacity in providing feedback that is connected to professional development. This intersection between the research and the specific problem is important because it identifies the ways that the current professional development landscape is ineffective and guides the work to begin the SIAR cycles.

CHAPTER THREE

METHODOLOGY

Introduction

The primary purpose of this Improvement science research was to determine how teacher observations could be implemented that would best support the professional development of teachers. The second purpose of this study was to determine what specific qualities would need to exist within the teacher observation tool to ensure it would be a professional development learning opportunity. Finally, the third purpose of this research study was to take those findings, and through Improvement science Strategize-Implement-Analyze-Reflect (SIAR cycles) produce a protocol that would support instructional leaders' capacity in providing high quality feedback to teachers that includes the necessary components of effective professional development. Two primary research questions guided this study:

Research Question 1: What makes a teacher observation tool an effective professional development opportunity for teachers?

Research Question 2: What components are necessary in a framework to ensure the tool successfully meets the criteria necessary to be considered effective professional development?

More is not always better, especially in the world of education. As Byrk and colleagues (2015) state, America's schools must answer the call of learning to "get better at getting better" (p.3) Throughout the years of public education, there has been a surplus

of change idea efforts armed with the best intentions aimed at increasing student achievement. Yet, “over and over, change efforts spread rapidly across the education landscape, despite an absence of knowledge as to how (or even whether it is possible) to effect improvements envisioned by reform advocates” (Byrk et al., 2015, p. 5). Instead, educators, policymakers, and reform advocates begin the hard work of reform, made even more challenging by the lack of information or knowledge about the specific problem they are trying to impact. For example, when public education advocates realized the poor quality and less-than-ideal professional development being offered to teachers, a new role was recommended which swept the nation: the instructional coach. However, as Elmore and Burney (1998) discovered, this role, without a deep understanding of what instructional coaches were tasked with doing, along with the school environment conditions necessary for such a role, has yet to broadly see the promised increases in teacher capacity or student achievement. There are several nationwide instances of such sweeping solutions without a real understanding of the problem or appropriate next steps for moving forward. When educators, policy makers and reform advocates begin to collaborate on specific issues, there is almost always a real problem to solve, and in many cases at least a beginning of an appropriate reform idea (Byrk et al., 2015).

The problems plaguing public education, and specifically the current issues with professional development, are true and warranted. Educators often have many ideas for addressing the issues, yet “educators typically do not know how to execute on the ideas” (Byrk et al., 2015, p. 5). Furthermore, “districts and states lack the individual expertise and the organizational capacity to support these changes at scale, and policy makers regularly ignore arguably the most important instrument for any of this to work: engaging

the minds and hearts of our nation’s teachers and principals on behalf of the reforms” (Byrk et al., 2015, p.6).

Thus, this improvement science Dissertation in Practice aims to engage exactly those people, the individuals most closely impacted by the issue who have thoughts and suggestions for improvement. This dissertation is aimed at a small, specific problem. While not unique to the participants or the school leader, all too often, education reform efforts begin with general, large-scale, sweeping efforts that often fail to impact the daily instruction and student engagement for which it was intended.

Improvement Science

Defining Improvement Science

Improvement Science is, simply put, “a methodic way of improving; it is distinct from evaluation or impact studies” (Hinnant-Crawford, 2020, p. 23). In other words, improvement research projects seek quality improvement using small tests of change stemming from identifying the problem of practice through inquiry questioning. In Byrk and colleagues (2015) book *Learning to Improve*, the authors put forth three questions that Improvement science should answer:

1. What is the specific problem I am trying to solve?
2. What change might I introduce and why?
3. How will I know whether the change is actually an improvement? (p. 24)

Similarly, there are six principles that undergird the improvement science theory. First, Improvement science hinges on a clearly articulated problem: make the work problem-specific and user centered (Byrk et al., 2015; Crow et al., 2019; Hinnant-Crawford,

2020). For educators, this is typically a system or process that is not working for teachers, students, families, or other stakeholders. Oftentimes, this problem statement is more difficult because getting to the root cause demands focus and relentless pursuit of the real problem. It is challenging work to avoid the extraneous conversations and possibilities and stay narrowly focused and committed to determining the root cause of an issue. It is also equally important to ensure that the right voices are at the table to have the conversation around these issues. The work cannot move forward if the people most impacted by the problem are not considered and their viewpoints are not examined.

Secondly, improvement science requires a focus on variation in performance. Creating a way to solicit feedback allows improvement scientists to understand “what works, for whom, and under what set of conditions” (Byrk et al., 2015, p. 14;). Often, research can take a significant amount of time implementing changes and then determining if they were successful before moving on to next steps. Instead, with Improvement science, those changes, feedback, analysis, and subsequent changes should happen rapidly, within approximately 90 days.

The third central principle of improvement science challenges researchers to see the system that produces the current outcomes (Byrk et al., 2015; Hinnant-Crawford, 2020; Perry et al., 2020; Langley et al., 2009). This principle asserts that it is advantageous to consider multiple steps and ideas for improvement even before beginning. However, to truly understand whether a change idea will be a lasting improvement, researchers must consider what parts of the current system are leading to the undesirable results (Byrk et al., 2015; Hinnant-Crawford, 2020; Perry et al., 2020; Langley et al., 2009). Byrk and colleagues (2015) state that “adopting a system’s

perspective makes visible many of the hidden complexities actually operating in an organization that might be important targets for change” (p. 14). This allows researchers and improvement scientists to gather information about next steps and other possible change ideas. This way, educational researchers engaging in Improvement science will be prepared to move forward if the first change does not bring the anticipated results.

The fourth principle, we cannot improve at scale that which we cannot measure, requires that changes be continuously monitored through data. Further, “absent continuous feedback of such data, one can easily maintain a belief in the efficacy of one’s actions even when the warrant for this remains uncertain or nonexistent” (Byrk et al., 2015, p. 14). Regardless of the confidence in the change, implementation must start small to be tested. Byrk and colleagues (2015) offer this frame for moving forward with change ideas: “Psychologically, leading improvement requires living on the boundary of belief (about the importance of what one is trying to accomplish) and doubt (as to whether real progress is happening)” (p. 15). This fourth principle of needing data requires that researchers collect data throughout time and more consistently. However, given that schools are working, breathing organizations, this can also cause a logistical issue. Respecting the work that is currently happening in schools while simultaneously finding ways to measure improvement is a challenging part of Improvement science that must be considered early, during the initial stages of planning.

The fifth principle is using disciplined inquiry to drive improvement. This principle refers to the iterative nature of Improvement science as well as how often other contexts, processes, or systems will become part of the Improvement science change. While the original change idea is one issue plaguing the organization, through

Improvement science, other issues may also appear as a by-product from this work. However, because this builds organizational resources for broader changes, the educators involved become resources and key players in creating lasting changes across the organization.

The sixth, and final, principle focuses on employing the use of networked communities to accelerate learning. While an important principle, it will not be a focus for this improvement science Dissertation in Practice. However, as context and for a frame of reference, it is helpful to know a bit of information about using networked communities to improve learning. Using a networked community means prioritizing the community over autonomy to solve a problem. Instead of the more traditional research methodology, a networked community does not pursue “a theoretical predilection, methodological orientation, or personal belief” (Byrk et al., 2015, p. 17). Instead, individuals recognize that they hold a unique perspective and field of expertise, but that he or she must join with others to solve the problem.

Improvement science uses rapid tests of change “to guide the development, revision, and continued fine-tuning of new tools, processes, work roles, and relationships” (Byrk et al., 2015, p. 8). Langley and colleagues (2009) also provide a framework through Plan, Do, Study, Act cycles that act as a Model for Improvement. The three questions presented earlier correlate directly to this model and support its implementation and ultimate success. The Plan, Do, Study, Act cycles, which are another form of the SIAR cycles, are meant to be iterative in nature with a focus on “trial-and-learning” (Langley et al., 2009, p. 107). There is benefit in successful and unsuccessful trials if the leader is willing and able to recognize how each cycle is one step forward.

Further, Langley and colleagues suggest fundamental change results from a change in the system. These iterative cycles are most important because of their ability to highlight new problems as change ideas are implemented, thus allowing educational researchers the opportunity to get closer to the actual problem. Improvement Scientists often approach a problem hypothesizing one thing is the root cause problem, but through an intentional focus on using root cause analysis such as Fishbone diagrams, Five Whys Protocols, PDSA or SIAR cycles, determine that there might actually be a different root cause than originally hypothesized. This process thus allows the researchers to solve the root cause. In conclusion, Improvement science works with an educational setting to “identify changes or interventions that increase positive outcomes or decrease negative outcomes” (Hinnant-Crawford, 2020, p. 26). Figure 3.1 further explores a variety of definitions of Improvement science (Hinnant-Crawford, 2002, p. 26).

Definition/Description	Source
Improvement Science is about developing, testing, implementing and spreading change informed by subject matter experts... improvement science is situation somewhere between change management and research” (Lemire et al., 2017, p. 25).	New Directions for Evaluation <ul style="list-style-type: none"> • Peer -reviewed • Periodical of the American Evaluation Association
“Framing change ideas suggested by subject matter experts using a scientific approach in a real-world context is the essence of the science of improvement” (Perla et al., 2013, p. 172).	Quality Management in Health Care <ul style="list-style-type: none"> • Peer reviewed

<p>“A science of improvement offers a productive synthesis. It melds the conceptual and methodological strength associated with scientific study to the contextual specificity, deep clinical insight and practical orientation characteristic of action research. It emphasizes multiple, rapid tests of change by varied individuals working under different conditions. Each test provides a bit of evidence, a bit of local learning. When this activity is organized around causal thinking that links hypothesized solutions to rigorous problem analysis and common data, we accelerate learning for improvement scale” (Byrk, 2011, para. 4).</p>	<p>EdWeek Blog</p> <ul style="list-style-type: none"> • Educational news source
<p>“Improvement science... is an approach that involves multiples tests of small changes that can cumulatively result in larger, system change... As an applied science, it emphasizes innovation prototyping, rapid-cycle testing, and spread to generate learning about what changes in, in which contexts, produce improvements” (Cohen et al., 2015, p. 262).</p>	<p><i>Educational Policy</i></p> <ul style="list-style-type: none"> • Peer-reviewed
<p>“Defining features characterizing the science of improvement include cyclical rather than linear approaches, emphasize collaboration over administrative research designs and focus on formative data to guide projects and initiatives [changes]... improvement science focuses on process variance. Typical improvement work requires a shift in research considerations; where a traditional hypothesis translates into practical prediction, a random sample becomes a purposive stakeholder group, and p-value parallels the human side of change” (Crow, 2019, p. 6).</p>	<p><i>The Educational Leader’s Guide to Improvement Science</i></p> <ul style="list-style-type: none"> • Edited Volume
<p>“Improvement Science provides a disciplined approach to learning from practice, by deploying rapid tests of change to guide the development, revision, and continued fine-tuning of new tools, work processes, roles, and norms” (Russell et al., 2017, p. 17).</p>	<p><i>Teachers College Record</i></p> <ul style="list-style-type: none"> • Peer- reviewed

Figure 3.1 *Definitions of Improvement Science (Hinnant-Crawford, 2020, p. 26).*

Why Improvement Science

Of all the types of educational research, Improvement science is most closely related to pragmatism. Whereas post-positivism is a research framework often associated with the scientific method: hypotheses, experiments, data, analysis, and next steps and

constructivism focuses on development theories, Improvement science is most often associated with pragmatism. Biesenthal (2014) writes that pragmatism “aims to uncover practical knowledge—knowledge that works in a particular situation. The acquired knowledge is evaluated by referring to its problem-solving capacity in everyday life rather than its universal applicability” (p. 648). Creswell elaborates on this ideology by stating that “instead of methods being important, the problem is most important, and researchers use all approaches to understand the problem” (Creswell, 2003, p. 11). Thus, Improvement science is the most appropriate research method for this study because it focuses on the specific problem of practice, it allows researchers to learn swiftly, and it is contextually specific to the participants.

First, Improvement science allows educational researchers to view problems differently and keep the focus on the specific problem of practice. As Rohanna (2017) states, “researchers and education practitioners today are still tackling the challenges faced by those 50 years ago” (p. 65). As previously discussed in this dissertation, professional development has been an influential method of improving education, yet educator reformers struggle to see direct correlative effects that suggest professional development is effective (Rohanna, 2017). Thus, there needs to be a new method of analyzing the problem. Initiative fatigue is a real problem that teachers and administrators face (O’Quinn, 2018; Danielson, 2015; Reeves, 2006; Butt et al., 2005; Hinnant-Crawford, 2020). Effective professional development was not about doing more work, but instead, ensuring that the right work was being done. Improvement Science was the most appropriate methodology for this study because it ensured interventions were being implemented with fidelity and integrity. As Hinnant-Crawford (2020) discovered, many

teachers “have discussed keeping up with this week’s buzz-word while not really implementing interventions, but just trying to appear as if they are doing so” (p. 25).

Rohanna (2017) explains that:

Although school administrators were quick to try a new solution, they were not as adept at improving or modifying a strategy or intervention once it was in place...

Abandoning potentially effective strategies or interventions before adapting the specific context makes it almost impossible to alleviate the problems facing the educational system. (p. 66)

The methodical, cyclical nature of the Improvement science framework ensured such issues were addressed.

Secondly, Improvement science allowed researchers to move quickly and swiftly with change ideas. Because the matters of education deal with students, and families’ livelihoods, there was a sense of urgency to solve problems quickly; its “rapid tests of an intervention’s effectiveness guide practitioners to only adopt or abandon when it makes sense for the organization’s predefined goals” (Hinnant-Crawford, 2020, p. 26). Lewis writes that one key component of Improvement science was its ability to elicit feedback quickly and with little disruption to other parts of the system. Improvement Science focuses on small-scale tests to allow educational researchers the opportunity to receive feedback quickly before implementing it on the large scale. As Hinnant-Crawford (2020) points out “educational initiatives are usually implemented at large-scale, and then wait an academic year or semester before there is any real data” to suggest the efficacy of the change. Instead, with Improvement science, the aim was to get data within 90 days to

then attempt a new change if the data is not favorable (p. 163). Ultimately, Improvement science attempted to avoid wasting time and momentum.

Finally, Improvement science was specific and focused. It worked to solve systemic problems at the researchers' level instead of grand overarching theoretical issues. Lewis (2015) suggested that "knowledge for improvement may be captured in tools," specifically artifacts or a replicable description of the change process (p.58). However, published education research often greatly favored results over a process-related focus (Goldsmith et al., 2014; Sztajn, 2011). These actionable artifacts and bits of knowledge gained through Plan-Do-Study-Act (PDSA) or Strategize-Implement-Analyze-Reflect (SIAR) cycles ensure that educators in different contexts have information to begin forming their own iterative processes. So, while the goal of Improvement science was not the generalizable outcome like that of other education research, this does not mean that Improvement science lacks relevance or applicability. There are some educational methodologists who suggest that educational research can be divided into two main categories: theory-based research and problem-based research. Improvement science lives under the category of problem-based researcher because it "addressed problems that occur in the field" (Hinnant-Crawford, 2020, p. 16). In conclusion, Improvement science found major relevance in this study because it engaged the very educators who would be impacted by this work as the researchers and learners. Byrk et al. (2017) stated this as "all those engaged in educating students must own the outcomes of their efforts and be actively learning how to improve these outcomes," which stands in a stark dichotomic position to the current theories surrounding

educational researchers who are apart from the work and, yet, somehow more familiar with the needs of students and educators (p. 34).

Figure 3.2 Describes the differences between data collected for research and data collected for improvement cycles, like SIAR.

Quantitative Research	Qualitative Research	Measurement for Improvement
Purpose: Systematic, empirical, objective investigation of observable phenomena via statistical techniques Theorizes, explains, predicts	Purpose: Gather an in-depth understanding of behavior and the reasons that govern such behavior (micro views) Explores, discovers, is subjective	Purpose: Inquiries to improve practice Works toward effectiveness, efficacy, and engagement Accelerates a field's capacity to learn
Data collection aims to understand: Latent variables	Data collection aims to understand: Perceptions/ lived experiences	Measures aim to understand: What worked, for whom, and why: <ul style="list-style-type: none"> • Is the intervention working? (driver measures) • How is it working (process measures) • Is it working as intended (balancing measures) • Did it work (outcome measures)

Tools: Tests, close-ended surveys, etc. Concern for validity and reliability	Tools: Protocols, open interviews, open-ended survey items	Tools: Gathered in the workplace Fits into the everyday
Qualities of Measures: Numeric Broad and general Structured/formal	Qualities of Measures: Words, images, themes, and categories	Qualities of measures: Tied to a working theory of improvement Practical Demonstration of shift in system
Analysis: Sophisticated Trends, comparisons, relationships Objective/unbiased/valid/ reliable	Analysis: Flexible, emerging, subjective Holistic: identifies patterns, themes Confirmability/ trustworthiness Particularistic	Analysis: Continuous: counts, perceptions, ratings, rankings Timely
How data are used: Published in peer-reviewed journals Presented at conferences	How data are used: In-depth understanding of viewpoints Published in peer-reviewed journals Presented at conferences	How findings are used: Reporting and sharing to stakeholders in practice Building a professional knowledge base

Figure 3.2 *Data Collected for Research v. Measurement for Improvement* (Perry et al., 2020, p. 156)

Strategize-Implement-Analyze-Reflect Cycles

Defining SIAR

While there are many methods of improvement, this Improvement science Dissertation in Practice utilized Strategize – Implement – Analyze – Reflect (SIAR) cycles. Similar to Plan – Do – Study – Act (PDSA) cycles, the SIAR cycle was a strategic method of thinking through change to result in improvement (Perry et al., 2020; Hinnant-Crawford, 2019; Crow et al., 2019). The SIAR cycle is a rigorous protocol used by Improvement science researchers to learn quickly and at low cost by systematically using evidence from practice to improve practice (Perry et al., 2020; Hinnant-Crawford, 2019; Crow et al., 2019). Each component of the SIAR cycle played an integral part in improving high quality personalized feedback that teachers received through classroom observations (Perry et al., 2020; Hinnant-Crawford, 2019; Crow et al., 2019). Using SIAR cycles for this dissertation was useful because the cycles were a systematic process of looking at teacher observation tools that already existed and improving them based on the findings in each component of the SIAR cycle.

Strategize

The first step in the SIAR cycle was to develop a strategy. The strategy phase of improvement science began by working out each step of the implementation plan. As Perry and colleagues (2020) stated, “the success of any strategy depends on the goal and how realistic, detailed, and organized the plan is to achieve it” (p. 127). Strategic thinking was a critical skill for the effectiveness of school leaders and was important for the strategy development and strategic management (Nuntamanop et al., 2013). Strategic thinking was characterized by numerous skills and abilities – conceptual thinking,

visionary thinking, creativity, analytical thinking, synthesization, and objectivity – which work together to ensure leaders strategically formulate a vision, analyze data, determine strategies, and implement changes (Nuntamanop et al., 2013). In one study, there were strong correlations that “lead to three main conclusions individuals who exhibit self-directed learning tendencies can be expected to use strategic thinking strategies and be effective as leaders; those who were strategic thinkers are effective leaders who reflect self-directed learning behavior; and leader effectiveness is supported by the possession of strategic thinking and self-directed learning skills” (Zsiga, 2008, p. 315). Strategic thinking requires the use of the three main dimensions as set forth by Fiedler’s Theory (Bajcar et al., 2015). The first dimension is the leader’s ability and aptitude in performing a swift evaluation of the situation at large. The second dimension requires leaders to use strategic thinking to more accurately determine if the situation that needs solving is a task or a problem. In other words, is the situation causing issues one that is a result of processes (tasks) or systems (problems) (Bajcar et al., 2015). Finally, the third dimension refers to leaders’ abilities to determine when the best time is to solve and approach the problem. Strategic thinking is marked by the ability to recognize when problems can be addressed and when they should be left alone. In conclusion, research studies show that the more effective school leaders are, the more likely they are to classify problems rather than become hindered by the surface details of a situation, as less effective school leaders typically are. The more effective principals are, the more likely they are to connect the consistent and routine decisions to a larger, more focused systemic problem or situation (Barnes et al., 2010).

Focus questioning using an equity lens was the most important component during the strategizing phase for a SIAR cycle. Perry and associates (2020) provided questions for researchers to use when strategizing for equity:

- How is the implementation plan designed to interrupt inequitable practices?
- When strategizing the implementation plan, whose voices are needed? Are there any omitted?
- How was a strength-based frame as opposed to a deficit-based frame used in designing the plan?
- Does the plan connect with the lived experiences of those affected by the problem?
- How is local wisdom integrated into the plan?
- Are the necessary resources distributed fairly?
- Are the predictions/hypotheses fair? (p. 128)

These questions guided the strategizing component of each SIAR cycle when working with the participants. They also served as reflection questions before moving on to the next SIAR cycle. For example, one of the strategizing questions that was consistently asked was “when strategizing the implementation plan, whose voices are needed? Are there any omitted?” This specific question guided the researcher into including more teacher voices and specifically their thoughts and opinions at the very end of the process. This way, all user groups were represented.

Implementation

The next step in a SIAR cycle was the implementation phase. Perry, Zambo, and Crow (2020) defined implementation as “getting the change effort going, thoroughly and

objectively describing what is happening, collecting evidence to understand what is working, for whom, and why, and documenting how things went overall” (p. 129). Implementation fidelity and integrity skills were key factors in determining the effectiveness of school leadership. The changes cannot accurately be measured without the ability and commitment from school leadership to following through with implementing any proposed changes. Whether it was a specific program being implemented or a general initiative, implementation without fidelity resulted in inadequate findings (Keller-Margulis, 2009). School leaders’ commitment to implementation guided their understanding of whether all elements of an intervention or plan were implemented as originally intended. This skill ensured that leaders were later able to analyze which parts worked and which parts need modification before moving on. There were three dimensions for fidelity monitoring that school leaders should follow: frequency, method, and support systems. Keller-Margulis (2009) suggested that “fidelity checks should also be scheduled to occur periodically in such a way that is both predictable and unpredictable” (p. 345). During a SIAR cycle, it was imperative that school leaders maintain a focus on implementation integrity and fidelity. Without such a focus, the subsequent steps would be ill advised and, possibly, inappropriate.

Perry and colleagues (2020) suggested asking the following questions to maintain a focus on equity through the implementation phase:

- Are those closest to the problem part of the implementation team?
- What has been done to ensure data collection is equitable and just?
- How will issues of power bias be addressed during implementation?
- How will different values, attitudes, and opinions be gathered?

- How will all voices be heard? (p. 129)

Analyze

The third component of SIAR cycles, analysis, allowed leaders to determine if the change worked, which parts worked, and which elements should be adjusted. This process included collecting data, analyzing data, displaying data, and interpreting data, as well as analyzing the process, the people, and the progress. When the National Association for Secondary School Principals developed the NASSP Assessment Centers, one of the twelve skills included was problem analysis (Armenta et al., 1997). In 2010, the NASSP continued this work and designed the *21st Century School Leadership Skills* analysis. One of the major domains focused on resolving complex problems, followed by three subsections. The first major domain, judgment, referred to the leaders' ability to reach logical conclusions and make high quality, effective decisions based on all the available data, assign the appropriate priority level to issues, exercise judgment when making decisions and how quickly action should be taken, how, when, and where to seek out additional data, and finally, how to successfully analyze and interrupt the complex information that has been gathered. Secondly, the NASSP has determined that effective leaders should be skilled at resolving complex problems through a results-oriented focus. According to the NASSP, a results-oriented leader is focused on assuming responsibility, recognizing when a decision is required, takes prompt action as issues arise, and resolves short-term issues with respect to long-term objectives.

According to the National College for School Leadership, high quality leadership of teaching and learning were marked by “process skills such as observation, analysis, and feedback” (Matthews et al., 2009, p. 30). Similarly, they added that exceptional

school leaders focused on quality which is “reflected through analysis and observation” (Matthews et al., 2009, p. 9). This information was important to the research study because it guided conversations with the school leader with a focus on observation, analysis, and feedback.

The following questions were recommended by Perry and colleagues (2020) to be used during the analysis phase:

- How will analysis lead to an understanding of the systemic inequities that exist?
- Does the analysis team have members with varied perspectives?
- Are those affected by the problem part of the team?
- How will progress toward the aim be determined?
- What norms will the analysis team use?
- How will bias be eliminated from analysis?
- How will results be displayed so everyone affected by the problem can understand the results?
- Were all voices heard?
- How will diverse groups gain access to the findings? (p. 129)

Reflect

Finally, the SIAR cycles included time to reflect on the change process as well as the change agent. This time should be used to reflect on oneself as a leader leading a change movement as well as the changes being made and how those impacted the individuals involved. This reflection aspect was key to the success of a SIAR cycle, because learning most likely occurs when leaders become reflective practitioners (Sparks, 2007). Reflection remained a defining component of strong principal leadership because

“reflective practice is not something to do; rather it is a state of mind and way of *being* a principal” (Wright, 2011, p. 261). Reflection was the most effective way that practitioners construct meaning about their roles, the problems they were facing, and best steps forward. Ironically, given the scheduling constraints, many principals and school leaders note that finding time to engage in reflective practices was challenging at best and nonexistent at worst, which is why a process like the SIAR cycles was so beneficial to principals looking to change any systems or processes within their context. The SIAR cycle was not complete without reflection, requiring many practitioners to think differently about their approach to this step. Through this process, reflection became conversational and allowed principals to think about *what is* and therefore imagine *what could be*. Similarly, it promoted a sense of collaboration and collegiality amongst leaders and provided intentional space for their hard work of seeking changes. In this research study, reflection was used in each SIAR cycle to ensure all voices were being heard, to determine if the changes were resulting in improvements, and what needed to be changed in future iterations to ensure this was a successful and useful teacher observation tool. Finally, it was helpful to consider Barnett and colleagues phase of reflection as shown below in Figure 3.3. The most important piece of this phase of reflection was the way in which reflection must go through each step of the phase to be most effective. Effective principals avoid jumping straight to active experimentation without first attending to reflective observation and abstract conceptualization. This phase of reflection was a support for all principals to focus on the process of reflection instead of just the product.

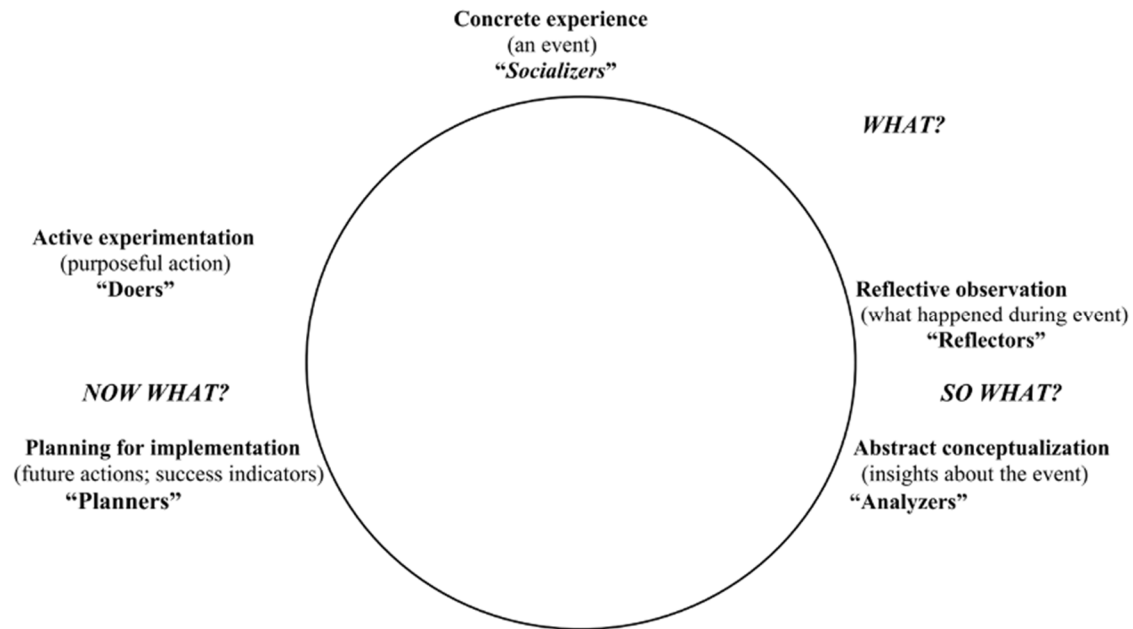


Figure 3.3 *Model of Reflective Thought and Action*

Recognizing the time constraints placed on many principals, it was often helpful to have some guiding questions to push thinking forward. Some reflective questions that Perry and associates (2020) suggested for reflecting were:

- Did the improvement process make things better for marginalized voices?
- How will the next cycle be designed for more diversity and inclusion?
- How will spreading, scaling up, or sustaining make things more equitable and just?
- How will new and diverse individuals be brought into the process? (p. 130)

When conducting this study, each iteration of the SIAR cycle included conversations, protocols, and questions to guide thinking and challenge understanding. Table 3.1 defines each of the components of the SIAR cycle and provided a grounding point for each SIAR cycle (Perry et al, 2020, p. 125). This table was important to the

study because it helped ensure the researcher and the participant were focused on the purpose of strategizing, implementing, analyzing, and reflecting.

Table 3.1 *SIAR Cycle*

Strategize	Implement
<p>To devise a course of action: to make a plan for achieving a goal (Merriam-Webster, n.d.). Strategizing for improvement entails:</p> <ul style="list-style-type: none"> • Working collaboratively on an implementation plan • Being proactive to anticipate problems; • Leading purposefully and creatively; • Turning to literature and experts to gain insight; • Remaining realistically optimistic; • Collaborating with those who have differing viewpoints; and working non-judgmentally. 	<p>To begin to do or use (something, such as a plan): to make (something) active or effective (Merriam-Webster, n.d.). Implementing for improvement entails:</p> <ul style="list-style-type: none"> • Inspiring other to work to answer the inquiry questions; • Engaging resisters; • Getting the right people working on the right tasks; • Being adaptive, understanding improvement is not linear; • Prioritizing tasks; • Taking reasonable risks; • Observing, listening, and documenting without bias; and • Working fairly, ethically, alongside, and as hard as others

<p>Reflect</p> <p>To think carefully about something: to think or say (something) after careful thought (Merriam-Webster, 2019, n.d.). reflecting on improvement entails:</p> <ul style="list-style-type: none"> • Stepping back—looking at what occurred through others’ eyes • Being aware of the many and varied ways knowledge itself is displayed • Being self-aware—looking back on one’s actions, choices, and decisions; • Resisting unfair assumptions, thoughtlessness, conformity, fear of change, bias, and egocentric conclusions; • Continually asking why; and strategizing what’s next. 	<p>Analyze</p> <p>To study (something) closely and carefully: to learn the nature and relationship of the parts of (something) by a close and careful examination (Merriam-Webster, n.d.). Analyzing for improvement entails:</p> <ul style="list-style-type: none"> • Collecting and analyzing data fairly and ethically- striving to understand what worked, for who, and why and who is left off; • Looking for, and recognizing patterns; • Suspending judgment—interpreting data objectively, fairly, and without bias; • Drawing conclusions with caution; • Asking thoughtful questions about findings; • Identifying various conclusions that are possible and deciding which (if any) are sufficiently supported; • Weighing strengths and limitations of all options; and • Not rushing to conclusions or making hasty judgments.
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There were three final components of the SIAR cycle. While not included in each individual SIAR cycle, these components were important as next steps and follow-up. Enlarging, spreading, and sustaining were natural subsequent processes as researchers reflected on how to make the improvement most impactful. First, ramping up or enlarging involved scaling the effort up by

- a) Testing the change with more participants;
- b) Testing the change in new and different contexts;

- c) Testing the change again within its current contexts; and
- d) Testing the change in other areas/disciplines (Perry et al., 2020)

According to Perry, Zambo, and Crow (2020), this was an opportunity for researchers to “expand their sphere of influence and contribute to the profession” (p. 131).

Secondly, “spreading refers to the process of moving the change effort across more settings (e.g. from one classroom to district-wide, from organization A to organizations B, C, and D)” (Perry et al., 2020, p. 131). When spreading, there were three important factors to consider: simplification, the number of support personnel involved, and narratives. Simplification might be required when first implementing a new change idea in a new context. The number of personnel involved was important because this helped determine how many individuals had the capacity to help and support such efforts. Finally, using narratives helped new contexts see the value and power in ensuring the change had lasting impact.

Sustaining the efforts referred to ensuring that the right people were in place to carry on the change effort. This required finding and training individuals to carry on the work. Sustaining an innovation might include taking the following steps:

- Establishing a new aim and sense of direction;
- Developing new inquiry questions;
- Opening communication channels;
- Instilling a sense of ownership; and
- Ensuring there will be rewards and recognition for those carrying out the work.

(Perry et al., 2020, p. 131).

Participant

School Leader as Change Agent

This improvement science study was conducted with school leadership at the forefront of decision making. The school leader as a change agent cannot be overstated. Recently, “the role and identity of the school principal has evolved from a highly-structured, managerial perspective to an emphasis on constructivist, participatory, moral, instructional and transformational views” (Wright, 2011, p. 259). The role of a school leader has become so much more than complex administrative tasks, and instead, is synonymous with change, improvement, and effective instruction (Wright, 2011).

This school leader was chosen as a participant for her willingness and ability to affect change within her school. She thought innovatively and sought to provide a first-class working and learning environment for her students and staff. As such, she was constantly seeking ways to improve her practice and ensure the students at her school were receiving a high-quality, engaging, and rigorous learning experience. Because of her own learning and recent doctoral achievement, her focus on improving the learning and teaching within her school was evident in her expectations for teachers and staff. This helped create a shared value system that all teachers continue learning and growing. Likewise, the researcher had worked with this school providing professional development many times. The teacher attitudes and perceptions towards professional development were markedly different from that of their district counterparts.

Participant Profile

The participant for this study will be referred to as Maggie, a pseudonym to protect confidentiality and anonymity. Maggie was a middle class, white female, who

lives in a suburban area and is family focused. She began teaching in April 2003, only two days after completing her student teaching experience. She started as a middle level science teacher at a middle school in the school district where she currently works. She taught for five years and completed her Master's in Education in Educational Administration during this time. At the beginning of the 2008-2009 school year, she transitioned to her current school and took a position as an assistant administrator. In this role, she worked half the school day as a teacher and half the school day as an administrator. At the conclusion of the 2008-2009 school year, Maggie was promoted to Assistant Principal, a position she served in for four years. At the beginning of the 2013-2014 school year, she was promoted to principal of Blue Middle School and has been in the same capacity since that year. Currently, she is serving in her fifteenth year at the same school.

When asked about her leadership strengths, Maggie identified resiliency, communication, and integrity. She stated that her clear communication in both standard and difficult situations has allowed her to navigate tough situations as an administrator while still ensuring her staff feels valued and appreciated. On the contrary, when asked about her opportunities for growth, Maggie stated that she was often guilty of “chewing on something until all the flavor’s gone.” In other words, she fixated on something in an attempt to analyze and dissect the issue and oftentimes lost sight of the original problem or impetus. She has also had to back off the mentality that “if I want something done right, I’ll do it myself” because of burnout and a failure to create sustainable, internal leadership.

Her route to her current school leadership was not a traditional trajectory. Instead, she felt like it was mostly situational. Maggie believed that when the opportunity presented itself to continue navigating the school community in a way that she had already been a part of, she gladly accepted the responsibility. Similarly, a lot of her leadership and research interests focus on the macro, or large-scale perspectives, which was ideal for the transition from classroom teacher to school leader.

When asked about challenges she faced as a school leader, Maggie identified being considered “middle management” to be the biggest challenge facing school leaders. Managing up to the district level and managing down to the school level was an obstacle that many school leaders faced when making decisions and supporting their individual teachers. Finally, Maggie believed that more than anything, maintaining a general knowledge and understanding of the function and its impact on everything can be quite overwhelming. For principals to be most effective, she believed that school leaders need a general understanding of the political and social context of the district, existing culture of the school, current vision and mission of both the district and school, preparation to be a change agent, appropriate support through mentoring, and a developing sense of self-efficacy. Finally, she believed that effective leadership looked different depending on the situation. In some situations, it was quiet and “backed off,” meaning it allows others to take the lead when there is a better person to insert their knowledge or expertise. Effective leadership can also look like knowing when to make a decision, take the lead, or assert oneself into a situation. Knowing when and where to take either path was the art of leadership.

Maggie also provided some school specific information. First, she provided the following data about the number of teachers per grade level (see Table 3.2).

Table 3.2 *Teachers Per Grade Level*

Grade Level	Number of Teachers
6th Grade	9 teachers
7th Grade	10 teachers
8th Grade	10 teachers
Related Arts	9 teachers
Special Education	6.5 teachers
Multilingual Learning	.8 teachers

Teachers per grade level per content was 2.25 to 2.5 teachers. There were 576 students who attended Maggie’s school. Table 3.3 provides a demographic breakdown of student enrollment.

Table 3. 3 *Student Demographic Breakdown*

Ethnicity	Number of Students
Asian	4
Black/African American	192
Hispanic/Latino	86
American Indian	4
Two or More Races	44
Hawaiian/Pacific Islander	0
White	246

The school schedule was a six-period traditional schedule with four seventy-minute academic classes and two fifty-minute Related Arts classes. The school rotated academic

classes for the purpose of students and teachers seeing each other at different times of the day. Likewise, there was thirty minutes of intervention time built in for daily, targeted academic intervention.

Maggie's school's current professional development focused on short cycle formative assessments and subsequent data protocols. This was decided because of their significant need for norming the implementation of varied, short cycle assessments for the purpose of planning instruction and interventions based on what their students do and do not know. While there were certainly pockets of excellence; however, there was a need to ensure the entire school followed the same systems and processes for formative assessments. Their Professional Growth and Development Plan focused on the implementation of short cycle formative, common assessments, with the goal of implementation in all content areas in all grade levels. Maggie and her school defined short cycle common assessments as assessments that all teachers were using, and short cycle referred to the duration of only a few days or a week at a time. This school has put a focus on gathering lots of data that they can use to quickly identify areas of confusion or struggle for students. By ensuring they were "common" across a grade level or team of teachers, the school can begin employing collaborative scoring to better support students. At this point, the school is making progress towards their goals, which is evident through weekly conversations during grade level team meetings, as well as during content planning meetings within partnerships. Teachers enter their short cycle formative data to provide targeted intervention (evident through morning tutoring rosters) and as predictors for larger assessments (TACA - Teachers Analyzing Common Assessments form). Professional Development was generally embedded in two ways: 1) Time embedded,

meaning it was done in smaller groups (e.g., teams or departments) and not typically as a whole group (e.g., faculty), and 2) Topic embedded, meaning it was typically an enhancement or next step in previous Professional Development. Maggie believed that these two considerations seemed to help the overall attitude towards Professional Development to remain positive. These short cycle assessments are structurally aligned to the SIAR cycles in format and goals, given their iterative nature and aim at improvement.

Currently, the leadership team at Maggie's school used built in systems and processes to hold teachers accountable for using new professional development knowledge. For example, they consider student assessment data and classroom observations to look for evidence of teacher transfer of learning. However, one of the biggest barriers to Maggie's leadership staff being equipped to provide high quality, actionable feedback to teachers was time. Therefore, it was important that she and her team have a user-friendly tool that will help make teaching observations more efficient.

Positionality

When conducting research, researchers must understand their positionality by looking inward and analyzing their own biases. Sultana (2007) argued, "It is critical to pay attention to positionality, reflexivity, the production of knowledge and the power relations that are inherent in research processes in order to undertake ethical research" (p. 380). Positionality was very powerful and can have severe consequences by invalidating the data or providing an unreliable account should it go unnoticed and unaddressed. Denzin (1986) believed that "Interpretive research begins and ends with the biography and self of the researcher" (p. 12). Peshkin (1988) stated that our Self can "filter, skew, shape, block, transform, construe, and misconstrue" every part of research study,

preventing an ethical analysis (p. 17). He further wrote that subjectivities were simply the collection of our experiences, traditions, beliefs, and truths forged together (Peshkin, 1988). Therefore, I recognize that my research study would be unethical if I did not first understand and recognize the position that I hold within this study. I recognize and take responsibility for the fact that my research was shaped by my positionality and that I needed to understand the influence my Self had on the lens through which I viewed the results of my research.

The reflexivity that Sultana (2007) discussed was one way I mitigate my positionality. As a student and as a teacher, I recognized the power and importance of reflecting on my own decisions. I considered myself skilled and adept at viewing decisions from multiple perspectives and recognizing how a person's experience will influence their decision-making. I challenged myself to understand the subjectivities of others and the context in which they make decisions. This self-reflection, or reflexivity, will be part of my "ongoing self-awareness and scrutiny" to ensure that I protect my participants and my research with ethical analysis (Clayton, 2013, p. 507). According to Freire (1978), there was a didactic relationship between subjectivity and objectivity. He believed that objectivity suggested "people without a world," which was not possible when we are all a sum of our life experiences (Freire, 1978, p. 38). While I aim to always be objective, I realized that was a limitation of the human experience. I am passionate about this topic, which meant that I held certain beliefs and values around professional development. While impossible to eliminate subjectivities, my commitment to reflexivity and self-awareness will help me view my data and research through a clear lens.

The researcher's positionality had the potential to influence the research and study in several ways. First, the researcher was a white, thirty-three-year-old, middle-class female. These descriptors alone were significant to the positionality because they spoke to some of the researcher's life experiences, she had through her life as well as her current reality. As the daughter of two college-educated parents, the researcher had always been taught the importance of education. Her parents made intentional decisions about where to live to ensure that she and her sister would be able to attend award-winning schools. Secondly, her value of education was deeply ingrained and one that she considered a part of who she was. When meeting teachers and other individuals who do not value professional development or continued learning experiences, she found it challenging to relate and understand. Finally, even though her parents did well financially, it was not without hard work and perseverance that the researcher attended college and has continued her own education. This perspective led her to the belief that others would have a similar experience if they worked hard and applied themselves. However, the researcher has had other experiences teaching in urban, inner-city schools that helped her realize that individuals need more than just "hard work" to be able to realize many of their dreams.

The researcher lived in the same area where this study was conducted and was often guilty of not seeing the whole problem out of a sense of pride. Foote and Bartell (2011) determined that "the positionality that researchers bring to their work, and the personal experiences through which positionality is shaped may influence what researchers may bring to research encounters, their choice of processes, and their interpretations of outcomes" (p. 46). It also influenced the research and how the

researcher was able to choose her own interests as the topic for the Improvement science dissertation work. Foote and Bartell note that positionality may influence what the researcher heard or did not hear during interviews with participants, what trends were noticed or not noticed from survey results, and how the researcher might interpret the stories as she looks to solve this particular problem of practice.

Positionality was even more important given the nature of the action research of this study. Positionality often referred to the relationship of the participant and researcher, and the context in which the research occurs. Because the researcher was employed by the organization in which she was conducting the study, the researcher considered herself an insider. However, Herr and Anderson (2005) astutely suggested that there might be times when positionality was not clearly defined and therefore “may occupy positions where we are included as insiders while simultaneously, in some dimensions, we identify as outsiders” (p. 44). As a Curriculum Specialist, Herr and Anderson’s definition described the unique challenges of the researcher’s positionality even more accurately. For example, one significant part of the researcher’s job was working with teachers and school leaders. The researcher came alongside them to coach, mentor, and support. The researcher worked diligently to build relationships so that they would view her as a thought partner in their journey. On the other hand, the researcher was part of the Instructional Services department and tasked with data analysis, curriculum decisions, and teacher professional development in the researcher’s district and was aware of the frustrations often associated with the researcher’s position. The researcher was often viewed as an administrator from central services, which impacted her relationships with

participants. In this case, the researcher found that teachers had a somewhat negative perception towards the survey.

When conducting this study, Clearview School District was in the middle of “survey season,” and the district was conducting a multitude of surveys for end-of-year information, accreditation information, and information needed for the state department of education. Many teachers and other personnel cited frustrations with the volume of surveys. Likewise, several teachers expressed annoyance at being asked to fill out another survey where no changes occurred as a result of their feedback. While this impact was not necessarily specifically negative or specifically positive, it was a reality. The researcher chose to conduct this study within the context where she worked, in hopes that the relationships she had built with the potential participants would help her gain their trust and participation. Some participants she knew better than others and had already established positive relationships with, which is why she chose to set up my study in a randomized manner for the interviews. The researcher did not want to choose specific teachers because of the responses she thought they may or may not provide. The study required a high level of vulnerability and openness, which meant that the researcher needed to establish trust at the beginning. Having some preexisting relationships seemed to help teachers openly share their experiences.

The researcher also recognized that her personal beliefs made it challenging for her to empathize with those who did not have the same viewpoint as her. She found herself often frustrated by some of the comments she heard regarding attending professional development. The unwillingness or inability of some educators to see the benefit of professional development contradicted the researcher’s own set of values and

opinions based on her research, life experiences, and role as a learner. Her pedagogical stance was based on several core values and beliefs about teaching in the Secondary classroom. First, she believed that educators teach readers, writers, historians, and mathematicians, not reading, writing, history and math, which should impact how we approach our pedagogy. Similarly, the researcher also believed that all teachers should be lifelong learners who were excited about new learning opportunities. In these situations, the researcher was challenged to step into her reflexivity to better understand teachers' and leaders' situation and frustrations through their context.

Validity, Credibility, and Transferability

To establish validity in qualitative Improvement science research, the researchers must be concerned with establishing trustworthiness of the data (Mertler, 2017). To help ensure this trustworthiness, the researcher focused on three main characteristics: validity, credibility, and transferability. As Carlson (2010) states,

Qualitative inquirers mindfully employ a variety of techniques to increase the trustworthiness of the research they conduct; that is, how much trust can be given that the researcher did everything possible to ensure that data was appropriately and ethically collected, analyzed, and reported. (p.1103)

The use of triangulation, member checking, peer review, and thick and rich description further ensured the validity and trustworthiness of the study.

Validity

There were two primary types of validity which concern researchers: internal validity and external validity. A study was considered internally valid when no other variables could be the cause for data improvement. On the other hand, a study was

considered externally valid when it could be considered generalizable to another setting. Merriam (2009) stated that “all research is concerned with producing valid and reliable knowledge in an ethical manner” (p. 209). In this study, triangulation was used to further ensure validity. According to Creswell and Miller (2000), triangulation was defined as “a validity procedure where researchers search for convergence among multiple and different sources of information to form themes or categories in a study” (p. 126). This study utilized triangulation using three primary sources of data:

Participant profile questionnaire (See Appendix B). The initial questionnaire interview provided extensive background information on the participants’ leadership journey as well as specific school questions to better understand the context and how professional development was currently impacting the staff.

Analysis of documents. Documents from the school, school district, and state education agency were reviewed to analyze commonalities and expectations for teacher observations or evaluations. Specifically, observation tools such as the State Teaching Standards 4.0 results were reviewed, Effective Learning Environments Observation Tool, and results from the accreditation through Cognia Global Commission were analyzed to look for trends in teacher observation data.

Field notes and memos. Field notes and memos were utilized to capture the conversations and implementation change plan as it progressed. These were also reviewed and analyzed by the school leader participant to ensure validity and accuracy. The empathy interviews helped determine the problem in context of

Clearview School District. The data from the stakeholders who participated in the SIAR cycles was also reviewed and analyzed for next steps.

Credibility

Another important aspect of validity is credibility. In this study, credibility was established by using member checks. Caretta and colleagues (2019) stated that “by carrying out member checking—a technique that allows for the deepening, repeating, and adjusting of data gathering and analysis together with participants— researchers can achieve transactional validity” (360). The researcher used member checking to ensure that the findings were congruent with the participants’ lived experiences. Member checking allowed the participants the opportunity to approve various aspects of the research as it related to the interpretation by the researcher. The author used member checking through the process of the interviews as the author asked clarifying questions and gave participants an opportunity to clarify, restate, delete, retract, or rephrase anything they had already shared (Carlson, 2010). To ensure consistent transactional validity, the author asked participants for their feedback regarding the author’s thoughts in response to their experiences (Caretta et al., 2019). Member checking was a powerful tool which ensured data integrity and enhanced the overall validity of the research study (Caretta et al., 2019).

Credibility was also established through peer review. Peer review “involves locating a person who reviews and asks questions about the qualitative study so that the account will resonate with people other than the researcher” (Creswell, 2014, p. 252). Several research professors at the University of South Carolina provided feedback, probing questions, and constructive criticism throughout the research process. Similarly,

the researcher's colleagues (internal and external to the context) provided feedback regarding the understandability of the research process and highlighted any gaps or misunderstandings. These colleagues acted as a sounding board and helped the author work out potential problems. Finally, fellow doctoral students were consulted throughout the process to ensure clarity.

Transferability

In qualitative research, transferability referred to the applicability of the research process to other contexts (Tobin et al., 2004). Bitsch (2005) suggested that researchers “facilitate the transferability judgment by a potential user through ‘thick description’ and purposeful sampling” (p. 85). By using “thick descriptions” readers were provided with a plethora of information about the context and methodology to determine how it may be recreated in a new context under similar circumstances (Li, 2004). This study determined its transferability through the judgment of the participant, a potential user. Similarly, there were other potential users consulted during the process who acted as critical friends, providing feedback and suggestions (Lincoln et al. 1985). Transferability was encouraged by providing thorough, in-depth accounts of the context, participant selection justification and information, and a detailed process overview.

The author used detailed descriptions because “detailed description in this area can be an important provision for promoting credibility as it helps to convey the actual situations that have been investigated and, to an extent, the contexts that surround them” (Shenton, 2004 p. 69). While action research was focused on a particular context, and not necessarily the replication or applicability of the study, it was necessary to be able to substantiate findings across similar contexts. Carlson (2010) states that providing

“detailed descriptions of settings, participants, data collection, and analysis procedures” make the research more credible while also demonstrating diligence to ensure all attempts were made to conduct respectable research (p. 1104). Likewise, these thick and rich descriptions ensured the reader was connected and involved in the narrative story of the research findings.

The author used thick and rich descriptions throughout the process to support the reader in understanding the context, setting, participants, and goals as clearly as possible. The author described each step of the process as well as the decision-making process so that readers would feel more equipped to implement parts of the research that they felt would suit their needs and help in their own context.

Change Implementation Timeline

This subsection of procedures outlines the timeline of the Improvement science study. A table is provided to ensure clarity and coherence. Table 3.4 provides the duration and breakdown of each phase of the research.

Table 3.4 *Timeline of Procedures*

Phase	Expectation	Time Frame
Phase One: Understanding the Problem	Email survey invitation and consent forms to teachers	1 week
	Collect survey responses	
	Identify participants for empathy interviews	3 weeks
	Schedule interviews with teachers	

	Conduct empathy interviews	
	Collect data from interviews	
Phase Two: Testing a Change Idea	SIAR Cycle 1: Research current classroom observation forms. Based on research, design a form to best fit the needs of school leaders and teachers.	1 week
	SIAR Cycle 2: Collaborate virtually with Leadership Development and Continuous Improvement Director for feedback on first iteration of observation form.	1 week
	SIAR Cycle 3: Meet with participant to analyze the Observation Form. Make edits/changes/revisions based on participant suggestions.	1 week
	SIAR Cycle 4: Participant uses observation form to provide actionable feedback to teachers. Final edits and revisions based on use.	1 week
Phase Three: Analysis and Implications	SIAR Cycle Analysis and Implications of Findings	1 week

Phase One

Phase One consisted of obtaining permission to conduct the survey and then reaching out to participants. Participants consented to participate by electronically signing their name on the first page of the survey and continuing to the next session. Participants were unable to move forward to subsequent sections of the survey unless they provided written consent. The survey had a few basic goals. The author received thirteen responses from participants.

Participants had ten days to complete the survey to allow adequate time for all who were interested to participate. Responses were accepted beginning May 1, 2022, and the survey closed on May 10, 2022. This district's Spring Break was quickly approaching, so the author wanted to ensure participants had time to complete the survey without competing with Spring Break. After their submissions, participants were thanked for their time and diligence and reminded of the importance of their responses and this work. Data analysis of survey results occurred during phase four of the study.

After surveys were completed and submitted, the author assigned each survey participant a number. The author then used a random number generator to select six participants for the empathy interviews. The author contacted each participant via their district email with an invitation to participate in the interview process. All were willing to participate in the second phase. The author then set up appointments with each participant to meet with them for the interview.

Phase Two

The third phase of data collection required collaboration with the participant and other researchers. This phase entailed the implementation of the intervention through creation and refinement of an observation form, using the SIAR Cycles. This phase began with research for current observation forms that were used by school districts and the department of education to observe and provide feedback to teachers. Next, began the creation of an observation form specific to the study's context. This part of the implementation took into consideration the local context, the school context, teacher needs, and goals/expectations that would be necessary from a form. After designing a teacher observation form that seemed conducive to a middle school, the researcher began

collaborating with subject matter experts. First, the researcher collaborated with a Director for Leadership Development and Continuous Improvement who provided professional development to better equip and empower administrators who are providing feedback to teachers. The third cycle of this phase required the researcher to collaborate with the participant to ensure the teacher observation form would, in fact, be helpful in providing actionable feedback to teachers. The fourth and final cycle included implementing and using the form and then providing feedback to the researcher for final edits.

Phase Three

The fourth phase of the research study focused on the result and the implications of such a framework. The conversations and field notes collected through each phase were analyzed for common and recurring themes.

Data Analysis Plan

In this Improvement science research study, the survey and teacher interviews were each analyzed separately. The qualitative data provided from the teacher interviews was analyzed using thematic and trend analysis. Data analysis began with initial coding from the teacher surveys, followed by thematic analysis and coding from the teacher interviews.

Vaismorade and associates (2016) describe four phases when identifying thematic analysis: (1) Initialization, (2) Construction, (3) Rectification, and (4) Finalization.

During initialization, the researcher conducted an in-depth review of the transcription from the interviews. The researcher also used her interview to develop initial categories and comparisons. In the second phase, construction, the researcher used the categories

formed during the initialization phase to form groups. During rectification, the researcher used the notes, recordings, and transcriptions to make inferences about professional development. Finally, during the finalization stage, the author reported the primary findings in response to the research questions being addressed.

Procedures

This Improvement science research study was completed in five phases: phase 1: survey data collection, phase 2: semi-structured interviews data collection, phase 3: participant interview, phase 4: SIAR Cycles data analysis, and phase 5: implications and next steps. Each phase and its components are described in detail below.

Phase One: Survey Data Collection

After obtaining permission from the Offices of Human Resources and Instructional Services to conduct this research project, the author reached out to all Secondary English Language Arts teachers via their district to email to explain the intent and goals of the research study and invite them to participate by completing the survey (see Appendix A). Participants consented to participate by electronically signing their name on the first page of the survey and continuing to the next session. Participants were unable to move forward to subsequent sections of the survey unless they provided written consent. The survey had a few basic goals. First, it collected essential demographic data pertaining to years of service, grade level taught, high degree attained, etc. The second section of the survey focused on personal beliefs about education, as well as some of their general feelings and experiences. The third section asked participants about their current attitudes and perceptions about professional development they have recently experienced. The fourth and final section asked participants to begin identifying and naming desires

for future professional development that would help support them as they worked toward learning transfer and implementation. The author received thirteen responses from participants.

Participants had ten days to complete the survey to allow adequate time for all who were interested to participate. Responses were accepted from the beginning of May to the middle of May, because this district's Spring Break was quickly approaching and the author wanted to ensure participants had time to complete the survey without competing with Spring Break. After their submissions, participants were thanked for their time and diligence and reminded of the importance of their responses and this work. Data analysis of survey results occurred during phase four of the study.

After surveys were completed and submitted, each survey was assigned a participant number. The researcher then used a random number generator to select six participants for the semi-structured interviews. Then, each participant was contacted via their district email with an invitation to participate in the interview process. All were willing to participate in the second phase. The author then set up appointments with each participant to meet with them for the interview. Interviews were conducted via Google Meet and recorded for later transcribing and thematic analysis purposes.

Phase Two: Participant Interview

The third phase of the data research study included interviewing the participant. She was sent a list of questions about herself, her leadership, her school, and the professional development plan, all of which she responded to in writing. This information was used to build the participant profile and get a more complete picture of who the change agent was for this middle school. It also provided insight into unique school

nuances and their own needs. Finally, because the participant would be providing input regarding the final research study product, it was helpful to gain insight into her needs as a leader for building capacity within her teachers.

Phase Three: SIAR Cycles

Next, the fourth phase of data collection included implementing the SIAR cycles. Through these cycles, themes noted in earlier phases were compared with observations from the researcher's field journals and in-vivo memos (Charmaz, 2014). Glesne (2016) described memo writing as "jotting down reflective thoughts" (p. 188). Because each SIAR cycle embedded reflection, these notes and memos were a natural part of data analysis. The memo writing and field journals became a central place for self-reflection where the researcher wrote non-edited thoughts and wonderings. Furthermore, this memo writing consisted of "in vivo" coding as it "prioritized and honored the participant's voice" (p. 91). Even during the coding process, there was an acute awareness to remain focused on the participant and ensure her voice was not lost. This fourth phase of data analysis concluded with a final Teacher Observation Form for the participant to use in her school.

Phase Four: Implications and Next Steps

The final phase of data collection involved considering the Teacher Observation Tool's limitations and applicability. While designed with one specific context in mind, ultimately, the tool was considered from multiple perspectives and how it could support leaders in other contexts, what changes should be made, what technology tools should be considered, and other factors that would limit or prohibit the application to other contexts.

Conclusion

The following research questions were addressed using an Improvement science

Research Design:

Research Question 1: What makes a teacher observation tool an effective professional development opportunity for teachers?

Research Question 2: What components are necessary in a framework to ensure the tool successfully meets the criteria necessary to be considered effective professional development?

Specifically, the researcher implemented Strategize-Implement-Analyze-Reflect cycles to better understand the root cause of the problem of practice. Data were collected from teacher surveys, semi-structured interviews, document analysis and creation, four SIAR cycles, and field notes/memos. In this chapter, the researcher provided an explanation of the site and participant selections, as well as the data collection analysis process and methods. The researcher's subjectivity and positionality were addressed and potential ethical considerations were reviewed as potential implications.

CHAPTER FOUR

SIAR CYCLES

SIAR Cycle One

Introduction

The first SIAR cycle focused on researching commonly used teacher observation tools, like the State Teaching Standards 4.0 Rubric, Effective Learning Environments Observation Tool Rubric, National Institute for Excellence In Teaching (NIET), COGNIA Teacher Observation Tool, and the Triple E Framework. There were different aspects from each tool that combined to make the first iteration of the teacher observation tool used for this research study. First, the researcher included an opportunity for reflection for teachers with probing, open-ended questions to initiate a reflective practice for their analysis on decision making. Second, since all teachers were growing and learning in their craft, there needed to be next steps for each teacher based on the completed observation. The principal participant, Maggie, was included in this first iteration to provide insights about the professional development focus areas and needs for her school. As the principal of a middle school, she was well versed in the needs of her teachers as well as the professional development plan for her school. As such, she helped determine which domains to include in the teacher observation tool.

Strategize

The strategizing phase of the first SIAR cycle began with researching current classroom observation tools available to school leaders and administrators, particularly in

the local and state context. First, the researcher examined the National Institute for Excellence In Teaching (NIET). The NIET Rubric was widely used and was one that had been used within Maggie’s school. It was also similar to the rubric that was used statewide for teachers undergoing formal evaluation for recertification purposes. The NIET Rubric was divided into three primary domains: instruction, designing and planning, and learning environment. The rubric listed each domain with performance indicators as subsections. There were three performance levels for measuring teacher performance where teachers could earn a score of 1-5 for each indicator. Figure 4.1 shows the NIET rubric domains and performance indicators.

INSTRUCTION	DESIGNING AND PLANNING	LEARNING ENVIRONMENT
<ol style="list-style-type: none"> Standards and Objectives Motivating Students Presenting Instructional Content Lesson Structure and Pacing Activities and Materials Questioning Academic Feedback Grouping Students Teacher Content Knowledge Teacher Knowledge of Students Thinking Problem Solving 	<ol style="list-style-type: none"> Instructional Plans Student Work Assessment 	<ol style="list-style-type: none"> Expectations Managing Student Behavior Environment Respectful Culture

Figure 4.1 *NIET Rubric Domains and Performance Indicators*

However, while the NIET rubric was very helpful and research based, it was a difficult tool to use because of the time required and intentional focus needed. The NIET rubric can be cumbersome given its length and depth. It provides very detailed information, but also required a significant time commitment, an entire class period observation from leaders who were conducting observations, whereas this Dissertation in

Practice aimed at creating a teacher observation tool or protocol that would provide low inference, high quality feedback that school leaders could use immediately to provide regular feedback to teachers. It also lacked an opportunity for follow-up or next steps. It was simply a record of what happened in the classroom and did not provide leaders or teachers with reflection opportunities. The NIET rubric was seven pages in length and did not always yield school leaders the opportunity to provide actionable feedback to teachers. Realizing the limitations of the NIET rubric, the researcher continued looking for alternatives that met the objectives of effective professional development, while providing high quality, low inference feedback with built-in opportunities for reflection and coaching.

Fisher and Frey (2014) wrote an article about using learning walks to improve instruction. In the article, they argued for the use of learning walks in moving schools from professional development to professional practice. Thus, the observation tool being created for this study began to include opportunities to better facilitate informal and short observations that would more easily lend themselves to reflective conversations between school leaders and teachers.

This new understanding helped identify the necessary components in a teacher observation form for it to be most effective. The next teacher observation form the researcher analyzed listed different areas of focus for observers. This supported teachers' growth and learning because it did not appear overwhelming or daunting. Similarly, it focused the observation for the school leader to complete, and finally, whether areas of strength or opportunities for growth were noted, when there are only three or four focus areas that feels much more supportive than other observation protocols. Additionally, in

two other observation forms that were referenced, teachers and classroom observers were provided clear expectations for focused observations as explained on the observation form. Likewise, these focus areas could easily be modified based on a school's professional development plan. This inclusion of specific areas to look for, led the researcher to begin listing all the various focus ideas that might correlate based on Maggie's school and district professional development plan.

The third observation tool that the researcher analyzed was the one currently being used by the school from the Marzano Center. This tool, designed in 2014, had many of the features necessary for successfully shifting teacher observations from punitive in nature to effective professional development. It listed focus areas for school leaders to note: there were specific examples of evidence from the teacher and the student; the scale provided a set of descriptors; and the protocol included a set of reflective questions that could be used with the teacher depending on where they were on the scale. These questions would be ideal for follow-up and reflective conversations where school leaders are provided the capacity to act as change agents and instructional leaders. Likewise, these reflective questions were individualized at each level, which meant that every teacher had a "next step" and an opportunity to grow. Also, the Marzano Protocol used carefully chosen language which focused on equity and inclusion. However, the Marzano Center Protocol was much longer than the NIET rubric at 41 domains, whereas the NIET rubric had 19 domains. When thinking through this issue of time constraints, the researcher consulted the participant, Maggie, to gauge her school's needs from an observation protocol. The researcher sent Maggie the original Marzano Protocol and asked her to select the fifteen domains that best represented the current

professional development and pedagogical needs in teaching the students. She selected the following fifteen domains for inclusion within the observation protocol:

- The teacher provides rigorous learning goals and/or targets, both of which are embedded in a performance scale that includes application of knowledge.
- The teacher facilitates tracking of student progress on one or more learning goals and/or targets using a formative approach to assessment.
- The teacher establishes expectations regarding rules and procedures that facilitate students working individually, in groups, and as a whole class.
- The teacher continuously identifies accurate critical content during a lesson or part of a lesson that portrays a clear progression of information that leads to deeper understanding of the content.
- The teacher organizes students into appropriate groups to facilitate the processing of new content.
- Based on student evidence, the teacher breaks the content into small chunks (i.e., digestible bites) of information that can be easily processed by students to generate a clear conclusion.
- The teacher systematically engages student groups in processing and generating conclusions about new content.
- The teacher engages students in activities that help them reflect on their learning and the learning process.
- The teacher helps students produce and defend claims by examining their own reasoning or the logic of presented information, processes, and procedures.

- The teacher scans the room and notices when students are not paying attention or not cognitively engaged and takes overt action.
- The teacher uses academic games to cognitively engage or re-engage students.
- The teacher demonstrates intensity and enthusiasm for content by sharing a deep level of content knowledge in a variety of ways.
- The teacher uses students' interests and backgrounds to produce a climate of acceptance and community.
- The teacher behaves in an objective and controlled manner to demonstrate a commitment to students and academic rigor.
- The teacher asks questions of low expectancy students with the same frequency and depth as with high expectancy students.

When she returned the form, the design phase began.

Provided that many school leaders prefer digital copies of completed observations and teachers appreciate timely and immediate feedback, the next task during the strategy section of the first SIAR cycle was making the current Marzano template a digital document using Google Forms. Using Google Forms as the platform allowed teachers and school leaders to receive copies of the observation. Even though the Marzano template was quite lengthy, Google Forms allowed school leaders to only analyze the areas they were specifically focusing on. This part of the strategizing phase took some collaboration with technology experts who could lend support to create a document that would only show specific areas, allow administrators to keep track of all observations, and provide instantaneous feedback to teachers. While strategizing with the Coordinator of Instructional Data Analysis, the researcher wrote a specific software code to organize

the data from the observations as they were conducted. This required some maneuvering and future iterations of the SIAR cycle to create.

Implement

For the SIAR cycle 1 (provided in Appendix C), the implementation phase looked slightly different than it will look in future iterations. This implementation focused on finishing a template to gain additional information to move forward. Implementing required designing the document, determining how to share the results, and analyzing the current protocol to make changes. Implementing also included many drafts and trial and error to determine the best product to provide administrators with a tool that was user-friendly and met the needs of their professional development focus.

Analyze

Analysis occurred throughout the SIAR cycle. Each draft of the Teacher Observation Form was analyzed to determine usability and effectiveness (see Appendix for drafts). Analysis began this SIAR cycle when researching multiple observation forms currently being used. This analysis allowed the researcher to take away common trends (the need to keep the protocol short and focused on one domain per observation), necessary components, positive additions, and possible hindrances to implementing such a protocol as this. One of the major hindrances was finding a virtual platform that allowed this information to be collected but then also disseminated to specific participants. While Google Forms was the current platform of choice, there were other options that will be discussed in Chapter Five of this Dissertation in Practice. A necessary component that came out of the analysis phase was designing a teacher observation protocol that was a good fit for school leaders and teachers. In other words, this

observation protocol needed to serve two different populations with different needs for a protocol such as the one created. For example, when I had a reflection conversation with Maggie, she expressed a need for the tool to be succinct and easy-to-follow. Teachers, through the pre-survey data, signified that observations needed to include follow-up and follow through to be deemed effective. They also expressed a desire for the tools to be context-specific and focus specifically on their individual classrooms.

Reflect

As with analysis, reflection was ongoing and embedded during the first SIAR cycle. Each draft of the Teacher Observation Protocol was analyzed and reflected for spreading, scaling up, and sustainability. The first SIAR cycle included four drafts of the teacher observation tool because of the technology limitations that the researcher was working around. Based on feedback during a conversation with Maggie, it was determined that choosing fifteen domains from the Marzano Protocol would lend itself to spreading and scaling up because Maggie, as the participant and end user, determined this number to be most appropriate for her staff. It was also sustainable because the tool itself would be easy to edit if and when the professional development focus changed. Similarly, the researcher used her positionality as a district leader to think through the lens of how the iterations of the observation tool would support all learners and teachers. One specific reflection question from Perry and colleagues (2020) was “did the improvement process make things better for marginalized voices” (p. 130)? This reflection question challenged the researcher to look more closely at the domains included and ensure that there was a strong and tangible focus on ensuring high quality, equitable instruction was occurring throughout the school. One way this needed to be addressed was by designing a process

that would ensure an equitable amount of observations were being conducted across all teachers. This helped Maggie ensure that teachers across all subject areas, grade levels, races, and experience levels were being observed an equitable amount of times, and would call attention to any inequities occurring in the number of observations. One issue that Maggie noted was that oftentimes she lost track of which teachers had been observed and when, especially when there were multiple observers. Using the Google Forms to organize this data helped the administrators in Maggie's school better understand who had been observed and what their reflection and feedback looked like. Thus, as part of the second SIAR cycle, there was a more intentional focus on ensuring the document would track the number of observations per teacher that had been completed. The conversations and the collaboration in the second SIAR cycle included analyzing the domains in the observation tool through an equity lens to ensure that all voices had a place to be heard within this process.

Conclusion

After researching and analyzing several teacher observation tools, the researcher noticed common attributes of the tools that ensured they would serve as effective professional development. Those attributes included: fewer domain focus areas, reflection questions for all teachers, and examples of teacher or student evidence. The fewer domain focus areas was a key attribute because it allowed the observer and the teacher to focus on improving or sustaining one specific area. This helped to center and align any follow up conversations, and it ensured that teachers avoided feeling overwhelmed by neither too much positive nor negative reinforcement. The reflection questions were a primary attribute of the teacher observation tool because they ensured

each teacher was tasked with next steps in their best practice journey. These next steps supported follow-up conversations between administrators and helped administrators begin to recognize common trends and then propose additional professional development opportunities. The inclusion of teacher or student evidence helped teachers make connections between what observers witnessed and how that translated into classroom instruction. Alternatively, it provided options for teachers who aimed to make changes or improvements to the domain and showed them some options for what observers needed to experience in order to rate teachers more highly on the domain score. Then, the researcher spoke with Maggie about which domains should be included. Finally, the first iteration of the teacher observation tool was created using domain focus areas, performance indicators, teacher or student evidence examples, and reflection questions as next steps.

SIAR Cycle Two

Introduction

The second SIAR (provided in Appendix D) cycle began by meeting with the Leadership Development and Continuous Improvement Director of a school district for her input and guidance on the teacher observation tool. She is regularly involved in teacher observations and has created multiple teacher observation tools that support professional learning plans, administrators, and teachers, making it appropriate to collaborate with her as a thought-partner. Through the conversation with Maggie, the researcher determined that more demographic data should be collected about the teachers being observed as well as including a place to collect “low inference notes.” She also recommended the researcher work with a Coordinator of Instructional Data Analysis who

was more familiar with Google Forms. This individual helped the researcher write a computer code to ensure that teachers received their observational feedback instantaneously and that all observational data would be organized together. In a conversation between the researcher and Maggie, Maggie requested that the teacher observations be organized in one location so that teachers could see their growth and so that administrators could begin noticing trends across teachers, grade levels, and subject areas to further design professional development opportunities.

Strategize

The second SIAR cycle began with meeting and collaborating with a Leadership Development and Continuous Improvement Director for her input based on her years of honed experience with teacher observations. She was chosen because of her experience supporting school administrators and teachers, writing professional development plans, leading observation teams, and serving on accreditation committees. She had the unique position of helping schools determine and achieve their school professional learning plan, so she was well equipped to provide insight into using a teacher observation tool as professional development. She also served as a building administrator for several years and was tasked with observing teachers and providing them feedback. Finally, she mentioned that her school district was currently working on a similar project, so the timeliness of this work could not be overstated. One of her major suggestions was to ensure end-user friendliness. While Google Forms was the current tool for this work, she provided some suggestions about usability.

The conversation then transitioned from discussing the tool itself to the way it would be utilized. She recognized that classroom observations were “giant” and knew

that chunking it would be the best move forward. She stated that the way the current Observation Tool was laid out by sections with each domain focused on areas from their professional learning plan was an effective way to tie together the professional development plan, teacher needs, and coaching conversations. Within the domains was a scale to show teachers the level at which the observer noted the domain proficiency, corresponding student and teacher evidence of that domain, and reflection questions for next steps. Because it was led by the domains, it supported Maggie in keeping her focus relatively narrow during observations. Further, she also agreed that classroom observations are the consummate first step in teacher professional development given their natural inclination to being feedback-centered, data-driven, context-specific, collaborative, active, and supported by school principals.

As a way of next steps, she suggested the researcher include the option for more demographic data to be collected during observations. Specifically, years of experience, content, block or time of day, course level, and even teacher gender were added as part of the demographic data. This way, Maggie could begin to analyze trends amongst teachers to determine how to support them as a part of systems level decisions. This allowed Maggie to provide specific and targeted professional development based on need, one of the tenets of effective professional development.

Figure 4.2 shows the various demographic data that was added to the Google Form based on these conversations.

Experience

Years of Service *

- ☐ 0-5
- ☐ 6-10
- ☒ 11-15
- ☐ 16-20
- ☐ 21-25
- ☐ 26-30
- ☐ 30+

Content

Content *

- ☐ English Language Arts
- ☐ Math
- ☐ Science
- ☒ Social Studies
- ☐ Related Arts
- ☐ Special Education

Grade Level

Grade Level *

☐ Grade 6

☒ Grade 7

☐ Grade 8

Course Information

Course Level

☐ Honors

☒ Grade Level

Clear selection

Class Period

Period *

☐ Period 1

☐ Period 2

☐ Period 3

☒ Period 4

☐ Period 5

☐ Period 6

Figure 4.2 *Demographic Data*

Finally, the Leadership Development and Continuous Improvement Director also challenged the researcher to think of a way to include “low inference” notes before beginning the structured portion of the observation. As such, the researcher made a change to the observation tool to include a short answer section allowing the observer to make general, low inference notes before addressing the specific domain focus. The short answer question simply asked observers to list and name what occurred in the classroom. Oftentimes with observations, observers immediately start checking boxes and looking for things based on their personal lenses and biases (i.e. negativity bias to find things that are wrong). By starting an observation with low inference notes, this helped the observer to acclimate themselves to the classroom and simply note what was being seen or heard without any judgements.

After meeting with the Leadership Development and Continuous Improvement Director to discuss suggestions about the content of the form, the next step was to meet with someone who was more familiar with Google Forms. The Director put me in touch with the Coordinator of Instructional Data Analysis who routinely writes Google Code. This was not an entirely new iteration of the observation tool, but instead, was a continuation of the conversation. During the conversation with the Leadership Development and Continuous Improvement Director, some of the limitations of Google Forms were uncovered. This subsequent meeting focused on the logistics and coding required to create a Google Form that would provide instantaneous feedback to the teacher being observed. Through the process of creating the Google Form and the multiple iterations it had gone through, there were clear limitations to using this particular format. However, it still seemed to be the best choice for multiple reasons. First, it would

keep teachers' feedback and observational data together. This way, they had records and copies of their observations and feedback they received over the course of the year to see improvements, common trends, and areas still needing to be addressed. It was also beneficial for Maggie because she already used Google Suite, so this allowed her to limit the number of technology platforms she was employing. Finally, a key component of effective professional development was that it provided feedback immediately. By coding the Google Form, teachers received timely and applicable feedback based on what had just occurred. Better yet, teachers had all of their observations in one place to see areas of growth and areas of strength across all observational notes to create a source for trend analysis.

Implement

Implementing the suggestions and changes from the Strategize phase included more drafts of the Classroom Observation Protocol. Once the final draft was completed, it was sent back to the Leadership Development and Continuous Improvement Director for any final suggestions and as a part of "member checking." Taking the suggestions from the strategize section, the researcher added in demographic data questions and a section for scripting the low-inference observational notes.

The second part of implementation for this round included coding the Google Form to take responses from the Google Form and insert them into personalized, individualized spreadsheets. A specific code was used to create an individualized spreadsheet for each teacher's observational data.

This implementation phase included two specific drafts. One based on the collaboration with the Leadership Development and Continuous Improvement Director

which added demographic data and a dedicated space for low inference notes and the second which created personalized, individual spreadsheets for each teachers' recorded observation data.

Analyze

For the analysis section of this cycle, the conversation intentionally answered the questions for ensuring equity as described by Perry and colleagues (2020). First, the researcher and the participant discussed how analysis led to an understanding of the systemic inequities that existed. By adding further demographic data to the Teacher Observation Tool, school principals were equipped to gather trend data about systemic issues they see. This also provided them the opportunity to address these inequities with the appropriate groups. Next, they discussed whether or not the analysis team members had varied perspectives and what methods exist to elicit other perspectives during subsequent SIAR cycles. Up to his point in the study, the team members working on the Teacher Observation Tool all shared similar perspectives. Therefore, this continued to be a point to address in upcoming iterations of the tool. It was also important as part of the analysis phase to determine whether those affected by the problem were part of the team. This was another area that would need to be part of future iterations. Maggie, the participant had given some preliminary feedback for the current Teacher Observation Tool, but was asked for further information in the SIAR cycle #3. Maggie was not a part of the SIAR cycle #2. Teacher voices will also be added as part of the final SIAR cycle. Another question that was addressed during this conversation with Maggie, is how will we know if the change was an improvement? Progress was determined by the end user; in this case, that was Maggie. Success of the Teacher Observation Tool was determined by

the usability of the form and the data received. Next, the researcher and Leadership Development and Continuous Improvement Director discussed what norms should be in place for the analysis team to use. One norm that came up during conversations was determining a way to ensure teachers were being observed an equal number of times. This particular concern was addressed through the Google Coding that allowed Maggie to see each observation in real time. Another concern that arose was what ways can bias be eliminated from the analysis. One way that was discussed to eliminate bias is through the inclusion of low inference observational notes. This way observers have the chance to script exactly what they are hearing and seeing within the lesson before assigning a proficiency scale or providing any reflection questions. These low inference observational notes provided Maggie a way to begin the coaching conversations with teachers. Finally, the Leadership Development and Continuous Improvement Director and the researcher discussed whether all voices were heard. Each SIAR cycle involved new voices to ensure the Teacher Observation Tool was most effective for those conducting the observation as well as those receiving the feedback. Each SIAR cycle included different voices and all end-users were included as part of the final SIAR cycle.

Reflect

Upon reflection of this tool, the researcher felt it was ready for feedback from Maggie, the end user. It is important that this tool fit Maggie's observation style and needs as the building level principal. It was also crucial to this research that she be given the opportunity to provide feedback while it was still in beta testing. The researcher was confident in the improvement of the teacher observation tool using the various SIAR cycles. The experts noted missed opportunities (such as missing demographic data) and

challenged the researchers' thinking by posing thought provoking suggestions (like writing specific code for Google Forms). By using the Improvement science methodology to approach this problem of practice, the iterations of the observation tool are proving imperative and prudent.

Conclusion

This was the second full iteration of the teacher observation tool. Specific changes made during this cycle were the inclusion of teacher demographic data: Years of Experience, Content Area, Grade Level, Course Level Information, and Class Period. This demographic data was included as a way to help Maggie see system trends and be able to provide support for all teachers. Finally, this iteration included writing computer code to better organize teacher observations and ensure they receive their observational feedback quickly.

SIAR Cycle Three

Introduction

During the third SIAR cycle (provided in Appendix E), the researcher met with Maggie to explain the tool in its current iteration and receive feedback about changes that needed to be made to make sure it was effective for the administrators and the teachers within Maggie's building. The only change to the tool that occurred during this cycle was revising the demographic section. First, Maggie requested that "years of service" be optional. Maggie had quick access to this information, but does not always have it memorized, so she would prefer to be able to add in this information after the observation was complete, if necessary. Secondly, there were some revisions to the order of the

demographic data. It is now ordered by: Content Area, Grade Level, Course Level Information, Class Period, and Years of Experience (optional).

Strategize

During the third SIAR cycle, Maggie and the researcher met to analyze the Teacher Observation Tool in its current form after the first two iterations. This allowed the researcher to explain the tool in its entirety and ask questions about Maggie's teacher population and what needs she anticipated from them. It also provided Maggie the chance to give feedback about what she needed from the tool to ensure it was effective and conducive to her leadership style. During this conversation, the researcher and Maggie reviewed the school's professional development plan to ensure each domain that had been included was a focus area for the school year. After checking that all things were aligned, the researcher asked Maggie questions about teacher perception and how they would respond to this tool. Maggie's staff and teachers were accustomed to observations and a variety of tools being used, and she felt this tool would be no different. However, she did say that she believed teachers will respond more positively to this observation tool because it was specific to their context, it provided examples of evidence, and all teachers were provided with reflection questions and next steps in their professional development and growth.

Implement

Overall, the feedback from Maggie was that this tool would be effective in supporting professional development within her building. She noted that the demographic data being included was important for administrator desk audits and other survey data typically requested by the district. Two things in particular that she appreciated were the

demographic data being collected and the example student evidence. In the conversation with the researcher, one thing that Maggie noted was how the data collected would allow her to determine trends and analyze correlations among grade level, content areas, years of experience, or course type. Maggie felt strongly that this would set up her leadership team to better support the teachers at her school.

The second aspect that Maggie spoke very highly of, was the use of student and teacher evidence embedded into the classroom observation protocol. This was important because it helped administrators have concrete “look fors” in their observation. Also, it helped guide conversations with teachers when conducting post-observation conferences.

Based on the conversation with Maggie, the researcher and Maggie collaboratively decided to pilot the use of this tool in its current iteration.

Analyze

The conversation between the participant, Maggie, and the researcher focused on analysis for equity during the third SIAR cycle. First, they discussed whether or not varied perspectives had been included. Only administrative voices would be included, so they discussed ways to seek opinions and input from teachers. However, teacher voices were part of the final SIAR cycle, ensuring that all important voices were included before the teacher observation tool was finalized. Second, they discussed whether those affected by the problem were part of the team. In this iteration, Maggie was consulted and included as part of the Strategize and Implement cycles. Since she was the primary end user, including her perspective was critical. Progress toward the aim was determined by the end user’s ability to sustain and scale up the Teacher Observation Tool. By including her voice in the third SIAR cycle, she provided insight into areas that she needed

adjusting in order to make the tool more efficient and effective for her use. To eliminate bias from the teacher observation tool, Maggie echoed the need for the low inference observational notes, noting these were important to avoid any discriminatory ratings or language. Finally, while all voices had not yet been heard, teacher voices were part of the final SIAR cycle which confirmed that thoughts and opinions were provided from a variety of stakeholders.

Reflect

One specific reflection that occurred during this SIAR cycle was focused on beginning to anticipate how teachers would feel when this tool was being used. It was important to the researcher that this tool be informative instead of evaluative. It was informative because all teachers were receiving reflection questions with next steps followed by the expectation for coaching conversations. An evaluative form would not have the connected coaching conversations that this tool had embedded. Maggie had created a culture that valued feedback and provided a safe space for teachers to become learners. Thus, she had instilled in them the power of an observational tool and that it was not the specific tool that mattered, but how it was being used or implemented and what information it provided about classroom instruction.

Conclusion

This third SIAR cycle included minor revisions. The only two revisions were rearranging the demographic data and making the years of experience optional. However, the conversation with Maggie primarily focused on ensuring that all voices were heard, there would be norms in place for implementing the tool in the next SIAR cycle, and that there was a plan for gaining more perspectives. Up to this point in the SIAR cycles, only

administrator voices had been heard. Maggie and the researcher both recognized this as a limitation and knew that it would need to be addressed in the final SIAR cycle.

SIAR Cycle Four

Introduction

The fourth and final SIAR cycle included implementing the tool with five teachers. This allowed the researcher and Maggie to gain insight into what was working well and what did not seem to work well with the tool. It also gave Maggie the chance to use the tool and determine what changes needed to be made for sustainability and spreading purposes. Finally, by including teachers into this final SIAR cycle, it helped ensure a variety of voices were heard and that all user groups were included.

Strategize

During the fourth, and final SIAR cycle, Maggie and the researcher met and discussed the implementation of the tool. Maggie provided the researcher insight about what worked, what changes should be made, and how it felt to use it. Overall, Maggie was very pleased with the teacher observation tool and reiterated that it provided her low inference data about the teaching and learning occurring within her school but also gave her some specific suggestions for next steps for each teacher. Similarly, when teachers were later asked to reflect on this process during follow-up conversations with Maggie, they mentioned the same aspects, who shared them with the researcher. They appreciated the high-level overarching component, as well as noting the specific classroom actions that led to learning outcomes.

Implement

In this SIAR cycle, implementation included the use of the teacher observation tool with a purposive sampling of teachers. Teachers were selected from a pool of educators who were not currently undergoing any sort of formal evaluation process through the State Department of Education. Maggie and the researcher collaborated to choose teachers who taught a variety of subjects and grade levels, but would be authentic and transparent in providing feedback about the tool and the follow-up conversations. Maggie used the tool by conducting teacher observations with these teachers and then following-up through coaching and feedback-centered conversations. One of the focus areas from SIAR cycle three was that there needed to be more follow up and feedback than teachers just receiving the completed observation template. Thus, the researcher and participant necessitated coaching conversations as part of this process.

No major changes occurred from the third round of teacher observation tools to this final round. The next steps would include determining how the teacher observation tool could be scaled up to include all teachers with considerations and analysis of how it would work with different users (e.g. beginning teachers, related arts teachers, special education teachers, etc.). Conversations with the school building principal participant focused primarily on what next steps should be included to more effectively use this tool with the faculty at large. Since it was only implemented with a small group of teachers during the fourth SIAR cycle, the building level principal needs to see how it could be used with the entire teaching staff.

Finally, implementation within this round included discussions about the most effective ways to train and teach the other building administrators how to use the tool to

ensure that interrater reliability was established. This began by having Maggie's assistant principal, Greg (pseudonym), sit in on conversations to begin understanding the purpose of the tool and the intentions of supporting teachers in their growth and development. Then, he began attending the same teacher observations and they discussed among themselves what they saw and heard before providing the teacher feedback. It included him attending the follow up and feedback conversations to ensure they used consistent language and expectations with teachers. This iteration involving Greg also provided some insights. He shared that it was helpful for him to sit in on the observations and follow-up conversations before conducting them himself because it ensured interrater reliability to a much higher degree. It also helped him align more effectively with Vivian's learning and growth expectations.

Analyze

The analysis section of this final SIAR cycle gathered information from the teacher sample, the follow up conversations, and the process in general using their conversations with Maggie. This survey provided additional qualitative data about teachers' perceptions and attitudes towards the teacher observation tool. It also helped the researcher and Maggie recognize personal, administrative, and district implications as a result of using a strategic and intentionally designed teacher observation tool. The specific results from the survey will be discussed later in this chapter.

Reflect

As with each preceding SIAR cycle, reflection was continuous and embedded throughout each step in the process. As the researcher and the participant implemented the teacher observation tool, they reflected on next steps, limitations, and implications.

Each of which will be discussed in detail in Chapter Five. The primary focus of this fourth SIAR cycle was to field test the teacher observation tool and gain insight into teachers' perceptions and attitudes when a tool like this was used. Further, it was important to understand how the tool worked as stand alone professional development versus when it was coupled with follow-up and coaching conversations from administrators. Based on the feedback from the teachers and the administrators, the tool helped guide the conversations. In reflection, the conversations seemed to be where the most authentic and transformative thoughts occurred leading teachers to begin reflecting on their practices and how to better support their students. An important reflection from the tool implementation and conversations were the questions and implications that arose as a result of the end user carrying out teacher observations using a specific tool and following up any observations with a coaching conversation.

Conclusion

Overall, the teachers' attitudes were positive about and appreciative of the tool as a whole. They cited aspects like the teacher and student evidence and the reflection questions as being the most impactful parts of this tool. They noted those two aspects as what makes this tool more effective as professional development instead of as evaluation. The teacher participants also noted the coaching conversations with Maggie as the major difference between other observation tools and cited that as a key to ensuring this was effective.

Final Framework

The final framework is included in Appendix F for reference. This final framework is a culmination of each SIAR cycle and the revisions and iterations that

occurred by including all relevant stakeholders. The teacher observation tool had sections dedicated to low inference notes, demographic data, specific observation domain focus areas, teacher/student evidence, and reflection questions. Each section was included for its specific ability to support teachers as they grow and learn, thus making this tool a personalized, active, andragogically appropriate professional development opportunity.

Findings

Research Question 1: What makes a teacher observation tool an effective professional development opportunity for teachers?

This research question stemmed from a desire to better understand what works with professional development in regards to changing classroom practices. In Maggie's school, teacher observations were primarily limited to those teachers undergoing formal evaluation (induction or renewal teachers) or during years of accreditation. Otherwise, most professional development was offered after-school, during in-service days, or summer sessions lasting no more than a few hours. To design this teacher observation tool as a form of professional development, the researcher referenced the current research body identifying characteristics of effective professional development, including:

1. data-driven (Brion, 2020; Keller, 2016; Antoniou et al., 2013; Kuijpers et al., 2010; Penuel, 2007; Easton, 2008),
2. context-specific (Brion, 2002; Garet et al., 2001; Antoniou et al., 2013; Putnam, 2000; Darling Hammond et al., 2017; Scher, 2009; Hollins et al., 2004),
3. collaborative (Akiba et al., 2016; Brion, 2002; Moolenaar et al., 2012; Durksen, 2017; Moolenaar et al., 2012; Fields et al., 2012; Putnam et al., 2000; Garet et al., 2001),

4. active (Easton, 2008; Darling-Hammond et al., 2017; Brion, 2020; Garet et al., 2001; Little, 1993; Penuel et al., 2007),
5. feedback centered (Easton, 2008; Brion, 2020; Kuijpers et al., 2010; Antoniou et al., 2013; Pritchard et al., 2002; Darling-Hammond et al., 2017; Qablan, 2019), and
6. supported by principal leadership (Wallace Foundation, 2013; Knapp et al., 2010; Louis et al., 2010; Halverson et al., 2007).

Professional development was an imperative support offered to teachers as they reflected on current practices in favor of shifting to better practices (Blanchard et al., 2016; Cifuentes et al., 2011; Hur et al., 2016; Karlin et al., 2018; Liu et al., 2018; Minshew & Anderson, 2015; Spires et al., 2012; Tondeur et al., 2016). Garet, Porter, Desimone, Birman, and Yoon (2001) determined that “enhanced knowledge and skills have a substantial positive influence on change in teacher practice” (p. 934). However, professional development offerings still tended to utilize the ineffective workshop approach with a focus on general topics that were often disconnected from teacher practices (Karlin et al., 2018; Lieu et al., 2018). Professional development practitioners, then, were tasked with designing and providing high-quality, effective professional development that would affect change in teachers’ practices, which surpassed tools or skills.

Effective Characteristics

Participants expressed that using this teacher observation tool was particularly effective and supportive because it was ongoing, active, and context-specific.

Ongoing

This Improvement science Dissertation in Practice confirmed the findings of Garet and colleagues (2001) as well as Hunzicker (2011), who found that the most effective professional development takes place over an extended time span with increased contact hours. Teachers shared with Maggie who later reported to researcher, that because they had consistent and ongoing coaching conversations, they felt that they were always learning and growing. By speaking with the participant, the researcher recognized that this increase in contact hours allowed teachers to engage in deeper learning conversations. Because participants recognized they would be meeting consistently and often with their school level administrators, they were constantly in a position of learning and growth. This additional “face time” with their administrators gave them multiple opportunities to apply and receive feedback on new learning (Garet et al., 2001). One specific way to ensure a sustained learning environment is through coaching, or follow-up conversations post-observation (Desimone et al., 2017). To allow for sustained learning, Maggie told that the researcher that she created an observation matrix to ensure that teachers were being observed equitably and she was providing multiple opportunities for follow up based on teacher needs and goals to avoid targeting historically higher or lower performing teachers. Garet and colleagues (2001) found that reform activities, such as observations with feedback should last an average of 35 hours and extend over the course of the school year. While this study did not last the average amount of time, the resources and protocols are in place to help support Maggie’s administrative team in a full implementation of teacher observations as professional development in the future. This will be further discussed as an implication for research.

Active Learning

Active learning required that participants were actively engaging in analyzing teaching and learning (Garet et al., 2001). Garet, Porter, Desimone, Birman, and Yoon (2001), suggested that active learning could take multiple forms, including engaging in planning for future teaching and learning, being observed by an expert and receiving feedback, observing expert practitioners, and producing reflections in response to implementation of new learning. Using a specifically designed teacher observation tool, like the one included in this study, focused primarily on engaging in planning for future teaching and learning, being observed by an expert and receiving feedback, and producing reflections in response to implementation of new learning. By ensuring that three of the four components for active learning were included in this tool, the researcher helped establish that the tool was effective as a professional development opportunity. Teacher 1 talked about these follow-up conversations in her post-intervention conversation with Maggie, who later conveyed this to the researcher, “The follow-up meetings were really helpful as well...to reflect and think through next steps.” She went on to say, “It was also great to have someone to think things through with and share ideas without the fear of failure or evaluation.” This reflection showed that she recognized the active role she played in those conversations, as opposed to traditional professional development in which she would have merely received information from a presenting expert. Teacher 2 also identified the ongoing reflection as most beneficial by stating, “When I was able to reflect on my teaching by thinking out loud...that was beneficial to me because this is a career field where you have to constantly reflect on what happened and why it happened in order to improve.” These realizations supported research linking active learning to improved outcomes in both pedagogical practice and teacher attitudes

(Borko, 2004; Darling-Hammond, 1997; Desimone et al., 2002; Johnson et al., 2014; Johnson & Fargo, 2010).

Context Specific

Teacher 4 who participated in the SIAR cycles noted that she looked forward to these observations because it gave her an opportunity to learn about her classroom during the workday instead of attempting to find time outside of regular school hours. Because of this teacher's comments, the researcher noted that by bringing professional development to the context of participants' classrooms, it allowed Maggie to focus on the teachers' specific instructional practices needs while tailoring conversations and activities to align with their individual content and priorities, supporting previous research findings (e.g., Desimone et al., 2002; Garet et al., 2001; Hunzicker, 2011; Johnson et al., 2017; Parise & Spillane, 2010). Additionally, embedding professional development within individual teachers' instructional contexts also enabled teachers to see the relevance of new learning and to adopt new practices in ways that apply directly to their unique classroom environments (Hunzicker, 2011; Parise & Spillane, 2010). Desimone and Pak (2017) also noted that one possible way to embed professional development is through ongoing, reflective, follow-up conversations based on the observation and embedded feedback (Lawless & Pellegrino, 2007; Sugar & Slagter van Tryon, 2014). As a final note, Teacher 5 expressed an appreciation and preference for continuing to receive professional development opportunities by way of follow-up and feedback conversations as provided by the teacher observation tool in this study as opposed to the more traditional workshop approach. Research also showed conversations to be effective elements in professional development, regardless of the original format (Fenton, 2017;

Liu et al., 2018; Minshew et al., 2015; Patton, et al., 2015; Schrum et al., 2018; Topper et al., 2013). Because the conversations and teacher observation tool were differentiated by context, Maggie focused conversations instead of being driven by initiatives or drivers that were not currently applicable to a teachers' practice. Within each follow-up conversation, Maggie shared with the researcher that teachers had the opportunity to explore new learning and how it might be applied to their context. This exploration through reflection and realization helped teachers feel more equipped to try new learning. These reflective conversations that provided space for teachers to explore new learning were more likely to influence changes in teaching practice, according to Garet and colleagues (2001).

Research Question 2: What components are necessary in a framework to ensure the tool successfully meets the criteria necessary to be considered effective professional development?

As previously mentioned, this question stemmed from wanting to better understand how a teacher observation tool or framework was already effective professional development because it met the criteria as defined by the literature. Professional development offerings that consisted of isolated after-school or summer sessions lasting no more than two hours were ineffective when the goal was to change classroom practices. The researcher referenced the existing body of research to more aptly identify the characteristics of effective professional development, including sustained length of time, active engagement, collaboration, coherence, and a contextual application (Garet et al., 2001; Gaytan & McEwen, 2010; Hunzicker, 2011; Johnson et al., 2017; Penuel et al., 2007; Pettet, 2013). Each of these qualities were satisfied with a

tool that had been designed for a specific context. The teachers reported to Maggie, who shared her findings with the researcher that this was an effective professional development experience, particularly due to the sustained duration, the embedded nature of conversations and reflection, and data-informed characteristic of these observations. While typical professional development offerings in the context of this school district used more of a presentation or lecture format, Maggie cited this model's inclusion of conversation, classroom evidence, and next steps as practices that contributed to teachers' growth as practitioners. Teachers experienced a positive professional development experience when using this teacher observation tool because it included the necessary characteristics of effective professional development.

Specific Characteristics

Prior professional development opportunities for teachers within this school district did not incorporate criteria identified in research as critical for effective professional growth. These prior opportunities followed a training paradigm wherein professional learning occurred outside of the classroom, at a scheduled time, and was led by an expert presenting information to groups of teachers (Helm, 2007; Little, 1993; Wesley et al., 2006). Most of the professional development came through afternoon training sessions, summer institutes, workshops, or school or district in-service sessions, mirroring traditional methods identified in previous research (Desimone et al., 2002; Garet et al., 2001; Helm, 2007; Little, 1993). Even though research showed these formats have almost no impact on teacher learning and practice (Desimone et al., 2002; Garet et al., 2001; Parise & Spillane, 2010), these formats were used for standardization in communication, fulfilling mandatory professional development requirements, and their

cost effectiveness (Diaz-Maggioli, 2004; Oliver-Brooks, 2013). Garet and colleagues (2001) found that the inclusion of effective characteristics as identified in professional development research proved more important than the format of learning. Effective characteristics include a cognitive apprenticeship (Adelman et al., 2002; Garet et al., 2001; Porter et al., 2000), active engagement within participants' classroom contexts (Parise & Spillane, 2010), relational trust (Parise & Spillane, 2010; Showers & Joyce, 1996), and coherence with school or district goals (Garet et al., 2001; Penuel et al., 2007). When asked, teachers identified multiple characteristics unique to this teacher observation tool they felt were beneficial to their learning, including the responsiveness based on their classroom needs, coherence with district and school professional development goals, and situated cognitive apprenticeship through administrator follow up conversations. Teachers shared their thoughts with Maggie, who later shared with the researcher. One other characteristic that was purposefully integrated, but not specifically mentioned by participants, focused on the relational trust needed to implement a teacher observation tool like that presented in this teacher observation tool.

Responsiveness

One of the valuable characteristics of the teacher observation tool was its responsiveness. Teachers reported to Maggie that the tool itself was responsive to what was occurring in classrooms, and that they felt the follow up reflection questions and subsequent conversations with administrators were also responsive to their unique classroom, student, and contextual needs. A responsive teacher observation tool was marked by the ability to support emerging teacher and student needs through reflection (Ippolito, 2010). Responsiveness was an important feature because it ensured a feedback-

centered approach to teacher support. While teachers often must wait until their formal evaluation year to be provided with systematic observations, this tool allows administrators to check in with teachers more quickly and more readily. Likewise, teachers often only receive professional development a few times a year— at the beginning of the year, around January, and possibly in the Spring. Additional professional development offerings would need to be sought out and pursued independently by teachers. Further, much of the interactions designed as part of this teacher observation tool, such as reflections and coaching conversations, were more responsive in nature whereas other more commonly available workshop or presentation formats are more directive (Ippolito, 2010). As Desmione and Pak (2017) noted, a responsive approach like the one included in this teacher observation tool allowed teachers to become more active participants in their learning because they directed the learning through conversations as necessary to meet their needs. During their follow up conversations, teachers 1, 3, and 4 echoed sentiments to Maggie that they felt psychologically safe because they knew their questions, concerns, ideas, and thoughts would be accepted in a coaching conversation instead of an evaluative report. Research suggested that ensuring professional development was responsive to teachers' contexts ensures there will be greater likelihood of changed instruction (Borman & Feger, 2006; Costa & Garmston, 2002; Dozier, 2006; Garet et al., 2001; Hargreaves & Fullan, 1992). A responsive approach was reassuring to teachers and more effective at inducing change in classroom practices.

Cognitive Apprenticeship

One primary goal of professional development was to transfer learning from the experts to the participants. Transfer must occur under the right conditions: an expert has taught a skill to a novice in such a manner that the novice is then equipped to employ the knowledge and skills independently (Collins et al., 1989). To achieve this transfer, the teacher observation tool design was informed by adult learning theory (Knowles, 1973), situated cognition theory (Brown et al., 1989), and a cognitive apprenticeship model (Collins et al., 1989). Professional development opportunities offered in this context in the past typically did not move beyond workshops or lectures, neglecting the additional necessary components of cognitive apprenticeship theory such as coaching, conversations, and application, which are all identified by Collins and colleagues as critical components for learning transfer.

This study further supports Knowles' (1973) context of adult learning theory that adults need to learn experientially. This is important in two specific ways: adults define themselves by their experiences (Knowles, 1973) and they base their learning activities on past experiences (Knowles, 1980). Much of the previous district provided professional development explained theoretical terms with some concrete examples, but participants were primarily passive recipients of information in lieu of experiencing the learning firsthand through application and context-specific examples. In this study, there was an emphasis on coaching conversation following the observations, in order to provide teachers with experiences that would support them changing classroom practices in a planned and purposeful manner. These conversations focused primarily on the process of engaging students as defined by the teacher observation tool. Teachers shared with

Maggie that they felt like their years of experience as educators and the fact they were the experts in their classrooms were honored in the observation tool and within the coaching conversations. This study also aligned with the situated cognition theory (Brown et al., 1989), which described the importance of learning new information in the context in which it will be applied. Many teachers lamented the lack of applicability often associated with professional development, as noted in Understanding the Problem in Chapter One. When gaining contextual insight and information, the researcher learned that many teachers had negative feelings about professional development because they believed professional development was out of touch with their current reality in their classrooms. Traditional training provided by district, state, or national staff developers required teachers to go to a centralized location, which impeded participants' ability to place new learning in a classroom context and ran counter to Brown and colleagues (1989) suggestion that learning was more associated with the context in which it was learned, instead of the context where it will be applied. By talking with Maggie, it was clear that this observation tool was powerful because it was specific to a teachers' unique classroom setting. Any follow up or reflective conversations were focused on the teachers' specific context. Finally, Teacher 4 shared with Maggie that when she left the coaching/follow-up conversation, she felt more equipped to quickly incorporate new learning. This finding supported Luft and colleagues (2003) research that teachers who received professional development within the specific context of their content area, or situated cognition, were more frequent integrators than teachers receiving generalized professional development experiences.

Coherence

Professional development activities that were longer in duration better demonstrate to participants the alignment, or coherence, between new learning and existing state standards, local district expectations or programs, individual participant goals, and participant values around learning (Garet et al., 2001; Penuel et al., 2007). However, the teacher observation tool created during the SIAR cycles was designed specifically to be quick, requiring less than fifteen minutes of classroom observation time in order to get high quality feedback. One major strength of this teacher observation tool was its integration into participants' daily school environment, which researchers had found to ensure a greater level of fidelity with implementing new learning (Penuel et al., 2007). There was mixed research on the effects of coherence. Garet and colleagues (2001) found a positive effect and correlation between coherence on participants' knowledge and skill, as well as changes in teaching practice. However, Desminone and colleagues (2002) did not find a strong correlation between coherence and application of new learning. Regardless, the conversation that occurred after the classroom observations served a dual role in the coherence between professional development and existing beliefs and goals. In one aspect, administrators took the stance of a coach who works to help teachers align new learning with existing beliefs and goals, serving to help teachers connect professional development expectations and daily instructional practice (Desimone & Pak, 2017). Maggie shared with the researcher that these conversations were challenging because they required administrators to gradually encourage teachers to replace and modify their current belief systems to move participants to greater instructional practices. In this study, coherence was fostered by incorporating elements of

other observation tools that are currently being used within the school and district. Coherence was also addressed by asking the school leader participant about her goals prior to beginning the study. The researcher met with her during two of the SIAR cycles to ensure coherence with other observation tools and the school's current professional development plan. This commitment and focus to coherence proved advantageous to the participants, as many of them cited the consistency among their school professional development focus and what was being looked for on the teacher observation tool. This commitment to coherence helped school building administrators build rapport and trust, which was also cited on post-observation surveys.

Relational Trust

The fourth valuable characteristic that was noted during this intervention was the relational trust formed prior to and strengthened during the follow up conversations led by administrators. Researchers pointed to these coaching conversations leading to relational trust because administrators and teachers were working toward a shared goal of student outcomes (Frank et al., 2004; Kondakci et al., 2017; Liu & Hallinger, 2017; Parise & Spillane, 2010; Penuel et al., 2007). Robinson defined trust in terms of how one person's responsibilities and actions could impact someone else. He suggested that,

one's expectations or beliefs about the likelihood that another's future actions will be beneficial, or at least not detrimental, to one's interests ... As a social construct, trust lies at the heart of relationships and contracts, influencing each party's behaviour toward the other ... as a general positive attitude toward another social entity, trust acts as a guideline, influencing one's interpretation of social behaviours within a relationship. (Robinson, 1996, p. 576)

Before beginning the observations, Maggie assured the teachers that this teacher observation tool would be “confidential, non-evaluative, and supportive” (Habegger & Hodanbosi, 2011, p. 36). Teachers shared with Maggie during follow-up conversations that the informative and coaching nature of the observations helped foster an increased level of trust because teachers were not concerned about punitive consequences. This aspect was influenced by Maggie’s insider status (Herr & Anderson, 2005), having been at the school for such a significant amount of time. Maggie had collaborated with these teachers countless times over the preceding years and had built relational trust prior to the start of this study. A new administrator would need to spend time forming these relationships and using the follow up conversations as a safe space to work through teaching concerns before teachers trusted him or her in the same way. Establishing relational trust was important for more than simply changing classroom practices. Instead, this change in practice was reflected in research indicating that schools with a high-trust factor are three times as likely to increase test scores as schools without high-trust ratios (Bryk & Schneider, 2002). Specifically, Bryk and Schneider found that schools with high relational trust improved reading scores by eight percent and math scores by twenty percent over five years (Bryk & Schneider, 2002). Teacher 5 explained how this trust made her feel safe: “I’m open to trying new ideas, and I’m really willing to put my neck out there knowing that this is a safe place for me to make mistakes.” Relational trust that had the power to positively influence teachers’ practice requires both time to develop and more frequent opportunities for collaboration than other professional development methods. Situating a follow up coaching conversation as part of a teacher

observation tool better provides the time and opportunities for interaction necessary for forming this trust.

Conclusion

This chapter provided the basis for this Improvement science Dissertation in Practices. Through Strategize-Implement-Analyze-Reflect cycles, the researcher designed and created a teacher observation tool that would allow school building principals the opportunity to provide high quality, personalized professional development for each teacher. This tool aimed to answer the following research questions: (1): What makes a teacher observation tool an effective professional development opportunity for teachers? and (2): What components are necessary in a framework to ensure the tool successfully meets the criteria necessary to be considered effective professional development? The teacher observation tool began with an internet search and evolved into a personalized tool that best fit the professional development goals for the school and district. Using the theoretical framework discussed in Chapter Two to address andragogy and adult learning theory and the Improvement science methodology discussed in Chapter Three they suggest that professional development should focus on specific factors of effective professional development. The SIAR cycles presented in this chapter suggest that a specially designed teacher observation tool successfully provides professional development that is effective to each teacher. By incorporating the principles of andragogy, the elements of effective professional development, and the perspectives from multiple end users, the final framework provides school building administrators an important prototype for their own design and implementation.

Chapter Five will further connect the data to the research questions. Additionally, study implications, limitations, and considerations for future research will also be discussed.

CHAPTER FIVE

DISCUSSION AND IMPLICATIONS

Summary

As part of this Improvement science Dissertation in Practice, the researcher designed a Teacher Observation Tool that included all the necessary components of effective professional development. In Chapter One, the research statement, purpose, and rationale detailed specific contextual information that guided the research study's applicability and transferability to additional contexts. Chapter Two explained the importance of professional development, issues with current professional development models, and necessary components for effective professional development. Chapter Two also analyzed the andragogical framework and adult learning as it applied to professional development. The methodology of the study which included a definition of Improvement science and the rationale behind choosing the Improvement science methodological approach, as well as a discussion of the researcher's positionality, the research studies validity, trustworthiness, credibility, and transferability, data collection and analysis plan, and procedures were all discussed in Chapter Three. Data sources for this study included an initial teacher questionnaire and teacher interviews, participant interviews, and document analysis as part of the SIAR cycles. Chapter Four described the various SIAR cycles used to create the final Teacher Observation Tool framework. Chapter Four also included an in-depth discussion of each SIAR cycle and how the researcher used multiple

iterations to create a Teacher Observation Tool that can serve as professional development for teachers. In this chapter, the researcher will provide further explanation of how the findings of this study seek to answer the research questions. This chapter will also offer recommendations that stem from the data related to the research field of professional development and teacher efficacy.

Research Questions

To understand and explain the necessary components of effective professional development, the following research questions guided this study:

Research Question 1: What makes a teacher observation tool an effective professional development opportunity for teachers?

Research Question 2: What components are necessary in a framework to ensure that the tool successfully meets the criteria necessary to be considered effective professional development?

These research questions guided all data collection, specifically the participant interviews and the document analysis to better understand current models of professional development and how a designed teacher observation tool would more readily lend itself to the professional growth of classroom teachers. Research Question One sought to understand how teacher observations and classroom walkthroughs embody the necessary attributes of effective professional development. During the literature review for this study, the researcher uncovered the qualities that define effective professional development as it relates to changing classroom practice. That said, when discussing these findings with other educational researchers, the researcher realized that teacher observations and classroom walkthrough observations were a consummate

example of effective professional development. In this sense, the researcher was trying to understand how to make teacher observations more process-oriented and make it less task-oriented. Research Question Two, then, analyzed the teacher observation tool as professional development from the lens of the end user: school building administrators. The primary participant for this study was a school level administrator who offered her insight, concerns, and thoughts about a specially designed tool and the limitations and insight it might provide for teachers and leaders alike.

Discussion

Research Question 1: What makes a teacher observation tool an effective professional development opportunity for teachers?

The primary finding of research question one lied beyond the teacher observation tool. Through the four SIAR cycles the key takeaway was that for teacher observations to be considered effective, they must be coupled with ongoing, active, context-specific follow-up conversations. While the teacher observation tool was invaluable to Maggie and her teachers, it was because of the coaching conversations that followed the teacher observations. As the teacher participants pointed out in their conversations with Maggie, it was not the tool that provided effective professional development, but the coaching that resulted from having a research-based, reflection-focused observation tool was what separated the tool created in the SIAR cycles with other observation forms. The domains used as part of the observation tool were rooted in Maggie's school's professional development plan, making them specific to the school, but the coaching conversations (Brown et al., 1989; Collins et al., 1989; Luft et al., 2003), allowed Maggie to support

teachers' individual contexts and coach them through professional development implementation.

Research Question 2: What components are necessary in a framework to ensure the tool successfully meets the criteria necessary to be considered effective professional development?

Responsiveness (Ippolito, 2010; Desmione and Pak 2017; Borman & Feger, 2006; Costa & Garmston, 2002; Dozier, 2006; Garet et al., 2001; Hargreaves & Fullan, 1992), cognitive apprenticeship (Adelman et al., 2002; Garet et al., 2001; Porter et al., 2000), coherence (Garet et al., 2001; Penuel et al., 2007), and relational trust (Parise & Spillane, 2010; Showers & Joyce, 1996) were the four main components that should be included in an observational framework to be considered effective. Because of the inclusion of reflection within the tool's components, this teacher observation tool was more responsive to a teacher's personal classroom, growth opportunities, and challenges. Many professional development opportunities that do not include reflection and responsiveness are more directive (Ippolito, 2010). Secondly, the embedded coaching conversations as a required part of this teacher observation tool ensured that learning transfer occurred between the expert (Maggie) to the learners (teachers) and then changed classroom practices. Using the cognitive apprenticeship approach through coaching conversations ensured that the teachers were active learners instead of passive learners (Adelman et al., 2002; Garet et al., 2001; Porter et al., 2000). The coaching conversations helped teachers recognize the connection between school, district, and statewide professional development goals while also aiming to achieve individual goals within classrooms. Next, this observation tool focused on coherence between professional learning and

classroom practices (Garet et al., 2001; Penuel et al., 2007; Desimone et al., 2017). Finally, relational trust served as a primary characteristic of the effectiveness of the teacher observation tool. Maggie had served at this school for seven years, making her a trusted advisor and confidant in the observation process. Likewise, she approached these observations through a coaching framework instead of an evaluative lens (Habegger & Hodanbosi, 2011). Maggie's own educational journey, including her recent doctoral achievement set the precedence as a lead learner. Teachers felt supported and as if they had a person to work through concerns and issues with instead of needing to have the right answers to successfully complete an evaluation.

Implications

This Improvement science Dissertation in Practice has implications for professional development by creating a space for teachers to receive professional development experiences that were marked by changing classroom practices. The first implication of this work focused on the researcher's next steps and her own process of personal growth and professional development. The second implication was the need for administrators to foster teacher agency and self-efficacy through awareness, presence, reflection, and time by consistently using a specifically designed teacher observation tool to support the professional development of teachers. A third and final implication of this work was that a carefully designed teacher observation tool was the consummate professional development experience because it met the qualities of effective professional development: data-driven, context-specific, collaborative, active, feedback-centered, and supported by principal leadership and should be part of all school district's requisite professional development offerings. In the following section, three categories of

implications are discussed in greater detail: (a) personal implications, (b) implications for school level administrators, and (c) implications for school districts.

Personal Implications

I began this study as a curriculum coordinator for the school district in which the study was conducted. This Improvement science study yielded three implications for me as leader and learner that I will continue to focus on: (a) approaching problems as a scholarly practitioner, (b) valuing the science of andragogy and adult learning theory, and (c) understanding progress in the learning process instead of only valuing results.

Approaching Problems as a Scholarly Practitioner

When I accepted my role as the curriculum coordinator at the school district, I had little in the way of models or mentors for the job I was assigned. I knew that changes needed to occur within classrooms and that student engagement and achievement were not at acceptable levels. Therefore, I set out to try and improve the teaching and learning within the school district focusing on teaching practices and a “top down” approach, while giving little attention to the research body that could have informed my course of action. A more methodical approach to problems like increasing student engagement and achievement comes by taking an Improvement science approach (Langley et al., 2009; Hinnant-Crawford, 2020; Crow et al., 2019; Perry et al., 2020). Initially, I identified a problem of practice in middle school classrooms with the trajectory of the district’s end of year assessment scores not on pace to meet the state average according to the district strategic plan. During this Improvement science research process, I reviewed the existing applicable research body to guide my process of data collection and developed a lens that would enable me to effectively analyze and interpret collected data, ultimately leading to

a refined change implementation plan to address the problem (Carr & Kemmis, 1986; Mills, 2011). By merging the research that I had learned about effective professional development with my practices as a district administrator who conducted teacher observations, I was able to design and refine a method of professional development that supported learning transfer from experts to novice, while still ensuring the distinct characters of effective professional development were satisfied (Collins et al., 1989; Garet et al., 2001; Hunzicker, 2011; Johnson et al., 2017). As a district administrator, I had been part of the problem by conducting professional development workshop sessions that lacked accompanying data to monitor their effectiveness. Herr and Anderson (2005) more profoundly echo the sentiment of working smarter, not harder, when they write “formalizing the puzzles of practice into research is a way of working better, rather than doing more of the same only harder” (p. 73). As I move forward as a learner and a leader, I plan to lean into Improvement science as a method of addressing educational problems.

Valuing the Science of Andragogy and Adult Learning Theory

My work as a district administrator primarily focused on pedagogy and instructional practices. However, my work now primarily focuses on adult learners, I realized I was often missing the mark when leading professional development exercises. As I began to research andragogy (Knowles, 1973) as part of my theoretical framework, I realized all the ways that adults and children differ when it comes to learning. Prior to this study, I held the belief that all learners were the same, regardless of their age or point in life. A second implication as part of this research study is ensuring that I provide the conditions necessary for adults’ cognitive development when designing any professional development (Knowles et al., 2015). Regardless of the specific activity being planned, I

need to keep the focus on the learners' needs (Holyoke & Larson, 2009). Part of the success of the teacher observation tool was due to the active role that teachers were able to play (Goddu, 2012; Knowles, 1973). Ensuring that participants have an open, reserved space for reflection while being coached through follow-up conversations continues to be a focus area for me. Overall, I realized the importance of recognizing adults as learners who have different, specialized needs to transfer their learning.

Second, the andragogy framework and adult learning theory also had implications for where interactions with adults involved in professional development should occur. In this context, professional development was often offered in a central location that is spacious enough to accommodate large groups of people. While the ideas or strategies might be well received in an environment like this, the reality was that teachers often struggled to see how they could transfer their learning to their specific context. Teachers voiced concern about their teaching schedule, class size, or perceived abilities of their students to inhibit their openness to trying and adopting new practices. However, by using a more situated cognition approach, I was able to account for teachers' contexts (Brown et al., 1989). Because the school administrator, the observations, and the follow-up conversations all were centralized to the teachers' classroom, teachers were better able to see how strategies could fit into their schedule and instructional routines. Similarly, they were only focused on their classrooms and were paired with an expert who was positioned to provide additional support, suggestions, thoughts, and encouragement as a thought partner instead of an evaluator. Even when the conversations yielded no immediate results, the power was in the reflective practice. Participants shared that the support and feedback from their administrator helped them realize the safe space that had

been created. Instead of being fearful of trying new things, they felt truly supported to try something new as part of their learning and growth.

Valuing the Learning Process

As mentioned previously, adult learning looked different from student learning. One way in which that is the case is through the power of the process. As a curriculum coordinator, researcher, and lifelong learner, I am more apt to implement new strategies quickly and without hesitancy. However, through this process I realized that even teachers who were not implementing new changes immediately, were still learning and growing (Ertmer, 1999; Kopcha et al., 2020; Lei, 2010; Lei & Zhao, 2007). As a result, I had to change my definition of “success.” Improvement can also be assessed through a more refined decision-making process that teachers implemented in determining how and why to use change instructional practices (Kopcha et al., 2020). According to Maggie, there were several conversations that did not lead to any specific instructional change, but teachers were more aware of their decisions and how those decisions impacted student achievement. For example, Teacher 2 was provided feedback from Maggie that she needed to call on students more equitably. While she did not immediately return to her classroom to implement a new protocol for calling on students, she was more aware. This simple awareness impacted her instruction in such a way that she received vastly different feedback after her next observation. Oftentimes as leaders and change agents, we forget to value the process of learning. While we know that learning is a process, we often fail to share anything positive if it cannot be documented or counted on an observation or in assessment scores. Instead, this Improvement science research helped

me reframe my thinking about the value of learning and how learning may occur without a tangible artifact.

Implications for Administrators

The power of the observation tool to foster teacher agency and self-efficacy became very clear throughout this study. Because of the relational trust that had been established and the cognitive apprenticeship that was occurring between school administrator and teacher, teachers left the follow-up conversations empowered and equipped to make lasting changes within their classrooms. The relational trust and cognitive apprenticeship were direct results of Maggie's leadership skills and longevity in this school. By focusing on awareness, presence, and time, teachers and administrators affected change in student engagement and learning.

Importance of Awareness

Teachers' hectic schedules often leave little time for reflection. Jackson (1990) found that teachers have 200 to 300 exchanges with students every hour and are continuously making decisions that they are often unaware they are making. The new awareness seemed to make teachers reflect more intensely on the instructional decisions they made and brought a sense of responsibility to be purposeful in their daily planning, ensuring they were creating the conditions they had discovered to be most cohesive for learning. Having an awareness of teachers' schedules is crucial in leading to teacher agency and self-efficacy.

Importance of Presence

The administrator's presence during and outside of the meetings with teachers about their observational data had a strong influence on the outcome of each teacher's

journey. Both parties' active participation also resulted in a continuation of fine-tuning practice to ensure students were in an environment that supported the beliefs of the school and school district. Professional development that leads to teacher agency and self-efficacy required teachers to be fully present throughout /the entirety of the journey, and that required a context more removed from the day-to-day demands on teachers' schedules. A specific implication of this presence was the reality that this required a significant time commitment from the school level administrator. Between the observations and the follow-up conversations, the time requirement for this study was not overly burdensome because it was a pilot group with only a handful of participants. Had the participant group been the entire school, the results would have been much different. In many cases, administrators, like teachers, are maxed out with additional responsibilities and duties and do not have the physical time necessary to support all teachers in this way. That said, one implication of this study is to budget for an instructional coach who could share the responsibility of these observations and follow up conversations. However, administrators would need to think creatively about the budgeting adjustments that must be made since the cost of instructional coaches is approximately six to twelve times higher than traditional professional development opportunities (Mangin, 2009). For many schools who operate within a tight FTE allocation, this would mean prioritizing an instructional coach position at the expense of other budget line items or combining positions to make the fiscal room necessary for a coach (Marsh et al., 2015). Finally, the relational trust must also extend to the instructional coach. Administrators would need to relinquish the control for uniformity of

delivery and trust that the instructional coach would provide the individualized support, follow up conversations, and pacing that the teachers in this study came to appreciate.

Importance of Reflection

Throughout this process, one thing remained clear: that teachers needed the opportunity and the space to reflect— reflect on their classroom instruction, reflect on their student engagement, and reflect on feedback they are receiving (Schön, 1987; Tonna et al., 2017; Larrivee, 2008; Griffiths, 2000). By using the term “space,” the researcher is referring to an opportunity to sit down with a thought partner who is non-judgemental or non-evaluative to simply discuss and analyze possibilities. By using a teacher observation tool that necessitated reflection, teachers were invited into a space that could seem intimidating and daunting at first. However, by making reflection and next steps a part of every teacher’s journey, the administrator created an atmosphere and expectation for all teachers to continue learning.

Teachers’ reflections seemed to serve as a means of transportation through the complex layers of the work they do. Rodgers’ (2008) summarized Dewey’s thoughts on reflection and, in so doing, provides a way to distinguish among teachers’ reflective and non-reflective responses:

...reflection requires cognitive discipline it also calls upon an individual’s emotional discipline. As much as possible one must remain engaged in the experience as it is happening, in an undistracted way, so that data can be gathered through observation, (whole heartedness and directness). One must also remain open-minded, entertaining many interpretations of his or her experiences so that one does not limit one’s understanding and the actions that flow from it. Finally

one must accept that a shift in understanding of an experience may call for an entire shift in outlook. And responsibility demands that action—practice—line up with outlook—theory. (p. 863)

Reflection is not accidental—it is a rigorous and deliberate way of thinking (Dewey, 1933). In the andragogy framework, this is often referred to as the prior experience of the learner (Knowles, 2010; Sang, 2012). Teachers, therefore, cannot be forced to reflect; however, it is imperative to create a context which encourages reflection. Teachers who engage in reflective behavior make deliberate changes in their practices. Implications suggest that teachers must engage in reflection during the professional development in order to gain agency and self-efficacy as an end result.

Importance of Time

Time is a critical condition that either did or did not allow for reflection; participants with multiple classes to prepare for or multiple responsibilities throughout the day seemed to have limited time for reflection to occur (Gray et al., 2010; Johnson et al., 2017; Matzen et al., 2007). For these teachers, their conversations with administrators were brief and their reflection forms were sparser than their counterparts who had fewer time restrictions. Implications suggest that teachers needed uninterrupted time allotted for reflection throughout the duration of the professional development in order for teacher agency and self-efficacy to be gained and maintained. However, for participants who were able to make the time and space for such work, they expressed value in this cognitive apprentice relationship that had been formed and expressed a deep desire for it to continue, which suggests that administrators need to ensure that teachers responsibilities and duties still allow them to become reflective practitioners during the

school day. Time is elusive and hard to specify when determining how long teachers need to be immersed in professional development (Banilower et al., 2007; Hunzicker, 2011; Johnson et al., 2014; Johnson et al., 2010; Penuel et al., 2007; Supovitz et al., 2000). While the research lacks a specific duration, most recommendations range from 20 hours (Garet et al., 2001) to 100 hours of time per school year to change an instructional practice, not including the necessary reflection time (Banilower et al., 2007; Blank, 2013). That is a significant amount of time when considering the extra responsibilities and duties teachers must consider. Beasley and Sutton (1993) found that 30 hours of professional development per school year merely reduced anxiety surrounding new strategies, which did not include the time necessary to plan, execute, and reflect on the implementation. Also, these hours were focused on one topic, not a broad analysis of classroom change. To make this teacher observation tool most effective, it would be advantageous for school administrators and teachers to determine goals for the year and only focus on those goals during observations. Otherwise, there was simply not enough time to provide the support and sustained duration necessary when too many goals or instructional practices were being addressed.

Implications for School Districts

Throughout this study, additional questions arose as a result of the feedback from teachers shared with Maggie during the post-observation conferences and the survey. This research study helps inform school districts of the type of professional development that was readily received by teachers. These responses merit additional research on the part of school districts as they aim to support individual schools and teachers.

Administrators as Instructional Leaders

The data collected from the research study converged with the qualities of highly effective professional development:

1. data-driven (Brion, 2020; Keller, 2016; Antoniou et al., 2013; Kuijpers et al., 2010; Penuel, 2007; Easton, 2008),
2. context-specific (Brion, 2002; Garet et al., 2001; Antoniou et al., 2013; Putnam, 2000; Darling Hammond et al., 2017; Scher, 2009; Hollins et al., 2004),
3. collaborative (Akiba et al., 2016; Brion 2002; Moolenaar et al., 2012; Durksen, 2017; Moolenaar et al., 2012; Fields et al., 2012; Putnam et al., 2000; Garet et al., 2001),
4. active (Easton, 2008; Darling-Hammond et al., 2017; Brion, 2020; Garet et al., 2001; Little, 1993; Penuel et al., 2007),
5. feedback centered (Easton, 2008; Brion, 2020; Kuijpers et al., 2010; Antoniou et al., 2013; Pritchard et al., 2002; Darling-Hammon et al., 2017; Qablan, 2019), and
6. supported by principal leadership (Wallace Foundation, 2013; Knapp et al., 2010; Louis et al., 2010; Halverson et al. 2007),

which should all serve to inform future professional development designs. However, defining the specifics of these characteristics can be perplexing to school districts, which is why the teacher observation tool presented in this study will serve to be effective. It is critical for districts to think through the lens of how to support school based professional development but also how to ensure a sense of coherence and consistency between state, district, and school goals. The reciprocal benefit of utilizing school building

administrators who possess strong instructional backgrounds provided opportunities for deep reflection and growth for both, teachers and administrators. It is important for school districts to avoid the temptation to “own” all professional development in isolation from the needs of individual schools. Instead, they need to maintain focus on increasing instructional leadership strengths within their school level administrators to ensure they are equipped to lead coaching conversations like the one suggested in this Improvement science research study. While many districts approach teacher support from a mentoring lens and assign new teachers a mentor, Wilson and Bloom (2019) stated that school districts who “equip their building leaders with the skill sets necessary to command confidence, trust, and—ultimately—success” (para. 12) see a reciprocal benefit in teacher satisfaction and student achievement.

Fiscal Responsibility

A final implication for this research study is the amount of fiscal support necessary for a coaching model that must accompany any teacher observation tool, even without additional Full Time Equivalent positions given to schools. A coaching model accounts for a more intensive, focused approach to teacher learning and growth for specific areas of need as it relates to a school or district’s professional development plan and is what makes the teacher observation tool effective and will require a committed and dedicated allotment of fiscal resources (Wilson & Bloom, 2019). While the cost of incorporating an instructional coach in each school would be significantly higher than the traditional professional development being offered in the school district, it is a financial investment that will lead to increased student achievement and teacher retention rates. This financial investment also has the power to eliminate additional external barriers to

student learning and growth (Cifuentes et al., 2011). In David Knight's (2019) study, he found that the "average cost per teacher at three schools [ranged] from approximately \$3,260 to \$5,220 for instructional coaching" (p. 52). This kind of expenditure is nearly impossible for a single school to afford. However, with the support of the district, this expenditure becomes more feasible. As Odden and colleagues (2002) point out, the most effective approaches to professional development are often the most expensive to implement. Similarly, Moore and Hyde (1981) conducted a study that found district investment for professional development to range between 3.28% and 5.72% of total budgetary expenditures. Another study, conducted by Miller, Lord, and Dorney (2002) found that those numbers to be 2.2% and 3.4% of the district's total budget allocated for the professional development of teachers.

However, if school districts are committed to providing a coaching model to schools that can often be achieved through the current professional development funding sources. This coaching model is imperative to the effectiveness of any teacher observation tool. Follow-up and follow through conversations are the most important aspects to leverage from the data received as part of teacher observations. The challenge would be ensuring that coaches are equipped to lead the school using appropriate coaching techniques to truly grow educators. It is also important that there be someone at the district level who can ensure that the coaching model is implemented with fidelity and integrity (Hall and Hord 2006). School and district leaders must work together to determine a budget that supports the school and district professional development goals. Professional development through an instructional coach who is able to provide one-on-

one support like Maggie, is a critical part of providing an effective, cohesive strategy to providing high quality, engaging teachers to every classroom.

Limitations

This study was not without limitations that could be improved upon in subsequent research. According to Glesne and Peshkin (1992), “limitations are consistent with the always partial state of knowing in social research, and elucidating limitations helps readers to know how they should read and interpret their work” (p. 147). Further, Glesne defined limitations as “aspects that limited the research in some way but were beyond the researcher’s control or perceived only in hindsight” (p. 214). Limitations are discussed in the following section as a means to enhance the trustworthiness of the study.

Study Design

The particular design of this study limits the generalizability of results beyond this local context. The small sample size of six teacher participants and one building-level administrator may have affected the variation in findings (Radecki, 2009). Specifically, Maggie led an award-winning school that focused on additional learning opportunities for teachers. Maggie valued learning and had recently completed a doctoral program, demonstrating the importance of continual growth and learning. Furthermore, her school was a Professional Development School (National Association of Professional Development Schools) that partnered with the local university to mentor prospective teachers. Finally, her school served as an exemplar school in the district and state, cultivating a culture of learning and growing. The researcher observed first-hand the teacher attitudes and perceptions surrounding professional development when she provided various learning opportunities to the district’s teachers

Additionally, the short duration of the study may have failed to capture the full change in teachers' beliefs and practices (Ottenbreit-Leftwich et al., 2010; Rives, 2012). The four SIAR cycles were conducted over nine weeks total, but a longer study lasting a year or more may have been more effective at capturing new learning as it translated into changed classroom practices (Blazar et al., 2018). A third design limitation resulted when the teachers shared about their conversations with Maggie and any new learning that they were beginning to take away with colleagues who were not participating in the study (Blazar et al., 2018). Utilizing a control design might position future researchers to better understand the effects only as they occurred on the sample (Blazar et al., 2018; Lawless et al., 2007). Specifically, using an observation tool without the follow up coaching conversations and analyzing how teaching practices change compared to those who were not engaged in the reflective, coaching conversations would add additional support to this research study. Additionally, the researcher could have provided Maggie with coaching protocol expectations to further support her coaching conversations with teachers. A further limitation of this study was that this was not a full coaching cycle for teachers.

A fourth limitation could potentially be that the researchers' influence and purpose impacted their responses (Adams, 2015). Similarly, because of Maggie's positionality as their school leader, teachers likely approached the coaching conversations with the best intent as to ensure a continued, positive working relationship with Maggie. Because post-observation interviews were used as follow-up from classroom observations and to coach teachers, this becomes a contrived setting which may have impacted the quality of information being shared from participants (Creswell, 2014).

This study was designed to determine how a teacher observation tool could serve as professional development. This focus limited the amount of insight gathered on teachers' general thought process about observations, potentially overlooking any incremental progress in attitudes towards the use of observational tools (Hsu, 2016; Kopcha, 2020; Vongkulluksn et al., 2017). This study was very specific in nature and the conversations that occurred afterwards were also specific. Teachers were not asked about their attitudes or perceptions about observations, observers, or coaching, which limited their sharings.

An additional limitation was observer subjectivity. Because Maggie had been working with the teachers in her building for a number of years, there is already a rapport and expectation for which teachers are generally more adept at engaging students. Therefore, assigning additional observers to increase interrater reliability could further mitigate this specific limitation (Kawulich, 2005).

COVID-19 Pandemic

The COVID-19 Pandemic and the instructional changes and disruptions were a limitation to the study. The global pandemic had negatively influenced professional development in this district as it had previously occurred. The school district was hesitant to schedule professional development, so teachers had not received consistent professional development during the 2020-2021 school year. Traditionally, teachers received three or four days of professional development before the start of a new school year, one half day per month, and one whole day at the end of each quarter. Because of the challenges associated with the Pandemic, the district did not offer these professional development opportunities. Therefore, when teachers began engaging in those learning

opportunities once again, they felt burdensome and inauthentic (Hartshorne et al., 2020; Carpenter et al., 2020). In post-observations conversations, Teacher 2 mentioned to Maggie that she “had been just fine without professional development for the two years before and didn’t understand why it was necessary now.” By removing professional development and then adding it back in, teachers were struggling to see the relevance and importance. However, that same teacher noted to Maggie, who shared with the researcher, that she felt using observational feedback to guide next steps as professional development was the most applicable professional development she had been to because it directly related to her classroom. This powerful statement was a reminder that professional development can meet the needs of teachers when approached through a coaching lens.

The COVID-19 Pandemic also limited the number of visitors allowed in schools. Because the study was conducted after the researcher had left the school district as an employee, her visitor status limited her ability to observe these interactions or meet face-to-face with Maggie or any teachers. All interviews were done using the Google Meet platform, which certainly presented limits on being able to fully engage in the conversations. The conversations were focused and often clipped, missing the warm exchange often associated with in-person connections. Maggie’s role as the school leader is very demanding and she was often juggling many other duties and responsibilities during the check-in meetings with the researcher, which may have been less of an issue had the meetings occurred in-person. That said, the Google Meet platform did present some positives with being able to record the meetings and view those recordings multiple times to make observations and inferences on any nonverbal cues or body language.

Population

The population for this Improvement science research study also presented a set of limitations. To determine which teachers would be observed as part of the intervention, the researcher used purposive sampling methods (Creswell, 2017) to exclude teachers in their induction year, teachers undergoing formal evaluation for recertification, and teachers new to the school building. These teachers were eliminated from participating in the study because they do not have the deep knowledge or experience that Creswell (2017) suggests. However, this specific design choice did limit those teachers who potentially need the coaching support more frequently. While veteran teachers certainly deserve the focus and support, newer teachers might have appreciated the conversations that resulted from participating in the study. Expanding the population for this research study or eliminating some of the disqualifying factors may have yielded different final results. A second limitation is that the teacher participants were all female (Ottenbreit-Leftwich et al., 2010). Because Maggie is a female, if there had been a male teacher participant, gender dynamics may have influenced the outcomes. Additionally, diversifying the gender of the participants may encourage a greater degree of exposure to differing practices, mindsets, and opportunities for growth (Ragin et al., 1999; Dreher et al., 1996).

Finally, this study also occurred in a school with a positive school culture and expectation for continued learning. Working with a school leader who did not value professional development and lifelong learning would have influenced the observed changes in beliefs and classroom practices that occurred. An administrator lacking in leadership skills, relational trust, and high expectations would not have experienced the

same positive results from the observation tool and follow-up conversations. There was a preexisting relationship that existed between Maggie and the teacher participants (Beeson, 2013; Czajka et al., 2016). For the participants chosen for this study, that relationship was one of trust and mutual respect. However, in a school building that lacked strong school leadership, this dynamic would have been difficult to emulate. An administrator just beginning his or her role would need longer time to build trust and rapport before teachers would be willing to open up about vulnerabilities and challenges and subsequently accept any offered support. Teachers without this preexisting trusting relationship may feel like these observations are “gotchas” instead of true coaching conversations intended to support teachers by increasing student achievement and engagement.

Researcher

Finally, as the researcher, I may have contributed additional limitations to this research study. When collecting and analyzing data, including asking questions and looking for trends, my own biases and assumptions may have influenced how I read the data (Kawulich, 2005; Rives, 2012; Seid, 2017). However, through the use of interviews, journals, and document analysis the researcher ensured that she was aware of her biases and took appropriate steps to mitigate them (Creswell, 2017). Additionally, the researcher used confidentiality measures (e.g. numerical IDs, aggregating data, member checking, and pseudonyms) to aid in teacher participant willingness to respond openly and honestly. However, because the nature of the study took place in their classrooms, anonymity was not a part of this study. Similarly, because Maggie is their supervisor who

is well versed in their classroom dynamics, there may have been some hesitancy to fully let down any walls or barriers.

Future Research

After the conclusion of this study, the researcher realized there were still additional questions and research that could be explored. While this was an initial attempt at better understanding effective professional development using teacher observations, it was no way exhaustive of all questions that arose during the study. Future research will be impacted by the culture and attitudes or perceptions of the school leader. There must be an environment in places that values learning and growth. Throughout the study, the researcher found herself arriving at new questions to further her understanding of how to create the ideal conditions for professional development that creates a space and way for teachers to receive the professional development they need while being able to reflect on the relationship between their beliefs and practices:

1. Is there a better time of the year to implement this type of professional development?
2. Is there a certain length of time which the observations should last?
3. Is it reasonable to expect every teacher to engage in coaching through teacher observations?
4. Is it possible to teach reflection, and, if so, what does that look and sound like?
5. Can this be scaled to other contexts like different grade level schools (elementary or high schools), different socioeconomic status, different geographic locations (rural, urban, suburban)?

When to Implement Professional Development

Teachers' ability to be fully present during the post-observation conversations influenced the outcome of each teacher's experience and seemed to initiate further inquiry on practices to support their classrooms. Teachers who were able to forget "the noise" of the school day seemed to glean more takeaways and had more productive conversations with the school building administrator. Due to the importance of presence, further research is needed to explore what time of the year and what time of the day would be most beneficial to support teacher presence throughout the experience. For example, is professional development received differently at the beginning of the school year versus the end of the school year (Kedezior et al., 2004; Van Veen et al., 2012; Postholm, et al., 2012). Perhaps it is best for teachers to attend a professional development opportunity on a specific skill, implement it in their classrooms during an observation, and then receive feedback and have the space for reflection. While this research study involved teachers during their planning periods, this is a highly utilized time for many teachers. Meeting during planning periods posed some barriers for teachers who could not separate themselves from the demands that they knew were waiting. It would be advantageous to see how providing teachers choice on when to meet would provide fewer distractions and allow teachers the space that true reflection requires.

Length of Professional Development

Further research and exploration are also needed to determine how often teachers should be observed and how long those observations should last. In this research study, the observations were only about fifteen minutes in length. However, given the school

schedule and the length of class periods, this is a nominal amount of time. Perhaps experimenting with different lengths of observations to see whether the follow up conversations are more or less successful and how next steps are perceived would be appropriate for future research. Some research ascertains that a twenty-minute observation is sufficient for observers to analyze and rate the quality of teaching practices (Mashburn et al., 2013; Ebbinghaus, 1913;). Understanding that length of time is a principle factor of teacher observation outcomes is important because research suggests that observations which are too long in duration may be subject to primacy and recency effects (Ebbinghaus, 1913). Likewise, observations that are too short in nature do not provide the necessary context of teaching quality necessary to provide helpful feedback.

Expectation of Reflection

The secondary result of using this teacher observation tool was that teachers were actively engaged in reflection with the school level administrator about their classroom practices and belief systems. As the study progressed, the researcher realized the complexity of reflection and how some teachers seemed to have a more innate understanding and aptitude for reflection while other teachers seemed focused on providing “the right answer.” One inadvertent finding from this study is that when asking teachers to reflect, some immediately knew what that meant while others struggled to find a place to start (Marcos et al., 2011; Hatton et al., 1995; Howard et al., 2003). The latter group of teachers preferred more questions and answer stems. Understanding the practicality of reflection came up as part of a need for future research. Reflection can be defined by many characteristics, so a deeper understanding of what is being asked during reflective conversations is necessary (Ottesen, 2007). One reason reflection might be

challenging is what Schön (1984) argues as “practice becomes more repetitive and routine, the practitioner may miss important opportunities to think about what he is doing” (p. 61). Perhaps teachers had been operating by habit and necessity for so long that it became difficult to separate what was being done from why it was being done. Reflection is a critical component to the process of improving classroom practices and understanding the practicality in expecting every teacher to reflect can help facilitators plan ahead for knowing what to try or do when teachers do not engage in reflection during the professional development.

Teaching Reflection

Furthermore, if teachers do not seem to engage in reflection, what would it take to empower teachers to be reflective practitioners? As with most skills, reflection is yet another tool that can be learned through accurate modeling, scaffolding, and ample practice. Because of the timeline of this study, reflection was not explicitly taught to the teacher participants. Therefore, further research would be necessary to understand how to teach reflection. One way to begin further research is by asking teachers how they currently define and use reflection in their daily activities. This would allow the school building administrator a chance to ensure everyone has the same operational definition as well as clear up any common misconceptions. Further, this would allow the school level administrator the opportunity to tailor their coaching and feedback conversations.

Scaling to Other Contexts

An additional opportunity for further research lies in how much of this study’s findings can be scaled to other contexts. Particularly the role of the administrator, the length of time an administrator has served in one school, the popular opinion of that

administrator's skills as an instructional leader, etc. There is also additional research that needs to be conducted on how the geographic location could impact results. How might this study change in different areas of the state or country. Finally, research needs to be conducted about how this might work in a different school setting. This school setting was chosen for specific reasons, but there is research that should be done on how the grade level band of the school impacts the results and how the observation tool should be changed depending on whether it is used in the elementary or high school settings.

Plan for Sharing and Communicating Findings

The findings from this study have the potential to be powerful information for school building administrators who are looking to create personalized professional development opportunities through teacher observations. As such, the findings will hopefully be shared with various stakeholders who may benefit from or find interest in the discoveries. In keeping with the expectation that action research is a collaborative process between the researcher and participants and stakeholders, the researcher will ensure the findings are shared quickly and effectively (Greenwood et al., 2007).

First and foremost, the researcher plans to share these findings with district and school administrators. Because the details of the research will impact them directly and, hopefully, impact their decision making about professional development, it is imperative that they receive the information quickly. This research has the potential to help school and district administrators plan and offer more effective professional development, but that could take additional funding, resources, time, and Full Time Equivalent positions at schools. Therefore, this information will also be shared with Human Resources Officers, regardless of their level of direct involvement with planning professional development.

Likewise, the findings will be shared with school board members and at a principal's meeting. The principal's meeting will focus on how teachers interpret support and which key factors have been identified as necessary for teachers to grow. During the presentation to the school board, emphasis will be placed on the additional resources that schools need in order to ensure effective implementation of professional development. They will hear the narrative of how professional development impacts teachers.

Finally, the findings of the study will be shared state- and nationwide. There are several conferences where this information could be helpful for school building administrators as they think about how to make their teacher observations more effective. The researcher plans to share these findings at four primary conferences. First, the findings will hopefully be shared at the South Carolina Association of School Administrators conference to help support school and district administrators as they prepare and plan a professional development model for their contexts. Secondly, the research and findings will also be shared at the National Association of Secondary School Principals' national conference that is held each year. Because the research focused on teacher observation tools, this demographic would be most appropriate to receive such information. Next, the research will be presented and shared at the Southern Regional Education Board Conference. This conference focuses on supporting leaders, administrators, and district office personnel, and the author believes the information gathered from this study will be extremely useful and beneficial to other leaders. Finally, the research will be presented at the International Literacy Association. The ILA supports the work of instructional and literacy coaches, and because the research findings indicated a strong emphasis on the power of coaching and follow-up conversations, the

ILA would be an audience who could use and implement the findings to strengthen any current coaching programs.

Finally, findings and research will also be shared through various peer reviewed journals. The researcher will seek publication in the following journals and periodicals:

- Journal of Staff Development
- Education Next
- Journal of in-service education
- Educational Researcher
- Reflective Practice
- Educational Leadership

Summary

This research study began with a curiosity around teachers' attitudes towards professional development. The researcher had a personal connection to professional development and witnessed first-hand a variety of attitudes and perceptions that she had not been able to make sense of. In other words, she noticed no immediate trends based on years of experience, gender, school district, or content area and how a teacher would react to being asked to attend professional development. Thus, she remained curious about how to better support teachers while increasing their positive interactions with professional development. Many conversations and the literature review that led her to the realization that one of the most underutilized forms of effective professional development already exists in schools – teacher observations.

This research study utilizes an Improvement science approach to address exactly how teacher observations can be used as professional development when followed-up

with subsequent coaching and feedback-centered conversations. The following attributes of effective professional development:

1. data-driven (Brion, 2020; Keller, 2016; Antoniou et al., 2013; Kuijpers et al., 2010; Penuel, 2007; Easton, 2008),
2. context-specific (Brion, 2002; Garet et al., 2001; Antoniou et al., 2013; Putnam, 2000; Darling Hammond et al., 2017; Scher, 2009; Hollins et al., 2004),
3. collaborative (Akiba et al., 2016; Brion 2002; Moolenaar et al., 2012; Durksen, 2017; Moolenaar et al., 2012; Fields et al., 2012; Putnam et al., 2000; Garet et al., 2001),
4. active (Easton, 2008; Darling-Hammond et al., 2017; Brion, 2020; Garet et al., 2001; Little, 1993; Penuel et al., 2007),
5. feedback centered (Easton, 2008; Brion, 2020; Kuijpers et al., 2010; Antoniou et al., 2013; Pritchard et al., 2002; Darling-Hammon et al., 2017; Qablan, 2019),
and
6. supported by principal leadership (Wallace Foundation, 2013; Knapp et al., 2010; Louis et al., 2010; Halverson et al. 2007)

are found in teacher observation tools when designed based on school and district professional development goals. Using an Improvement science methodology, the research was conducted using four Strategize-Implement-Analyze-Reflect cycles. Each cycle included different stakeholder voices to ensure equity. After the teacher observation tool had been created, the administrator participant implemented the tool by conducting learning walk observations with five teachers. After the observation, each teacher had a coaching conversation to reflect and discuss next steps. In these conversations, they

shared many attributes they felt were leading to the success of the tool. The teacher participants were also asked to complete an end-of-intervention survey to further explain any thoughts, feelings, or reflections they had about the tool specifically. These cycles, coupled with the qualitative data gleaned from the interviews and the surveys helped the researcher identify implications of a study such as this one. By engaging in reflective practices throughout the study (Maxwell, 2013), the researcher was able to gather, position, and share new knowledge (Guba & et al., 1994) in light of her “insider knowledge” from being a staff developer.

The themes from the data of this study suggest that there is significant success with using teacher observations as professional development when followed-up with coaching conversations that lead to reflections and next steps. The implications of such data suggest that schools and districts will need to make this a fiscal priority when budgeting for Full Time Equivalent positions. Likewise, the district will be charged with ensuring that instructional coaches or school level administrators (if coaches are not allocated for) are equipped to hold conversations that lead to actual instructional changes within classrooms.

Finally, the researcher identified next steps for future research as she aims to understand other qualities of professional development more deeply. Namely, she is interested in when to implement teacher observations, how long they should last and often they should occur, and how reflective practices can transform teaching and learning within classrooms.

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APPENDIX A

TEACHERS' ATTITUDES AND PERCEPTIONS ABOUT
PROFESSIONAL DEVELOPMENT SURVEY QUESTIONS

Survey Questions

1. Section 1: Consent
2. Section 2: General Demographic Questions
 1. Years of service:
 - 1-5
 - 6-10
 - 11-15
 - 16-20
 - 21-25
 - 26-30
 - Over 30
 2. Grade level band:
 - 6-8
 - 9-12
 - Other (please specify):
 3. Highest degree attained:
 - Bachelor's
 - Master's
 - Education Specialist
 - Doctorate
 4. Other certifications/additional coursework (select all that apply):
 - National Board
 - Master's Plus 30
 - Read to Succeed
 - Other (please list):
3. Section Three: Personal Beliefs About Education

(5 point Likert Scale: [1] Strongly Disagree to [5] Strongly Agree)

 - I believe that education has changed significantly in the last 40 years.
 - I often find myself teaching the way I was taught.
 - I consider myself to be a lifelong learner.
 - I believe that professional development is an effective way to help teachers modify their current teaching practices.

- I believe that I am up-to-date on current research about classroom practices.
 - I often feel that professional development is usually just “one more thing” that will eventually go away.
 - I regularly leave professional development feeling encouraged, supported, and equipped.
4. Section Four: Current Perceptions About Professional Development:
(5 point Likert Scale: [1] Strongly Disagree to [5] Strongly Agree)
1. I regularly feel that I have **needed** the professional development experiences I’ve attended.
 2. I regularly feel that the professional development I have attended has been **specific** to my context.
 3. I feel that the staff developers I have worked with have all been **credible**.
 4. I feel that professional development is most effective when I am able to **choose** the opportunities for myself.
 5. I feel there is a clear **connection** between school level professional development, district expectations, and state mandates.
 6. I feel that I have the **mental space** during professional development to process what is being shared.
 7. I feel **safe** to try new learning and I know that my **administration is supportive**.
 8. I feel that my school has a norm and expectation for **collegiality and collaboration**.
 9. I feel that **incentives** (i.e. district credits, comp time, payment, etc) encourage me to implement new learning.
 10. I feel that professional development that is **content specific** is most effective.
 11. After professional development, there is intentional **follow up** through conversations, mentoring, or coaching.
5. Section Five: Future Professional Development Needs:
1. Please rank your preferences. I would rather attend professional development during...
 - First choice, second choice, third choice
 - Summer
 - After school
 - In-service days
 2. Please rank your preferences : "The most important aspect of a staff developers' credibility is..."
 - [1]Least Important to [4] Most Important
 - Similar teaching context.
 - Professionalism/content delivery.
 - Education and highest degrees attained.
 - Their current role as a classroom teacher.
 3. Please rank your preferences :: "I believe the most effective way to follow up after professional development is..."

- [1] Least Effective to [4] Most Effective
 - Someone modeling the new learning in my classroom.
 - Being coached through the new learning in my classroom.
 - Observing another teacher and having follow up conversations.
 - Additional professional development sessions.
- 4. I believe that the research behind professional development decisions is important and should be a central focus.
 - 5 point Likert Scale: [1] Strongly Disagree to [5] Strongly Agree
- 5. The most rewarding incentive for implementing new learning is...
 - [1] Least Rewarding to [4] Most Rewarding
 - Pay increase
 - Comp time
 - Positive evaluations
 - Incentives do not motivate me when it comes to professional development
- 6. The most effective type of professional development for me is...
 - [1] Least Effective to [5] Most Effective
 - My own research (courses I take, webinars I find, teachers on social media, etc.)
 - Trainings/workshops provided by the school or district
 - Content-based conferences
 - Grade level based conferences
 - Book studies that I have chosen to attend
- 7. I believe professional development should be delivered differently depending on career stage
 - 5 point Likert Scale: [1] Strongly Disagree to [5] Strongly Agree
- 8. My administration can show their support for professional development by...
 - [1] Least Supportive to [3] Most Supportive
 - Attending the professional development
 - Leading conversations after the professional development
 - Providing feedback to me when I try new learning
- 9. Scaled question: I would like to know details about the professional development ahead of time, so that I can begin reflecting and processing.
 - 5 point Likert Scale: [1] Strongly Disagree to [5] Strongly Agree
- 10. Rank your preferences: Rank the professional development model you feel will most likely impact your classroom practices.
 - [1] Least Likely to [5] Most Likely
 - A series of shorter sessions (45 minute sessions) that only discuss one objective and meet weekly.
 - Moderate length (2-3 hours) of professional development that covers several objectives with meetings once per month.
 - An intensive study over the summer.
 - A self-paced webinar series with artifacts or observations due to be submitted at the end of the series.

- A gradual release model: watch a strategy in someone's classroom, try in your classroom with coaching, try in your classroom alone.

APPENDIX B

PARTICIPANT PROFILE QUESTIONNAIRE

Leader Specific Questions:

- Would you share a little background information about your education and teaching career?
- How long have you been at your current school?
- What other positions have you held?
- What do you identify as your personal areas of strength as a leader?
- What do you identify as your personal opportunities for growth as a leader?
- Can you talk about why you wanted to become a school leader?
- In general, what do you think are the toughest challenges facing building principals?
- What do you believe school principals need in order to be most effective?
- How would you describe effective leadership as it relates to being a principal?

School Specific Questions:

- I would like to gather some information about the school where you lead. Can you provide basic low-level information
 - Number of teachers,
 - Teachers per grade level/content
 - Number of students
 - Demographic breakdown,
 - School schedule,
 - Any other information you believe is pertinent to understanding the context of your building.
- What is the current professional development focus for your school?
 - How was this decided?
- What specific goals do you have for professional development for your school?
 - Do you feel like you are making progress? How will/do you know?
- What is the general attitude about professional development within your building?
- How do you believe leaders create an expectation for continued learning?
 - What systems/processes can be put in place to encourage teachers to continue their learning?
- How do you currently hold teachers accountable for transferring professional development learning to their classroom practices?
- What tools do you think school leaders need in order to provide actionable, high quality feedback to teachers?

APPENDIX C

SIAR CYCLE ONE

Teacher Observation Tool Draft 1

SIAR Cycle #1

*** Required**

What will I do to establish and communicate learning goals, track student progress, and celebrate success?

Providing Rigorous Learning Goals and Performance Scales (Rubrics)

1. Example Teacher Evidence *

Check all that apply.

- ☐ Teacher has a learning goal and/or target posted for student reference
- ☐ The learning goal or target clearly identifies knowledge or processes aligned to the rigor of required standards
- ☐ Teacher makes reference to the learning goal or target throughout the lesson
- ☐ Teacher has a scale that builds a progression of knowledge from simple to complex
- ☐ Teacher relates classroom activities to the scale throughout the lesson
- ☐ Teacher has goals or targets at the appropriate level of rigor
- ☐ Performance scales include application of knowledge

2. Example Student Evidence *

Check all that apply.

- ☐ Students can explain the learning goal or target for the lesson
- ☐ Students can explain how their current activities relate to the learning goal or target
- ☐ Students can explain the levels of performance, from simple to complex, in the scale
- ☐ Student artifacts demonstrate students know the learning goal or target
- ☐ Student artifacts demonstrate students can identify a progression of knowledge

3. Scale: *

Check all that apply.

- ☐ Not using: Strategy was called for but not exhibited.
- ☐ Beginning: Uses strategy incorrectly or with parts missing.
- ☐ Developing: Provides rigorous learning goals and performance scales or rubrics that describe levels of performance.
- ☐ Applying: Provides rigorous learning goals and performance scales or rubrics and monitors the extent to which students understand the learning goal and/or targets and levels of performance.
- ☐ Innovating: Adapts and creates new strategies for unique student needs and situations

Reflection Question

4. How can you begin to incorporate some aspects of this strategy into your instruction?

Reflection Question

5. How can you provide a rigorous learning goal accompanied by a performance scale or rubric that describes levels of performance?

Reflection Question

6. In addition to providing a rigorous learning goal accompanied by a performance scale or rubric that describes levels of performance, how can you monitor the extent to which students understand the learning goal and/or targets and the levels of performance?

Reflection Question

7. How might you adapt and create new strategies for providing rigorous learning goals and/or targets and performance scales or rubrics that address unique student needs and situations?

Reflection Question

8. What are you learning about your students as you adapt and create new strategies?

APPENDIX D

SIAR CYCLE TWO

Teacher Observation Tool Draft 2

SIAR Cycle #1

*** Required**

1. Go to Section... *

Mark only one oval.

☐ 2: Indicator: Providing Rigorous Learning Goals and Performance Scales (Rubrics)

Skip to question 2

☐ 3: Indicator: Tracking Student Progress *Skip to question 6*

The teacher provides rigorous learning goals and/or targets, both of which are embedded in a performance scale that includes application of knowledge.

Indicator: Providing Rigorous Learning Goals and Performance Scales (Rubrics)

2. Example Teacher Evidence *

Check all that apply.

- ☐ Teacher has a learning goal and/or target posted for student reference
- ☐ The learning goal or target clearly identifies knowledge or processes aligned to the rigor of required standards
- ☐ Teacher makes reference to the learning goal or target throughout the lesson
- ☐ Teacher has a scale that builds a progression of knowledge from simple to complex
- ☐ Teacher relates classroom activities to the scale throughout the lesson
- ☐ Teacher has goals or targets at the appropriate level of rigor
- ☐ Performance scales include application of knowledge

3. Example Student Evidence *

Check all that apply.

- ☐ Students can explain the learning goal or target for the lesson
- ☐ Students can explain how their current activities relate to the learning goal or target
- ☐ Students can explain the levels of performance, from simple to complex, in the scale
- ☐ Student artifacts demonstrate students know the learning goal or target
- ☐ Student artifacts demonstrate students can identify a progression of knowledge

4. Scale: *

Check all that apply.

- ☐ Not using: Strategy was called for but not exhibited.
- ☐ Beginning: Uses strategy incorrectly or with parts missing.
- ☐ Developing: Provides rigorous learning goals and performance scales or rubrics that describe levels of performance.
- ☐ Applying: Provides rigorous learning goals and performance scales or rubrics and monitors the extent to which students understand the learning goal and/or targets and levels of performance.
- ☐ Innovating: Adapts and creates new strategies for unique student needs and situations

5. Reflection *

Mark only one oval.

- ☐ Not Using: How can you begin to incorporate some aspects of this strategy into your instruction?
- ☐ Beginning: How can you provide a rigorous learning goal accompanied by a performance scale or rubric that describes levels of performance?
- ☐ Developing: In addition to providing a rigorous learning goal accompanied by a performance scale or rubric that describes levels of performance, how can you monitor the extent to which students understand the learning goal and/or targets and the levels of performance?
- ☐ Applying: How might you adapt and create new strategies for providing rigorous learning goals and/or targets and performance scales or rubrics that address unique student needs and situations?
- ☐ Innovating: What are you learning about your students as you adapt and create new strategies?

The teacher organizes and guides grouping in ways that appropriately facilitate practicing and deepening knowledge.

Indicator: Tracking
Student Progress

6. Example Teacher Evidence *

Check all that apply.

- ☐ Teacher helps students track their individual progress on the learning goal or target
- ☐ Teacher uses formal and informal means to assign scores to students on the scale or rubric depicting student status on the learning goal
- ☐ Teacher uses formative data to chart progress of individual and entire class progress on the learning goal

7. Example Student Evidence *

Check all that apply.

- ☐ Students can describe their status relative to the learning goal using the scale or rubric
- ☐ Students systematically update their status on the learning goal
- ☐ Students take some responsibility for providing evidence in reference to their progress on the scale
- ☐ Artifacts and data support that students are making progress toward a learning goal

8. Scale: *

Check all that apply.

- ☐ Not using: Strategy was called for but not exhibited.
- ☐ Beginning: Uses strategy incorrectly or with parts missing.
- ☐ Developing: Facilitates tracking of student progress towards learning goals and/or targets using a formative approach to assessment.
- ☐ Applying: Facilitates tracking of student progress towards learning goals and/or targets using a formative approach to assessment and monitors the extent to which students understand their level of performance.
- ☐ Innovating: Adapts and creates new strategies for unique student needs and situations

9. Reflection Questions *

Mark only one oval.

- ☐ Not Using: How can you begin to incorporate some aspects of this strategy into your instruction?
- ☐ Beginning: How can you facilitate tracking of student progress using a formative approach to assessment?
- ☐ Developing: In addition to facilitating tracking of student progress using a formative approach to assessment, how can you monitor the extent to which students understand their level of performance?
- ☐ Applying: How might you adapt and create new strategies for facilitating tracking of student progress using a formative approach to assessment that address unique student needs and situations?
- ☐ Innovating: What are you learning about your students as you adapt and create new strategies?

APPENDIX E

SIAR CYCLE THREE

Teacher Observation Tool Draft 3

SIAR Cycle #1

*** Required**

1. Go to Section... *

Mark only one oval.

- ☐ 2: Domain: Providing Rigorous Learning Goals and Performance Scales (Rubrics)
Skip to question 2
- ☐ 3: Domain: Tracking Student Progress *Skip to question 6*
- ☐ 4: Domain: Establishing Classroom Routines *Skip to question 10*
- ☐ 5: Domain: Identifying Critical Content *Skip to question 14*
- ☐ 6: Organizing Students to Interact with New Content *Skip to question 18*
- ☐ 7: Chunking Content into "Digestible Bites" *Skip to question 22*
- ☐ 8: Helping Students Process New Content *Skip to question 26*
- ☐ 9: Helping Students Reflect on Learning *Skip to question 30*
- ☐ 10: Helping Students Examine Their Reasoning *Skip to question 34*
- ☐ 11: Noticing When Students Are Not Engaged *Skip to question 38*
- ☐ 12: Using Academic Games *Skip to question 42*
- ☐ 13: Demonstrating Intensity and Enthusiasm *Skip to question 46*
- ☐ 14: Understanding Students' Interests and Backgrounds *Skip to question 50*
- ☐ 15: Displaying Objectivity and Control *Skip to question 54*
- ☐ 16: Asking Questions of Low Expectancy Students *Skip to question 58*

The teacher provides rigorous learning goals and/or targets, both of which are embedded in a performance scale that includes application of knowledge.

Domain: Providing Rigorous Learning Goals and Performance Scales (Rubrics)

2. Example Teacher Evidence *

Check all that apply.

- ☐ Teacher has a learning goal and/or target posted for student reference
- ☐ The learning goal or target clearly identifies knowledge or processes aligned to the rigor of required standards
- ☐ Teacher makes reference to the learning goal or target throughout the lesson
- ☐ Teacher has a scale that builds a progression of knowledge from simple to complex
- ☐ Teacher relates classroom activities to the scale throughout the lesson
- ☐ Teacher has goals or targets at the appropriate level of rigor
- ☐ Performance scales include application of knowledge

3. Example Student Evidence *

Check all that apply.

- ☐ Students can explain the learning goal or target for the lesson
- ☐ Students can explain how their current activities relate to the learning goal or target
- ☐ Students can explain the levels of performance, from simple to complex, in the scale
- ☐ Student artifacts demonstrate students know the learning goal or target
- ☐ Student artifacts demonstrate students can identify a progression of knowledge

4. Scale: *

Check all that apply.

- ☐ Not using: Strategy was called for but not exhibited.
- ☐ Beginning: Uses strategy incorrectly or with parts missing.
- ☐ Developing: Provides rigorous learning goals and performance scales or rubrics that describe levels of performance.
- ☐ Applying: Provides rigorous learning goals and performance scales or rubrics and monitors the extent to which students understand the learning goal and/or targets and levels of performance.
- ☐ Innovating: Adapts and creates new strategies for unique student needs and situations

5. Reflection *

Mark only one oval.

- ☐ Not Using: How can you begin to incorporate some aspects of this strategy into your instruction?
- ☐ Beginning: How can you provide a rigorous learning goal accompanied by a performance scale or rubric that describes levels of performance?
- ☐ Developing: In addition to providing a rigorous learning goal accompanied by a performance scale or rubric that describes levels of performance, how can you monitor the extent to which students understand the learning goal and/or targets and the levels of performance?
- ☐ Applying: How might you adapt and create new strategies for providing rigorous learning goals and/or targets and performance scales or rubrics that address unique student needs and situations?
- ☐ Innovating: What are you learning about your students as you adapt and create new strategies?

The teacher organizes and guides grouping in ways that appropriately facilitate practicing and deepening knowledge.

Domain: Tracking
Student Progress

6. Example Teacher Evidence *

Check all that apply.

- ☐ Teacher helps students track their individual progress on the learning goal or target
- ☐ Teacher uses formal and informal means to assign scores to students on the scale or rubric depicting student status on the learning goal
- ☐ Teacher uses formative data to chart progress of individual and entire class progress on the learning goal

7. Example Student Evidence *

Check all that apply.

- ☐ Students can describe their status relative to the learning goal using the scale or rubric
- ☐ Students systematically update their status on the learning goal
- ☐ Students take some responsibility for providing evidence in reference to their progress on the scale
- ☐ Artifacts and data support that students are making progress toward a learning goal

8. Scale: *

Check all that apply.

- ☐ Not using: Strategy was called for but not exhibited.
- ☐ Beginning: Uses strategy incorrectly or with parts missing.
- ☐ Developing: Facilitates tracking of student progress towards learning goals and/or targets using a formative approach to assessment.
- ☐ Applying: Facilitates tracking of student progress towards learning goals and/or targets using a formative approach to assessment and monitors the extent to which students understand their level of performance.
- ☐ Innovating: Adapts and creates new strategies for unique student needs and situations

9. Reflection Questions *

Mark only one oval.

- ☐ Not Using: How can you begin to incorporate some aspects of this strategy into your instruction?
- ☐ Beginning: How can you facilitate tracking of student progress using a formative approach to assessment?
- ☐ Developing: In addition to facilitating tracking of student progress using a formative approach to assessment, how can you monitor the extent to which students understand their level of performance?
- ☐ Applying: How might you adapt and create new strategies for facilitating tracking of student progress using a formative approach to assessment that address unique student needs and situations?
- ☐ Innovating: What are you learning about your students as you adapt and create new strategies?

The teacher establishes expectations regarding rules and procedures that facilitate students working individually, in groups, and as a whole class.

Domain:
Establishing
Classroom
Routines

10. Example Teacher Evidence *

Check all that apply.

- ☐ Teacher involves students in designing classroom routines and procedures
- ☐ Teacher actively teaches student self-regulation strategies
- ☐ Teacher uses classroom meetings to review and process rules and procedures
- ☐ Teacher reminds students of rules and procedures
- ☐ Teacher asks students to restate or explain rules and procedures
- ☐ Teacher provides cues or signals when a rule or procedure should be used
- ☐ Teacher focuses on procedures for students working individually or in small groups

11. Example Student Evidence *

Check all that apply.

- ☐ Students follow clear routines during class
- ☐ Students describe established rules and procedures
- ☐ Students describe the classroom as an orderly place
- ☐ Students recognize cues and signals by the teacher
- ☐ Students regulate their behavior while working individually
- ☐ Students regulate their behavior while working in groups

12. Scale *

Check all that apply.

- ☐ Not Using: Strategy was called for but not exhibited.
- ☐ Beginning: Uses strategy incorrectly or with parts missing.
- ☐ Developing: Establishes expectations regarding rules and procedures.
- ☐ Applying: Establishes expectations regarding rules and procedures and monitors the extent to which students understand rules and procedures.
- ☐ Innovating: Adapts and creates new strategies for unique student needs and situations

13. Reflection Questions *

Mark only one oval.

- ☐ Not Using: How can you begin to incorporate some aspects of this strategy into your instruction?
- ☐ Beginning: How can you establish expectations regarding rules and procedures?
- ☐ Developing: In addition to establishing expectations regarding rules and procedures, how can you monitor the extent to which students understand the rules and procedures?
- ☐ Applying: How might you adapt and create strategies for establishing expectations, rules, and procedures that address unique student needs and situations.
- ☐ Innovating: What are you learning about your students as you adapt and create new strategies?

The teacher continuously identifies accurate critical content during a lesson or part of a lesson that portrays a clear progression of information that leads to deeper understanding of the content.

Domain:
Identifying
Critical
Content

14. Example Teacher Evidence *

Check all that apply.

- ☐ Teacher highlights critical content that portrays a clear progression of information related to standards or goals
- ☐ Teacher identifies differences between the critical and non-critical content
- ☐ Teacher continuously calls students' attention to accurate critical content
- ☐ Teacher integrates cross-curricular connections to critical content

15. Example Student Evidence *

Check all that apply.

- ☐ Students can describe the level of importance of the critical content addressed in class
- ☐ Students can identify the critical content addressed in class
- ☐ Students can explain the difference between critical and non-critical content
- ☐ Formative data show students attend to the critical content (e.g., questioning, artifacts)
- ☐ Students can explain the progression of critical content

16. Scale *

Check all that apply.

- ☐ Not Using: Strategy was called for but not exhibited.
- ☐ Beginning: Uses strategy incorrectly or with parts missing.
- ☐ Developing: Signals to students critical versus non-critical content and progression of information.
- ☐ Applying: Signals to students critical versus non-critical content and progression of information and monitors the extent to which students are attending to critical versus non-critical content. .
- ☐ Innovating: Adapts and creates new strategies for unique student needs and situations.

17. Reflection Question *

Mark only one oval.

- ☐ Not Using: How can you begin to incorporate some aspects of this strategy into your instruction?
- ☐ Beginning: How can you signal to students critical versus non-critical content and portray a clear progression of information?
- ☐ Developing: In addition to signaling to students critical versus noncritical content and portraying a clear progression of information, how might you monitor the extent to which students attend to critical content?
- ☐ Applying: How might you adapt and create new strategies for identifying critical content that address unique student needs and situatins?
- ☐ Innovating: What are you learning about your students as you adapt and create new strategies?

The teacher organizes students into appropriate groups to facilitate the processing of new content.

Domain: Organizing students to interact with new content

18. Example Teacher Evidence *

Check all that apply.

- ☐ Teacher has established routines for student grouping and student interaction for the expressed purpose of processing new content.
- ☐ Teacher provides guidance on one or more cognitive skills:
 - ☐ • Becoming aware of the power of interpretations
 - ☐ • Avoiding negative thinking
 - ☐ • Taking various perspectives
 - ☐ • Interacting responsibly
 - ☐ • Handling controversy and conflict resolution
- ☐ Teacher organizes students into ad hoc groups for the lesson
- ☐ Teacher provides guidance on one or more cognitive skills appropriate for the lesson

19. Example Student Evidence *

Check all that apply.

- ☐ Students move and work within groups with an organized purpose
- ☐ Students have an awareness of the power of interpretations
- ☐ Students avoid negative thinking
- ☐ Students take various perspectives
- ☐ Students interact responsibly
- ☐ Students appear to know how to handle controversy and conflict resolution
- ☐ Students actively ask and answer questions about the content
- ☐ Students add their perspectives to discussions
- ☐ Students attend to the cognitive skill(s)

20. Scale *

Check all that apply.

- ☐ Not Using: Strategy was called for but not exhibited.
- ☐ Beginning: Uses strategy incorrectly or with parts missing.
- ☐ Developing: Organizes students into appropriate groups to facilitate processing of new content.
- ☐ Applying: Organizes students into appropriate groups to facilitate processing of new content and monitors the extent to which groups process.
- ☐ Innovating: Adapts and creates new strategies for unique student needs and situations.

21. Reflection Question *

Mark only one oval.

- ☐ Not Using: How can you begin to incorporate some aspects of this strategy into your instruction?
- ☐ Beginning: How can you organize students into small groups to facilitate the processing of new content?
- ☐ Developing: In addition to organizing students into small groups to facilitate the processing of new content, how can you monitor the extent to which groups process?
- ☐ Applying: How might you adapt and create new strategies for organizing student to interact with new content that address unique student needs and situations?
- ☐ Innovating: What are you learning about your students as you adapt and create new strategies?

Based on student evidence, the teacher breaks the content into small chunks (i.e., digestible bites) of information that can be easily processed by students to generate a clear conclusion.

Domain: Chunking
Content into
"Digestible Bites"

22. Example Teacher Evidence *

Check all that apply.

- ☐ During a verbal presentation, the teacher stops at strategic points
- ☐ While utilizing multi-media, the teacher stops at strategic points
- ☐ While providing a demonstration, the teacher stops at strategic points
- ☐ While students are reading information or stories orally as a class, the teacher stops at strategic points
- ☐ Teacher uses appropriate questioning to determine if content chunks are appropriate
- ☐ Teacher uses formative data to break content into appropriate chunks

23. Example Student Evidence *

Check all that apply.

- ☐ Students can explain why the teacher is stopping at various points
- ☐ Students appear to know what is expected of them when the teacher stops at strategic points
- ☐ Students can explain clear conclusions about chunks of content

24. Scale *

Check all that apply.

- ☐ Not Using: Strategy was called for but not exhibited.
- ☐ Beginning: Uses strategy incorrectly or with parts missing.
- ☐ Developing: Breaks input experiences into smaller chunks based on student needs.
- ☐ Applying: Breaks input experiences into smaller chunks based on student needs and monitors the extent to which chunks are appropriate.
- ☐ Innovating: Adapts and creates new strategies for unique student needs and situations.

25. Reflection Question *

Mark only one oval.

- ☐ Not Using: How can you begin to incorporate some aspects of this strategy into your instruction?
- ☐ Beginning: How can you break input experiences into smaller chunks based on student need?
- ☐ Developing: In addition to breaking input experiences into smaller chunks based on student need, how can you also monitor the extent to which chunks are appropriate?
- ☐ Applying: How might you adapt and create new strategies for chunking content into digestible bites that address unique student needs and situations?
- ☐ Innovating: What are you learning about your students as you adapt and create new strategies?

The teacher systematically engages student groups in processing and generating conclusions about new content.

Domain: Helping
Students Process New
Content

26. Example Teacher Evidence *

Check all that apply.

- ☐ Teacher employs formal group processing strategies
 - ☐ • Jigsaw
 - ☐ • Reciprocal teaching
 - ☐ • Concept attainment
- ☐ Teacher uses informal strategies to engage group members in actively processing
 - ☐ • Predictions
 - ☐ • Associations
 - ☐ • Paraphrasing
 - ☐ • Verbal summarizing
 - ☐ • Questioning
- ☐ Teacher facilitates group members in generating conclusions

27. Example Student Evidence *

Check all that apply.

- ☐ Students can explain what they have just learned
- ☐ Students volunteer predictions
- ☐ Students voluntarily ask clarification questions
- ☐ Groups are actively discussing the content
 - ☐ • Group members ask each other and answer questions about the information
 - ☐ • Group members make predictions about what they expect next
- ☐ Students generate conclusions about the new content
- ☐ Students can verbally summarize or restate the new information

28. Scale *

Check all that apply.

- ☐ Not Using: Strategy was called for but not exhibited.
- ☐ Beginning: Uses strategy incorrectly or with parts missing.
- ☐ Developing: Engages student groups in processing new content to generate conclusions.
- ☐ Applying: Engages student groups in processing new content to generate conclusions and monitors the extent to which the processing enhances student learning. .
- ☐ Innovating: Adapts and creates new strategies for unique student needs and situations.

29. Reflection Question *

Mark only one oval.

- ☐ Not Using: How can you begin to incorporate some aspects of this strategy into your instruction?
- ☐ Beginning: How can you engage student groups in processing new content?
- ☐ Developing: In addition to engaging student groups in processing new content, how can you monitor the extent to which the process enhances student understanding?
- ☐ Applying: How might you adapt and create new strategies for processing new content that address unique student needs and situations?
- ☐ Innovating: What are you learning about your students as you adapt and create new strategies?

The teacher engages students in activities that help them reflect on their learning and the learning process.

Domain: Helping Students
Elaborate on New Content

30. Example Teacher Evidence *

Check all that apply.

- ☐ Teacher asks students to state or record what they are clear about and what they are confused about
- ☐ Teacher asks students to state or record how hard they tried
- ☐ Teacher asks students to state or record what they might have done to enhance their learning
- ☐ Teacher utilizes reflection activities to cultivate a growth mindset
- ☐ Teacher utilizes reflection activities to cultivate resiliency
- ☐ Teacher utilizes reflection activities to avoid negative thinking
- ☐ Teacher utilizes reflection activities to examine logic of learning and the learning process

31. Example Student Evidence *

Check all that apply.

- ☐ Students can explain what they are clear about and what they are confused about
- ☐ Students can describe how hard they tried
- ☐ Students can explain what they could have done to enhance their learning
- ☐ Student actions and reflections display a growth mindset
- ☐ Student actions and reflections display resiliency
- ☐ Student actions and reflections avoid negative thinking
- ☐ Student reflections involve examining logic of learning and the learning process

32. Scale *

Check all that apply.

- ☐ Not Using: Strategy was called for but not exhibited.
- ☐ Beginning: Uses strategy incorrectly or with parts missing.
- ☐ Developing: Engages students in reflecting on their own learning and the learning process.
- ☐ Applying: Engages students in reflecting on their own learning and the learning process and monitors the extent to which students self-assess their understanding and effort.
- ☐ Innovating: Adapts and creates new strategies for unique student needs and situations.

33. Reflection Question *

Mark only one oval.

- ☐ Not Using: How can you begin to incorporate some aspects of this strategy into your instruction?
- ☐ Beginning: How can you engage students in reflecting on their own learning and the learning process?
- ☐ Developing: In addition to engaging students in reflecting on their own learning process, how can you monitor the extent to which students self-assess their understanding and effort?
- ☐ Applying: How might you adapt and create new strategies for reflecting on learning that address unique needs and situations?
- ☐ Innovating: What are you learning about your students as you adapt and create new strategies?

The teacher helps students produce and defend claims by examining their own reasoning or the logic of presented information, processes, and procedures.

Domain: Helping
Students Examine
Their Reasoning

34. Example Teacher Evidence *

Check all that apply.

- ☐ Teacher asks students to examine and analyze information for errors or informal fallacies in content or in their own reasoning
 - ☐ • Faulty logic
 - ☐ • Attacks
 - ☐ • Weak reference
 - ☐ • Misinformation
- ☐ Teacher asks students to examine and analyze the strength of support presented for a claim in content or in their own reasoning
 - ☐ • Statement of a clear claim
 - ☐ • Evidence for the claim presented
 - ☐ • Qualifiers presented showing exceptions to the claim
- ☐ Teacher asks students to examine logic of errors in procedural knowledge
- ☐ Teacher asks students to analyze errors to identify more efficient ways to execute processes
- ☐ Teacher facilitates the use of digital sources to find credible and relevant information to support examination of errors in reasoning
- ☐ Teacher involves students in taking various perspectives by identifying the reasoning behind multiple perspectives

35. Example Student Evidence *

Check all that apply.

- ☐ Students can describe errors or informal fallacies in content
- ☐ Students can explain the overall structure of an argument presented to support a claim
- ☐ Student artifacts indicate students can identify errors in reasoning or make and support a claim
- ☐ Students navigate digital resources to find credible and relevant information to support examination of errors in reasoning
- ☐ Student artifacts indicate students take various perspectives by identifying the reasoning behind multiple perspectives

36. Scale *

Check all that apply.

- ☐ Not Using: Strategy was called for but not exhibited.
- ☐ Beginning: Uses strategy incorrectly or with parts missing.
- ☐ Developing: Engages students in activities that require them to examine and defend their own reasoning or the logic of information as presented to them.
- ☐ Applying: Developing: Engages students in activities that require them to examine and defend their own reasoning or the logic of information as presented to them and monitors the extent to which it deepens student understanding. .
- ☐ Innovating: Adapts and creates new strategies for unique student needs and situations.

37. Reflection Question *

Mark only one oval.

- ☐ Not Using: How can you begin to incorporate some aspects of this strategy into your instruction?
- ☐ Beginning: How can you engage students in activities that require them to examine and defend their own reasoning or the logic of information as presented to them?
- ☐ Developing: In addition to engaging students in activities that require them to examine and defend their own reasoning or the logic of information as presented to them how can you monitor the extent to which students are deepening knowledge??
- ☐ Applying: How might you adapt and create new strategies for helping students examine their own reasoning or the logic of information presented to them that address unique student needs and situations?
- ☐ Innovating: What are you learning about your students as you adapt and create new strategies?

The teacher scans the room and notices when students are not paying attention or not cognitively engaged and takes overt action.

Domain: Noticing When Students are Not Engaged

38. Example Teacher Evidence *

Check all that apply.

- ☐ Teacher notices when specific students or groups of students are not paying attention or not cognitively engaged
- ☐ Teacher notices when the energy level in the room is low or students are not participating
- ☐ Teacher takes action or uses specific strategies to re-engage students

39. Example Student Evidence *

Check all that apply.

- ☐ Students appear aware of the fact that the teacher is noticing their level of engagement
- ☐ Students increase their level of engagement when the teacher uses engagement strategies
- ☐ Students explain that the teacher expects high levels of engagement
- ☐ Students report that the teacher notices when students are not engaged

40. Scale *

Check all that apply.

- ☐ Not Using: Strategy was called for but not exhibited.
- ☐ Beginning: Uses strategy incorrectly or with parts missing.
- ☐ Developing: Scans the room and notices when students are not engaged and takes action.
- ☐ Applying: Developing: Scans the room and notices when students are not engaged and takes action and monitors the extent to which students re-engage.
- ☐ Innovating: Adapts and creates new strategies for unique student needs and situations.

41. Reflection Question *

Mark only one oval.

- ☐ Not Using: How can you begin to incorporate some aspects of this strategy into your instruction?
- ☐ Beginning: How can you scan the room, notice when students are not engaged, and then take action to engage students?
- ☐ Developing: In addition to scanning the room, noticing when students are not engaged, and taking action, how might you monitor the extent to which students re-engage.
- ☐ Applying: How might you adapt and create new strategies for noticing when students are not engaged that address unique student needs and situations?
- ☐ Innovating: What are you learning about your students as you adapt and create new strategies?

42. Example Teacher Evidence *

Check all that apply.

- ☐ Teacher uses academic games that focus on or reinforce important concepts
- ☐ Teacher uses academic games that create generalizations or test principles
- ☐ Teacher uses structured, inconsequential competition games such as Jeopardy and Family Feud
- ☐ Teacher develops impromptu games such as making a game out of which answer might be correct for a given question
- ☐ Teacher uses friendly competition along with classroom games
- ☐ Teacher develops conative skills during academic games
- ☐ • Taking various perspectives
- ☐ • Interacting responsibly
- ☐ • Handling controversy and conflict

43. Example Student Evidence *

Check all that apply.

- ☐ Students engage in the games with some enthusiasm
- ☐ Students can explain how the games keep their interest and help them learn or remember content
- ☐ Students appear to take various perspectives when engaged in academic games
- ☐ Students interact responsibly during academic games
- ☐ Students handle controversy and conflict during academic games

44. Scale *

Check all that apply.

- ☐ Not Using: Strategy was called for but not exhibited.
- ☐ Beginning: Uses strategy incorrectly or with parts missing.
- ☐ Developing: Uses academic games to maintain student engagement.
- ☐ Applying: Developing: Uses academic games to maintain student engagement and monitors the extent to which these activities enhance student engagement.
- ☐ Innovating: Adapts and creates new strategies for unique student needs and situations.

45. Reflection Question *

Mark only one oval.

- ☐ Not Using: How can you begin to incorporate some aspects of this strategy into your instruction?
- ☐ Beginning: How can you use academic games to maintain student engagement?
- ☐ Developing: In addition to using academic games to maintain student engagement, how can you monitor the extent to which these activities enhance student engagement?
- ☐ Applying: How might you adapt and create new strategies for using academic games to maintain student engagement that address unique student needs and situations?
- ☐ Innovating: What are you learning about your students as you adapt and create new strategies?

The teacher demonstrates intensity and enthusiasm for content by sharing a deep level of content knowledge in a variety of ways.

Domain: Demonstrating
Intensity and
Enthusiasm

46. Example Teacher Evidence *

Check all that apply.

- ☐ Teacher enthusiastically demonstrates depth of content knowledge
- ☐ Teacher demonstrates importance of content by relating it to authentic, real-world situations
- ☐ Teacher describes personal experiences that relate to the content
- ☐ Teacher signals excitement for content by
- ☐ • Physical gestures
- ☐ • Voice tone
- ☐ • Dramatization of information
- ☐ Teacher strategically adjusts his/her energy level in response to student engagement

47. Example Student Evidence *

Check all that apply.

- ☐ Students say that the teacher "likes the content" and "likes teaching"
- ☐ Student attention levels or cognitive engagement increase when the teacher demonstrates enthusiasm and intensity for the content

48. Scale *

Check all that apply.

- ☐ Not Using: Strategy was called for but not exhibited.
- ☐ Beginning: Uses strategy incorrectly or with parts missing.
- ☐ Developing: Demonstrates intensity and enthusiasm by sharing a deep level of content knowledge in a variety of ways.
- ☐ Applying: Demonstrates intensity and enthusiasm by sharing a deep level of content knowledge in a variety of ways and monitors the extent to which these activities enhance student engagement.
- ☐ Innovating: Adapts and creates new strategies for unique student needs and situations.

49. Reflection Question *

Mark only one oval.

- ☐ Not Using: How can you begin to incorporate some aspects of this strategy into your instruction?
- ☐ Beginning: How can you demonstrate intensity and enthusiasm by sharing a deep level of content knowledge in a variety of ways.
- ☐ Developing: In addition to demonstrating intensity and enthusiasm by sharing a deep level of content knowledge in a variety of ways, how can you monitor the extent to which these activities enhance student engagement?
- ☐ Applying: How might you adapt and create new strategies for demonstrating intensity and enthusiasm for the content that address unique student needs and situations?
- ☐ Innovating: What are you learning about your students as you adapt and create new strategies?

The teacher uses students' interests and backgrounds to produce a climate of acceptance and community

Domain: Understanding
Students' Interests and
Backgrounds

50. Example Teacher Evidence *

Check all that apply.

- ☐ Teacher relates content-specific knowledge to personal aspects of students' lives
- ☐ Teacher has side discussions with students about events in their lives
- ☐ Teacher has discussions with students about topics in which they are interested
- ☐ Teacher builds student interests into lessons
- ☐ Teacher uses discussion of students' personal interests to highlight or reinforce conative skills (e.g., cultivating a growth mindset)

51. Example Student Evidence *

Check all that apply.

- ☐ Students describe the teacher as someone who knows them and/or is interested in them
- ☐ Students respond when the teacher demonstrates understanding of their interests and backgrounds
- ☐ Student verbal and nonverbal behaviors indicate they feel accepted by their teacher
- ☐ Students can describe how their personal interests connect to specific conative skills (e.g., cultivating a growth mindset)

52. Scale *

Check all that apply.

- ☐ Not Using: Strategy was called for but not exhibited.
- ☐ Beginning: Uses strategy incorrectly or with parts missing.
- ☐ Developing: Uses students' interests and backgrounds during interactions with students.
- ☐ Applying: Uses students' interests and backgrounds during interactions with students and monitors the climate of acceptance and community in the classroom.
- ☐ Innovating: Adapts and creates new strategies for unique student needs and situations.

53. Reflection Question *

Mark only one oval.

- ☐ Not Using: How can you begin to incorporate some aspects of this strategy into your instruction?
- ☐ Beginning: How can you use students' interests and backgrounds during interactions with students?
- ☐ Developing: In addition to using students' interests and backgrounds during interactions with students, how can you monitor the climate of acceptance and community in the classroom?
- ☐ Applying: How might you adapt and create new strategies and techniques for using students' interests and backgrounds during interactions with students that address unique student needs and situations?
- ☐ Innovating: What are you learning about your students as you adapt and create new strategies?

The teacher behaves in an objective and controlled manner to demonstrate a commitment to students and academic rigor.

Domain: . Displaying
Objectivity and
Control

54. Example Teacher Evidence *

Check all that apply.

- ☐ Teacher does not exhibit extremes in positive or negative emotions
- ☐ Teacher does not allow distractions to change the focus on academic rigor
- ☐ Teacher addresses inflammatory issues and events in a calm and controlled manner
- ☐ Teacher interacts with all students in the same calm and controlled fashion
- ☐ Teacher does not demonstrate personal offense at student misbehavior

55. Example Student Evidence *

Check all that apply.

- ☐ Students describe the teacher as not becoming distracted by interruptions in the class
- ☐ Students are settled by the teacher's calm demeanor
- ☐ Students describe the teacher as in control of himself/herself and in control of the class
- ☐ Students say that the teacher does not hold grudges or take things personally

56. Scale *

Check all that apply.

- ☐ Not Using: Strategy was called for but not exhibited.
- ☐ Beginning: Uses strategy incorrectly or with parts missing.
- ☐ Developing: Behaves in an objective and controlled manner.
- ☐ Applying: Behaves in an objective and controlled manner and monitors the effect on the classroom climate.
- ☐ Innovating: Adapts and creates new strategies for unique student needs and situations.

57. Reflection Question *

Mark only one oval.

- ☐ Not Using: How can you begin to incorporate some aspects of this strategy into your instruction?
- ☐ Beginning: How can you use behave in an objective and controlled manner?
- ☐ Developing: In addition to behaving in an objective and controlled manner, how can you monitor the effects of the classroom climate?
- ☐ Applying: How might you adapt and create new strategies for behaving in an objective and controlled manner that address unique student needs and situations?
- ☐ Innovating: What are you learning about your students as you adapt and create new strategies?

The teacher asks questions of low expectancy students with the same frequency and depth as with high expectancy students.

Domain: Asking
Questions of Low
Expectancy Students

58. Example Teacher Evidence *

Check all that apply.

- ☐ Teacher makes sure low expectancy students are asked questions at the same rate as high expectancy students
- ☐ Teacher makes sure low expectancy students are asked complex questions that require conclusions at the same rate as. high expectancy students

59. Example Student Evidence *

Check all that apply.

- ☐ Students say that the teacher expects everyone to participate
- ☐ Students say that the teacher asks difficult questions of every student

60. Scale *

Check all that apply.

- ☐ Not Using: Strategy was called for but not exhibited.
- ☐ Beginning: Uses strategy incorrectly or with parts missing.
- ☐ Developing: Asks questions of low expectancy students with the same frequency and depth as with high expectancy students.
- ☐ Applying: Asks questions of low expectancy students with the same frequency and depth as with high expectancy students and monitors the quality of participation of low expectancy students.
- ☐ Innovating: Adapts and creates new strategies for unique student needs and situations.

61. Reflection Question *

Mark only one oval.

- ☐ Not Using: How can you begin to incorporate some aspects of this strategy into your instruction?
- ☐ Beginning: How can you use ask questions of low expectancy students with the same frequency and depth as with high expectancy students?
- ☐ Developing: In addition to asking questions of low expectancy students with the same frequency and depth as with high expectancy students, how can you monitor the quality of participation?
- ☐ Applying: How might you adapt and create new strategies for asking questions of low expectancy students that address unique student needs and situations?
- ☐ Innovating: What are you learning about your students as you adapt and create new strategies?

APPENDIX F

FINAL FRAMEWORK

Final Framework

* Required

1. Teacher Name *

Mark only one oval.

☐ Option 1

2. Years of Service

Mark only one oval.

☐ 0-5

☐ 6-10

☐ 11-15

☐ 16-20

☐ 21-25

☐ 26-30

☐ 30+

3. Content *

Mark only one oval.

☐ English Language Arts

☐ Math

☐ Science

☐ Social Studies

☐ Related Arts

☐ Special Education

4. Grade Level *

Mark only one oval.

☐ Grade 6

☐ Grade 7

☐ Grade 8

5. Course Level

Mark only one oval.

☐ Honors

☐ Grade Level

6. Period *

Mark only one oval.

☐ Period 1

☐ Period 2

☐ Period 3

☐ Period 4

☐ Period 5

☐ Period 6

Low Inference Notes

7. While visiting your classroom today, here are a few things I noticed: *

8. Go to Section... *

Mark only one oval.

- ☐ 2: Element: Providing Rigorous Learning Goals and Performance Scales (Rubrics)
Skip to question 9
- ☐ 3: Element: Tracking Student Progress *Skip to question 13*
- ☐ 4: Element: Establishing Classroom Routines *Skip to question 17*
- ☐ 5: Element: Identifying Critical Content *Skip to question 21*
- ☐ 6: Element: Organizing Students to Interact with New Content *Skip to question 25*
- ☐ 7: Element: Chunking Content into "Digestible Bites" *Skip to question 29*
- ☐ 8: Element: Helping Students Process New Content *Skip to question 33*
- ☐ 9: Element: Helping Students Reflect on Learning *Skip to question 37*
- ☐ 10: Element: Helping Students Examine Their Reasoning *Skip to question 41*
- ☐ 11: Element: Noticing When Students Are Not Engaged *Skip to question 45*
- ☐ 12: Element: Using Academic Games *Skip to question 49*
- ☐ 13: Element: Demonstrating Intensity and Enthusiasm *Skip to question 53*
- ☐ 14: Element: Understanding Students' Interests and Backgrounds *Skip to question 57*
- ☐ 15: Element: Displaying Objectivity and Control *Skip to question 61*
- ☐ 16: Element: Asking Questions of Low Expectancy Students *Skip to question 65*

The teacher provides rigorous learning goals and/or targets, both of which are embedded in a performance scale that includes application of knowledge.

Domain: Providing Rigorous Learning Goals and Performance Scales (Rubrics)

9. Example Teacher Evidence *

Check all that apply.

- ☐ Teacher has a learning goal and/or target posted for student reference
- ☐ The learning goal or target clearly identifies knowledge or processes aligned to the rigor of required standards
- ☐ Teacher makes reference to the learning goal or target throughout the lesson
- ☐ Teacher has a scale that builds a progression of knowledge from simple to complex
- ☐ Teacher relates classroom activities to the scale throughout the lesson
- ☐ Teacher has goals or targets at the appropriate level of rigor
- ☐ Performance scales include application of knowledge

10. Example Student Evidence *

Check all that apply.

- ☐ Students can explain the learning goal or target for the lesson
- ☐ Students can explain how their current activities relate to the learning goal or target
- ☐ Students can explain the levels of performance, from simple to complex, in the scale
- ☐ Student artifacts demonstrate students know the learning goal or target
- ☐ Student artifacts demonstrate students can identify a progression of knowledge

11. Scale: *

Check all that apply.

- ☐ Not using: Strategy was called for but not exhibited.
- ☐ Beginning: Uses strategy incorrectly or with parts missing.
- ☐ Developing: Provides rigorous learning goals and performance scales or rubrics that describe levels of performance.
- ☐ Applying: Provides rigorous learning goals and performance scales or rubrics and monitors the extent to which students understand the learning goal and/or targets and levels of performance.
- ☐ Innovating: Adapts and creates new strategies for unique student needs and situations

12. Reflection *

Mark only one oval.

- ☐ Not Using: How can you begin to incorporate some aspects of this strategy into your instruction?
- ☐ Beginning: How can you provide a rigorous learning goal accompanied by a performance scale or rubric that describes levels of performance?
- ☐ Developing: In addition to providing a rigorous learning goal accompanied by a performance scale or rubric that describes levels of performance, how can you monitor the extent to which students understand the learning goal and/or targets and the levels of performance?
- ☐ Applying: How might you adapt and create new strategies for providing rigorous learning goals and/or targets and performance scales or rubrics that address unique student needs and situations?
- ☐ Innovating: What are you learning about your students as you adapt and create new strategies?

The teacher organizes and guides grouping in ways that appropriately facilitate practicing and deepening knowledge.

Domain: Tracking
Student Progress

13. Example Teacher Evidence *

Check all that apply.

- ☐ Teacher helps students track their individual progress on the learning goal or target
- ☐ Teacher uses formal and informal means to assign scores to students on the scale or rubric depicting student status on the learning goal
- ☐ Teacher uses formative data to chart progress of individual and entire class progress on the learning goal

14. Example Student Evidence *

Check all that apply.

- ☐ Students can describe their status relative to the learning goal using the scale or rubric
- ☐ Students systematically update their status on the learning goal
- ☐ Students take some responsibility for providing evidence in reference to their progress on the scale
- ☐ Artifacts and data support that students are making progress toward a learning goal

15. Scale: *

Check all that apply.

- ☐ Not using: Strategy was called for but not exhibited.
- ☐ Beginning: Uses strategy incorrectly or with parts missing.
- ☐ Developing: Facilitates tracking of student progress towards learning goals and/or targets using a formative approach to assessment.
- ☐ Applying: Facilitates tracking of student progress towards learning goals and/or targets using a formative approach to assessment and monitors the extent to which students understand their level of performance.
- ☐ Innovating: Adapts and creates new strategies for unique student needs and situations

16. Reflection Questions *

Mark only one oval.

- ☐ Not Using: How can you begin to incorporate some aspects of this strategy into your instruction?
- ☐ Beginning: How can you facilitate tracking of student progress using a formative approach to assessment?
- ☐ Developing: In addition to facilitating tracking of student progress using a formative approach to assessment, how can you monitor the extent to which students understand their level of performance?
- ☐ Applying: How might you adapt and create new strategies for facilitating tracking of student progress using a formative approach to assessment that address unique student needs and situations?
- ☐ Innovating: What are you learning about your students as you adapt and create new strategies?

The teacher establishes expectations regarding rules and procedures that facilitate students working individually, in groups, and as a whole class.

Domain:
Establishing
Classroom
Routines

17. Example Teacher Evidence *

Check all that apply.

- ☐ Teacher involves students in designing classroom routines and procedures
- ☐ Teacher actively teaches student self-regulation strategies
- ☐ Teacher uses classroom meetings to review and process rules and procedures
- ☐ Teacher reminds students of rules and procedures
- ☐ Teacher asks students to restate or explain rules and procedures
- ☐ Teacher provides cues or signals when a rule or procedure should be used
- ☐ Teacher focuses on procedures for students working individually or in small groups

18. Example Student Evidence *

Check all that apply.

- ☐ Students follow clear routines during class
- ☐ Students describe established rules and procedures
- ☐ Students describe the classroom as an orderly place
- ☐ Students recognize cues and signals by the teacher
- ☐ Students regulate their behavior while working individually
- ☐ Students regulate their behavior while working in groups

19. Scale *

Check all that apply.

- ☐ Not Using: Strategy was called for but not exhibited.
- ☐ Beginning: Uses strategy incorrectly or with parts missing.
- ☐ Developing: Establishes expectations regarding rules and procedures.
- ☐ Applying: Establishes expectations regarding rules and procedures and monitors the extent to which students understand rules and procedures.
- ☐ Innovating: Adapts and creates new strategies for unique student needs and situations

20. Reflection Questions *

Mark only one oval.

- ☐ Not Using: How can you begin to incorporate some aspects of this strategy into your instruction?
- ☐ Beginning: How can you establish expectations regarding rules and procedures?
- ☐ Developing: In addition to establishing expectations regarding rules and procedures, how can you monitor the extent to which students understand the rules and procedures?
- ☐ Applying: How might you adapt and create strategies for establishing expectations, rules, and procedures that address unique student needs and situations.
- ☐ Innovating: What are you learning about your students as you adapt and create new strategies?

The teacher continuously identifies accurate critical content during a lesson or part of a lesson that portrays a clear progression of information that leads to deeper understanding of the content.

Domain:
Identifying
Critical
Content

21. Example Teacher Evidence *

Check all that apply.

- ☐ Teacher highlights critical content that portrays a clear progression of information related to standards or goals
- ☐ Teacher identifies differences between the critical and non-critical content
- ☐ Teacher continuously calls students' attention to accurate critical content
- ☐ Teacher integrates cross-curricular connections to critical content

22. Example Student Evidence *

Check all that apply.

- ☐ Students can describe the level of importance of the critical content addressed in class
- ☐ Students can identify the critical content addressed in class
- ☐ Students can explain the difference between critical and non-critical content
- ☐ Formative data show students attend to the critical content (e.g., questioning, artifacts)
- ☐ Students can explain the progression of critical content

23. Scale *

Check all that apply.

- ☐ Not Using: Strategy was called for but not exhibited.
- ☐ Beginning: Uses strategy incorrectly or with parts missing.
- ☐ Developing: Signals to students critical versus non-critical content and progression of information.
- ☐ Applying: Signals to students critical versus non-critical content and progression of information and monitors the extent to which students are attending to critical versus non-critical content. .
- ☐ Innovating: Adapts and creates new strategies for unique student needs and situations.

24. Reflection Question *

Mark only one oval.

- ☐ Not Using: How can you begin to incorporate some aspects of this strategy into your instruction?
- ☐ Beginning: How can you signal to students critical versus non-critical content and portray a clear progression of information?
- ☐ Developing: In addition to signaling to students critical versus noncritical content and portraying a clear progression of information, how might you monitor the extent to which students attend to critical content?
- ☐ Applying: How might you adapt and create new strategies for identifying critical content that address unique student needs and situations?
- ☐ Innovating: What are you learning about your students as you adapt and create new strategies?

The teacher organizes students into appropriate groups to facilitate the processing of new content.

Domain: Organizing students to interact with new content

25. Example Teacher Evidence *

Check all that apply.

- ☐ Teacher has established routines for student grouping and student interaction for the expressed purpose of processing new content.
- ☐ Teacher provides guidance on one or more cognitive skills:
 - ☐ • Becoming aware of the power of interpretations
 - ☐ • Avoiding negative thinking
 - ☐ • Taking various perspectives
 - ☐ • Interacting responsibly
 - ☐ • Handling controversy and conflict resolution
- ☐ Teacher organizes students into ad hoc groups for the lesson
- ☐ Teacher provides guidance on one or more cognitive skills appropriate for the lesson

26. Example Student Evidence *

Check all that apply.

- ☐ Students move and work within groups with an organized purpose
- ☐ Students have an awareness of the power of interpretations
- ☐ Students avoid negative thinking
- ☐ Students take various perspectives
- ☐ Students interact responsibly
- ☐ Students appear to know how to handle controversy and conflict resolution
- ☐ Students actively ask and answer questions about the content
- ☐ Students add their perspectives to discussions
- ☐ Students attend to the cognitive skill(s)

27. Scale *

Check all that apply.

- ☐ Not Using: Strategy was called for but not exhibited.
- ☐ Beginning: Uses strategy incorrectly or with parts missing.
- ☐ Developing: Organizes students into appropriate groups to facilitate processing of new content.
- ☐ Applying: Organizes students into appropriate groups to facilitate processing of new content and monitors the extent to which groups process.
- ☐ Innovating: Adapts and creates new strategies for unique student needs and situations.

28. Reflection Question *

Mark only one oval.

- ☐ Not Using: How can you begin to incorporate some aspects of this strategy into your instruction?
- ☐ Beginning: How can you organize students into small groups to facilitate the processing of new content?
- ☐ Developing: In addition to organizing students into small groups to facilitate the processing of new content, how can you monitor the extent to which groups process?
- ☐ Applying: How might you adapt and create new strategies for organizing student to interact with new content that address unique student needs and situations?
- ☐ Innovating: What are you learning about your students as you adapt and create new strategies?

Based on student evidence, the teacher breaks the content into small chunks (i.e., digestible bites) of information that can be easily processed by students to generate a clear conclusion.

Domain: Chunking
Content into
"Digestible Bites"

29. Example Teacher Evidence *

Check all that apply.

- ☐ During a verbal presentation, the teacher stops at strategic points
- ☐ While utilizing multi-media, the teacher stops at strategic points
- ☐ While providing a demonstration, the teacher stops at strategic points
- ☐ While students are reading information or stories orally as a class, the teacher stops at strategic points
- ☐ Teacher uses appropriate questioning to determine if content chunks are appropriate
- ☐ Teacher uses formative data to break content into appropriate chunks

30. Example Student Evidence *

Check all that apply.

- ☐ Students can explain why the teacher is stopping at various points
- ☐ Students appear to know what is expected of them when the teacher stops at strategic points
- ☐ Students can explain clear conclusions about chunks of content

31. Scale *

Check all that apply.

- ☐ Not Using: Strategy was called for but not exhibited.
- ☐ Beginning: Uses strategy incorrectly or with parts missing.
- ☐ Developing: Breaks input experiences into smaller chunks based on student needs.
- ☐ Applying: Breaks input experiences into smaller chunks based on student needs and monitors the extent to which chunks are appropriate.
- ☐ Innovating: Adapts and creates new strategies for unique student needs and situations.

32. Reflection Question *

Mark only one oval.

- ☐ Not Using: How can you begin to incorporate some aspects of this strategy into your instruction?
- ☐ Beginning: How can you break input experiences into smaller chunks based on student need?
- ☐ Developing: In addition to breaking input experiences into smaller chunks based on student need, how can you also monitor the extent to which chunks are appropriate?
- ☐ Applying: How might you adapt and create new strategies for chunking content into digestible bites that address unique student needs and situations?
- ☐ Innovating: What are you learning about your students as you adapt and create new strategies?

The teacher systematically engages student groups in processing and generating conclusions about new content.

Domain: Helping
Students Process New
Content

33. Example Teacher Evidence *

Check all that apply.

- ☐ Teacher employs formal group processing strategies
 - ☐ • Jigsaw
 - ☐ • Reciprocal teaching
 - ☐ • Concept attainment
- ☐ Teacher uses informal strategies to engage group members in actively processing
 - ☐ • Predictions
 - ☐ • Associations
 - ☐ • Paraphrasing
 - ☐ • Verbal summarizing
 - ☐ • Questioning
- ☐ Teacher facilitates group members in generating conclusions

34. Example Student Evidence *

Check all that apply.

- ☐ Students can explain what they have just learned
- ☐ Students volunteer predictions
- ☐ Students voluntarily ask clarification questions
- ☐ Groups are actively discussing the content
 - ☐ • Group members ask each other and answer questions about the information
 - ☐ • Group members make predictions about what they expect next
- ☐ Students generate conclusions about the new content
- ☐ Students can verbally summarize or restate the new information

35. Scale *

Check all that apply.

- ☐ Not Using: Strategy was called for but not exhibited.
- ☐ Beginning: Uses strategy incorrectly or with parts missing.
- ☐ Developing: Engages student groups in processing new content to generate conclusions.
- ☐ Applying: Engages student groups in processing new content to generate conclusions and monitors the extent to which the processing enhances student learning. .
- ☐ Innovating: Adapts and creates new strategies for unique student needs and situations.

36. Reflection Question *

Mark only one oval.

- ☐ Not Using: How can you begin to incorporate some aspects of this strategy into your instruction?
- ☐ Beginning: How can you engage student groups in processing new content?
- ☐ Developing: In addition to engaging student groups in processing new content, how can you monitor the extent to which the process enhances student understanding?
- ☐ Applying: How might you adapt and create new strategies for processing new content that address unique student needs and situations?
- ☐ Innovating: What are you learning about your students as you adapt and create new strategies?

The teacher engages students in activities that help them reflect on their learning and the learning process.

Domain: Helping Students
Elaborate on New Content

37. Example Teacher Evidence *

Check all that apply.

- ☐ Teacher asks students to state or record what they are clear about and what they are confused about
- ☐ Teacher asks students to state or record how hard they tried
- ☐ Teacher asks students to state or record what they might have done to enhance their learning
- ☐ Teacher utilizes reflection activities to cultivate a growth mindset
- ☐ Teacher utilizes reflection activities to cultivate resiliency
- ☐ Teacher utilizes reflection activities to avoid negative thinking
- ☐ Teacher utilizes reflection activities to examine logic of learning and the learning process

38. Example Student Evidence *

Check all that apply.

- ☐ Students can explain what they are clear about and what they are confused about
- ☐ Students can describe how hard they tried
- ☐ Students can explain what they could have done to enhance their learning
- ☐ Student actions and reflections display a growth mindset
- ☐ Student actions and reflections display resiliency
- ☐ Student actions and reflections avoid negative thinking
- ☐ Student reflections involve examining logic of learning and the learning process

39. Scale *

Check all that apply.

- ☐ Not Using: Strategy was called for but not exhibited.
- ☐ Beginning: Uses strategy incorrectly or with parts missing.
- ☐ Developing: Engages students in reflecting on their own learning and the learning process.
- ☐ Applying: Engages students in reflecting on their own learning and the learning process and monitors the extent to which students self-asses their understanding and effort.
- ☐ Innovating: Adapts and creates new strategies for unique student needs and situations.

40. Reflection Question *

Mark only one oval.

- ☐ Not Using: How can you begin to incorporate some aspects of this strategy into your instruction?
- ☐ Beginning: How can you engage students in reflecting on their own learning and the learning process?
- ☐ Developing: In addition to engaging students in reflecting on their own learning process, how can you monitor the extent to which students self-assess their understanding and effort?
- ☐ Applying: How might you adapt and create new strategies for reflecting on learning that address unique needs and situations?
- ☐ Innovating: What are you learning about your students as you adapt and create new strategies?

The teacher helps students produce and defend claims by examining their own reasoning or the logic of presented information, processes, and procedures.

Domain: Helping
Students Examine
Their Reasoning

41. Example Teacher Evidence *

Check all that apply.

- ☐ Teacher asks students to examine and analyze information for errors or informal fallacies in content or in their own reasoning
 - ☐ • Faulty logic
 - ☐ • Attacks
 - ☐ • Weak reference
 - ☐ • Misinformation
- ☐ Teacher asks students to examine and analyze the strength of support presented for a claim in content or in their own reasoning
 - ☐ • Statement of a clear claim
 - ☐ • Evidence for the claim presented
 - ☐ • Qualifiers presented showing exceptions to the claim
- ☐ Teacher asks students to examine logic of errors in procedural knowledge
- ☐ Teacher asks students to analyze errors to identify more efficient ways to execute processes
- ☐ Teacher facilitates the use of digital sources to find credible and relevant information to support examination of errors in reasoning
- ☐ Teacher involves students in taking various perspectives by identifying the reasoning behind multiple perspectives

42. Example Student Evidence *

Check all that apply.

- ☐ Students can describe errors or informal fallacies in content
- ☐ Students can explain the overall structure of an argument presented to support a claim
- ☐ Student artifacts indicate students can identify errors in reasoning or make and support a claim
- ☐ Students navigate digital resources to find credible and relevant information to support examination of errors in reasoning
- ☐ Student artifacts indicate students take various perspectives by identifying the reasoning behind multiple perspectives

43. Scale *

Check all that apply.

- ☐ Not Using: Strategy was called for but not exhibited.
- ☐ Beginning: Uses strategy incorrectly or with parts missing.
- ☐ Developing: Engages students in activities that require them to examine and defend their own reasoning or the logic of information as presented to them.
- ☐ Applying: Developing: Engages students in activities that require them to examine and defend their own reasoning or the logic of information as presented to them and monitors the extent to which it deepens student understanding. .
- ☐ Innovating: Adapts and creates new strategies for unique student needs and situations.

44. Reflection Question *

Mark only one oval.

- ☐ Not Using: How can you begin to incorporate some aspects of this strategy into your instruction?
- ☐ Beginning: How can you engage students in activities that require them to examine and defend their own reasoning or the logic of information as presented to them?
- ☐ Developing: In addition to engaging students in activities that require them to examine and defend their own reasoning or the logic of information as presented to them how can you monitor the extent to which students are deepening knowledge??
- ☐ Applying: How might you adapt and create new strategies for helping students examine their own reasoning or the logic of information presented to them that address unique student needs and situations?
- ☐ Innovating: What are you learning about your students as you adapt and create new strategies?

The teacher scans the room and notices when students are not paying attention or not cognitively engaged and takes overt action.

Domain: Noticing When
Students are Not
Engaged

45. Example Teacher Evidence *

Check all that apply.

- ☐ Teacher notices when specific students or groups of students are not paying attention or not cognitively engaged
- ☐ Teacher notices when the energy level in the room is low or students are not participating
- ☐ Teacher takes action or uses specific strategies to re-engage students

46. Example Student Evidence *

Check all that apply.

- ☐ Students appear aware of the fact that the teacher is noticing their level of engagement
- ☐ Students increase their level of engagement when the teacher uses engagement strategies
- ☐ Students explain that the teacher expects high levels of engagement
- ☐ Students report that the teacher notices when students are not engaged

47. Scale *

Check all that apply.

- ☐ Not Using: Strategy was called for but not exhibited.
- ☐ Beginning: Uses strategy incorrectly or with parts missing.
- ☐ Developing: Scans the room and notices when students are not engaged and takes action.
- ☐ Applying: Developing: Scans the room and notices when students are not engaged and takes action and monitors the extent to which students re-engage.
- ☐ Innovating: Adapts and creates new strategies for unique student needs and situations.

48. Reflection Question *

Mark only one oval.

- ☐ Not Using: How can you begin to incorporate some aspects of this strategy into your instruction?
- ☐ Beginning: How can you scan the room, notice when students are not engaged, and then take action to engage students?
- ☐ Developing: In addition to scanning the room, noticing when students are not engaged, and taking action, how might you monitor the extent to which students re-engage.
- ☐ Applying: How might you adapt and create new strategies for noticing when students are not engaged that address unique student needs and situations?
- ☐ Innovating: What are you learning about your students as you adapt and create new strategies?

49. Example Teacher Evidence *

Check all that apply.

- ☐ Teacher uses academic games that focus on or reinforce important concepts
- ☐ Teacher uses academic games that create generalizations or test principles
- ☐ Teacher uses structured, inconsequential competition games such as Jeopardy and Family Feud
- ☐ Teacher develops impromptu games such as making a game out of which answer might be correct for a given question
- ☐ Teacher uses friendly competition along with classroom games
- ☐ Teacher develops conative skills during academic games
- ☐ • Taking various perspectives
- ☐ • Interacting responsibly
- ☐ • Handling controversy and conflict

50. Example Student Evidence *

Check all that apply.

- ☐ Students engage in the games with some enthusiasm
- ☐ Students can explain how the games keep their interest and help them learn or remember content
- ☐ Students appear to take various perspectives when engaged in academic games
- ☐ Students interact responsibly during academic games
- ☐ Students handle controversy and conflict during academic games

51. Scale *

Check all that apply.

- ☐ Not Using: Strategy was called for but not exhibited.
- ☐ Beginning: Uses strategy incorrectly or with parts missing.
- ☐ Developing: Uses academic games to maintain student engagement.
- ☐ Applying: Developing: Uses academic games to maintain student engagement and monitors the extent to which these activities enhance student engagement.
- ☐ Innovating: Adapts and creates new strategies for unique student needs and situations.

52. Reflection Question *

Mark only one oval.

- ☐ Not Using: How can you begin to incorporate some aspects of this strategy into your instruction?
- ☐ Beginning: How can you use academic games to maintain student engagement?
- ☐ Developing: In addition to using academic games to maintain student engagement, how can you monitor the extent to which these activities enhance student engagement?
- ☐ Applying: How might you adapt and create new strategies for using academic games to maintain student engagement that address unique student needs and situations?
- ☐ Innovating: What are you learning about your students as you adapt and create new strategies?

The teacher demonstrates intensity and enthusiasm for content by sharing a deep level of content knowledge in a variety of ways.

Domain: Demonstrating
Intensity and
Enthusiasm

53. Example Teacher Evidence *

Check all that apply.

- ☐ Teacher enthusiastically demonstrates depth of content knowledge
- ☐ Teacher demonstrates importance of content by relating it to authentic, real-world situations
- ☐ Teacher describes personal experiences that relate to the content
- ☐ Teacher signals excitement for content by
- ☐ • Physical gestures
- ☐ • Voice tone
- ☐ • Dramatization of information
- ☐ Teacher strategically adjusts his/her energy level in response to student engagement

54. Example Student Evidence *

Check all that apply.

- ☐ Students say that the teacher “likes the content” and “likes teaching”
- ☐ Student attention levels or cognitive engagement increase when the teacher demonstrates enthusiasm and intensity for the content

55. Scale *

Check all that apply.

- ☐ Not Using: Strategy was called for but not exhibited.
- ☐ Beginning: Uses strategy incorrectly or with parts missing.
- ☐ Developing: Demonstrates intensity and enthusiasm by sharing a deep level of content knowledge in a variety of ways.
- ☐ Applying: Demonstrates intensity and enthusiasm by sharing a deep level of content knowledge in a variety of ways and monitors the extent to which these activities enhance student engagement.
- ☐ Innovating: Adapts and creates new strategies for unique student needs and situations.

56. Reflection Question *

Mark only one oval.

- ☐ Not Using: How can you begin to incorporate some aspects of this strategy into your instruction?
- ☐ Beginning: How can you demonstrate intensity and enthusiasm by sharing a deep level of content knowledge in a variety of ways.
- ☐ Developing: In addition to demonstrating intensity and enthusiasm by sharing a deep level of content knowledge in a variety of ways, how can you monitor the extent to which these activities enhance student engagement?
- ☐ Applying: How might you adapt and create new strategies for demonstrating intensity and enthusiasm for the content that address unique student needs and situations?
- ☐ Innovating: What are you learning about your students as you adapt and create new strategies?

The teacher uses students' interests and backgrounds to produce a climate of acceptance and community

Domain: Understanding
Students' Interests and
Backgrounds

57. Example Teacher Evidence *

Check all that apply.

- ☐ Teacher relates content-specific knowledge to personal aspects of students' lives
- ☐ Teacher has side discussions with students about events in their lives
- ☐ Teacher has discussions with students about topics in which they are interested
- ☐ Teacher builds student interests into lessons
- ☐ Teacher uses discussion of students' personal interests to highlight or reinforce conative skills (e.g., cultivating a growth mindset)

58. Example Student Evidence *

Check all that apply.

- ☐ Students describe the teacher as someone who knows them and/or is interested in them
- ☐ Students respond when the teacher demonstrates understanding of their interests and backgrounds
- ☐ Student verbal and nonverbal behaviors indicate they feel accepted by their teacher
- ☐ Students can describe how their personal interests connect to specific conative skills (e.g., cultivating a growth mindset)

59. Scale *

Check all that apply.

- ☐ Not Using: Strategy was called for but not exhibited.
- ☐ Beginning: Uses strategy incorrectly or with parts missing.
- ☐ Developing: Uses students' interests and backgrounds during interactions with students.
- ☐ Applying: Uses students' interests and backgrounds during interactions with students and monitors the climate of acceptance and community in the classroom.
- ☐ Innovating: Adapts and creates new strategies for unique student needs and situations.

60. Reflection Question *

Mark only one oval.

- ☐ Not Using: How can you begin to incorporate some aspects of this strategy into your instruction?
- ☐ Beginning: How can you use students' interests and backgrounds during interactions with students?
- ☐ Developing: In addition to using students' interests and backgrounds during interactions with students, how can you monitor the climate of acceptance and community in the classroom?
- ☐ Applying: How might you adapt and create new strategies and techniques for using students' interests and backgrounds during interactions with students that address unique student needs and situations?
- ☐ Innovating: What are you learning about your students as you adapt and create new strategies?

The teacher behaves in an objective and controlled manner to demonstrate a commitment to students and academic rigor.

Domain: . Displaying
Objectivity and
Control

61. Example Teacher Evidence *

Check all that apply.

- ☐ Teacher does not exhibit extremes in positive or negative emotions
- ☐ Teacher does not allow distractions to change the focus on academic rigor
- ☐ Teacher addresses inflammatory issues and events in a calm and controlled manner
- ☐ Teacher interacts with all students in the same calm and controlled fashion
- ☐ Teacher does not demonstrate personal offense at student misbehavior

62. Example Student Evidence *

Check all that apply.

- ☐ Students describe the teacher as not becoming distracted by interruptions in the class
- ☐ Students are settled by the teacher's calm demeanor
- ☐ Students describe the teacher as in control of himself/herself and in control of the class
- ☐ Students say that the teacher does not hold grudges or take things personally

63. Scale *

Check all that apply.

- ☐ Not Using: Strategy was called for but not exhibited.
- ☐ Beginning: Uses strategy incorrectly or with parts missing.
- ☐ Developing: Behaves in an objective and controlled manner.
- ☐ Applying: Behaves in an objective and controlled manner and monitors the effect on the classroom climate.
- ☐ Innovating: Adapts and creates new strategies for unique student needs and situations.

64. Reflection Question *

Mark only one oval.

- ☐ Not Using: How can you begin to incorporate some aspects of this strategy into your instruction?
- ☐ Beginning: How can you use behave in an objective and controlled manner?
- ☐ Developing: In addition to behaving in an objective and controlled manner, how can you monitor the effects of the classroom climate?
- ☐ Applying: How might you adapt and create new strategies for behaving in an objective and controlled manner that address unique student needs and situations?
- ☐ Innovating: What are you learning about your students as you adapt and create new strategies?

The teacher asks questions of low expectancy students with the same frequency and depth as with high expectancy students.

Domain: Asking
Questions of Low
Expectancy Students

65. Example Teacher Evidence *

Check all that apply.

- ☐ Teacher makes sure low expectancy students are asked questions at the same rate as high expectancy students
- ☐ Teacher makes sure low expectancy students are asked complex questions that require conclusions at the same rate as. high expectancy students

66. Example Student Evidence *

Check all that apply.

- ☐ Students say that the teacher expects everyone to participate
- ☐ Students say that the teacher asks difficult questions of every student

67. Scale *

Check all that apply.

- ☐ Not Using: Strategy was called for but not exhibited.
- ☐ Beginning: Uses strategy incorrectly or with parts missing.
- ☐ Developing: Asks questions of low expectancy students with the same frequency and depth as with high expectancy students.
- ☐ Applying: Asks questions of low expectancy students with the same frequency and depth as with high expectancy students and monitors the quality of participation of low expectancy students.
- ☐ Innovating: Adapts and creates new strategies for unique student needs and situations.

68. Reflection Question *

Mark only one oval.

- ☐ Not Using: How can you begin to incorporate some aspects of this strategy into your instruction?
- ☐ Beginning: How can you use ask questions of low expectancy students with the same frequency and depth as with high expectancy students?
- ☐ Developing: In addition to asking questions of low expectancy students with the same frequency and depth as with high expectancy students, how can you monitor the quality of participation?
- ☐ Applying: How might you adapt and create new strategies for asking questions of low expectancy students that address unique student needs and situations?
- ☐ Innovating: What are you learning about your students as you adapt and create new strategies?