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Teacher-Based Teams Talk of Change in Instructional Practices

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Abstract

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MA, John Carroll University, 2009

BS, Ohio State University, 1984

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Abstract

Mandates have been issued for educators to collaborate and improve student achievement, requiring a change in instructional practices through teacher talk. Teachers have struggled to make the transitional conversion from team planning to observed changes in instructional practices with evidence of improvement. The purpose of this qualitative study was to examine how teachers collaborated while following the Ohio Improvement Process. The purpose was then to make data-driven changes regarding instructional practices in the continuous improvement cycle. The conceptual framework was constructed from the teachers' dialogic stances towards talk of instruction, along with the intellectual and emotional attitudes teachers have about making changes. The guiding research question examined the ways teachers have been influenced by each other to make changes in instructional practices. The case study design observed a sample of 10 teachers from two teacher-based teams, with five of those teachers being interviewed. Observational data were examined for dialogic stance toward talk of instructional practices, whereas interview data were analyzed looking for evidence of the cognitive restructuring. Statements were categorized as motivations and influences. The analysis revealed that the teachers are changing their thinking through motivations and influences from collaboration. Literature has supported the findings that teachers could benefit from a gradual implementation process leading to the continuous improvement cycle. By developing a policy recommendation paper with a focus on teacher learning, positive social change may include preparing and empowering teachers for the changes that occur through collaboration.

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Section 1: The Problem

The Local Problem

Educational practices are changing as more education professionals recognize that "The professional learning community model is a grand design—a powerful new way of working together that profoundly affects the practices of schooling" (DuFour, 2004; Hoaglund, Birkenfeld, & Box, 2014, p. 527). The teaching profession has long followed a traditional model in which teachers learn in isolation. Overcoming this tradition is a challenge, especially to more experienced teachers who have operated this way most of their careers. Although experienced teachers are more willing to be a part of a collaborative process, they have a more difficult time engaging in effective collaborative talk related to data-driven instructional practices (Ronfeldt, Farmer, McQueen, & Grissom, 2015). However, teachers need to analyze current methods to conclude that new strategies may have lead to improved training (Brownell et al., 2014). Some states have implemented programs such as the Ohio Improvement Process (OIP), with the belief that education needs to move away from isolated teaching practices to improve student test scores and compete internationally. The OIP requires collaboration in a teacher-based team (TBT) as a source of professional learning. Using student data as evidence of improvement, the OIP charges each TBT with the collaborative task of identifying best practices to improve overall student learning outcomes.

The site for this qualitative study was an upper elementary school in a suburban Ohio district that, in 2013, had more than 4,174 students. Of the student population, 49% lived in poverty with 67% being a minority (ODE, 2013). Owing to the most recent

performance on state testing, the school district had been mandated by state policy to have teachers meet in TBTs with a goal of teacher influencing practice and student learning. A principal within the district suggested that "We are just beginning to understand" how to make the transition from team planning to observed changes in instructional practices with evidence of improvement (personal communication, September 15, 2016). Each year, the district leadership team (DLT) and the building leadership teams (BLT) made progress in their understanding of the process and in how they were to serve the TBTs in their schools. The TBT structure uses a five-step process (see Appendix B) modeled after previous types used for effective change management and continuous improvement (Donnally & Kirk, 2015).

Individuals' beliefs have hindered teacher learning within collaborative groups such that this process does not lead to making changes in one's teaching practices (Danielowich, 2012). Individual teachers who had long worked and learned solely through their reflection do not grasp the value that collaboration could have on teacher learning. The progress in quality collaboration of the TBTs in the Ohio school district is slow and possibly stagnant, holding back the growth in many of the newer groups. Thus, moving groups from basic disconnected talk to collaborative inquiry necessitates an understanding of how teachers are challenged to transfer from their development in isolation. For this reason, the local problem that I addressed in this study was identifying teachers' struggles to make the transitional conversion from team planning to observed changes in instructional practices with evidence of improvement. An understanding of

how teachers move past their isolationist foundations could hasten the progress of functioning groups.

Evidence of the Problem at the Local Level

Simply telling teachers to meet in collaborative groups has not been enough to create high-functioning groups. Left to develop by themselves, groups had several reasons to impede their progress (OIP, Resource 13, 2012). The State of Ohio requested that the schools in districts operate using the OIP owing to low performance on the Ohio testing. The local district set up the DLT and BLT for each school that fell under the mandate in 2012. The implementation of the TBT included some training at the elementary schools and few or none of the schools with higher grades. In these upper-grade schools, there was a set of three 15-minute videos shown during the 45-minute staff meetings along with brief presentations about the process using the standard PowerPoint documents produced by the state. During the implementation process, the teachers were told to form groups and collaborate by filling out the required protocol.

Administrators can take approaches that lead to the development of inquiry-minded teachers who are empowered in their work (Linder, Post, & Calabrese, 2012). In a discussion about the state of the TBT, a district administrator said that "a couple of elementary schools were doing great, while the upper elementary and middle schools were just getting started" (personal communication, April 28, 2016). The administrator declined to comment on the progress of the high school teams. After the second year of the high school operating with TBTs, the building principal proclaimed: "Last year will not be discussed" (personal communication, September 15, 2016). The principal then

offered that this year will be a new year with TBT training for all departments. The TBT training took place in two sessions as specified by the principal with only two members of any TBT within each department in attendance. Thus, the math department had five of 14 teachers attend training. These teachers were expected to go back and train their TBT accordingly. Perhaps the overall belief was that these limited training sessions would assist in the groups developing towards useful collaborative inquiry.

Evidence of the Problem in the Professional Literature

The focus of the Standards for Professional Learning continues to connect professional learning to changing the ways that educators teach by addressing their knowledge and skills (Hirsh, 2013). How teachers decide to make changes in instruction is not yet understood. Until this recent focus of policy on teacher collaboration, teachers had to make decisions entirely on their own and find their motivation for change. Hattie (2009) explained it, saying, "We acknowledge that teachers teach differently from one another; we respect this difference and even enshrine it…" (p. 1). Often collaboration consisted of talks in the hallway, or sharing of pacing guides and assessments, with a minimal discussion about lesson strategies or outcomes. When asked about teacher conversations, Dr. Robertson indicated, "We should be talking about what students understand and how they think" (personal communication, November 2, 2016). The goal of a learning model in education should be complexity in learning for students by providing a variety of instructional practices (Roberson, 2014). If there was a belief with teachers that the students were performing well enough on the class tests, then there may not be motivation for change.

A focus on student data in an inquiry dialogue can lead to the conclusion that changes in practices are needed (Slavit et al., 2013). Too often, teacher talk in the hallways is more about complaining how little the students are learning and how much of a problem student behavior is for consistent instruction. Especially in today's culture of yearly standardized testing, there is not robust and timely evidence of significant progress in student learning that can encourage teachers. Improvements in student performance are a desirable effect that teachers would embrace if presented with the tools and supports needed, rather than being left alone to find the best solution. DuFour stated it strongly as, "Schools cannot achieve the fundamental purpose of learning for all if educators work in isolation" (DuFour, DuFour, & Eaker, 2008, p. 18). Having teachers participate in professional learning communities (PLCs) is a valuable way of building a school environment of collaboration to break the inherent mode of operating in isolation.

Having a school culture of collaboration can help promote an inquiry type of dialogue. Existing school practices that support isolationist efforts are difficult to overcome, whereas having a school culture focused on collaboration helps support the higher-functioning teacher groups. Models for schools have concentrated on data-driven instruction for improvement in student learning (Lynch, Smith, Provost, & Madden, 2016). Furthermore, practical examples for teacher learning exist in schools, which include the parents and community in collaborative groups (Poekert, 2012). Some reasons for states to begin mandating that teachers meet in groups are through these examples of success. Schools that develop a culture of collaboration form their teacher groups through the initiative of a leader who desires to see improvement in student

performance. Being told to improve is not enough to motivate teachers to change. To remove the feeling of being told what to do, PLCs empower teachers to determine their path for development; once the group is operating, all teachers can move forward in this growth (Linder et al., 2012).

Teacher growth takes place through some action that presents a choice to the teacher, perhaps through new knowledge or information. Teachers have worked alone to learn from their teaching practices because there is a far more vulnerability in collaborating for growth. McNulty (personal communication, March 7, 2016) shared that "It is possible to do both of these things in the TBT process," or to find teacher growth through both collaboration and personal reflection. Participants in PLCs have the opportunity to reflect on their practices and make plans of action for growth (Prytula, 2012). Reflection is examining one's practices and requires time outside of the teaching experience. Reflection alone does not mean teachers make changes from what is comfortable to them. Administrators seek to have "a fundamental, positive change in teacher practice leading to increased student achievement" (Lippy & Zamora, 2012, p. 54) from the time spent in an efficient PLC. Staff typically does not have the experience with collaboration for improvement in student learning (Au, 2013). Thus, the struggle to make changes through collaboration is evident.

Rationale

Within education, the teaching "profession needs to be embracing the notions of what it is to be successful in teaching, helping all collaboratively to attain this excellence and recognizing major effects when they are evident" (Hattie, 2012, p. 37). Hattie

discussed this challenge by providing an array of example methods that have shown through studies significantly affect student learning. High-quality teacher collaboration, as measured through self-reporting surveys, positively affects student learning (Ronfeldt et al., 2015). While working in collaborative groups, teachers do not immediately make significant changes in their instruction to increase student performance outcomes.

Teachers do not naturally come into the field with the ability to make evidence-based conclusions (Yeh & Santagata, 2015). As a skill that must be developed, data-driven decisions are a powerful tool for making changes. The self-assessment tool provided by the OIP guide (OIP, 2012, Resource 16) showed a progression in teacher collaboration leading to evidence-based instructional practices. As teachers become used to talking about instruction, they find an increasing need to prove that their methods are working. Teachers declare a sense of whether their students are learning the material, but the proof is often not documented. With some coursework focused on analyzing student data, preservice teachers decrease the number of unsupported claims they made about student performance (Yeh & Santagata, 2015). Developing stronger analytical skills takes time, which has not commonly been offered in a regular day of teaching. Mixed results exist regarding the change in methods of instruction between teachers who receive professional development on new materials as compared with teachers who received no training from an expert (Kleickmann, Tröbst, Jonen, Vehmeyer, & Möller, 2016). Further research is needed on individual teacher learning to understand the mechanism that teachers use for making changes in instruction.

Evidence suggests that teachers hold positive feelings within an existing inquiry-based initiative (Butler, Schnellert, & MacNeil, 2015). These positive feelings could lead to a higher degree of collaboration about making changes to their instruction. Although it has become widespread to offer professional development for teachers in collaborative groups, little research has focused on how this collaboration involving student data affects teaching (Arbaugh et al., 2013). Change can take place in teachers' instructional methods in various ways, including an opportunity to observe a particular teaching practice within a classroom (Kang & Cheng, 2014). Although observations of other teachers has not been a common practice in most schools because it breaks the isolation of teachers, it is often used as a response to poor teacher evaluations. To encourage collaboration, peer observations can be used without any pressure on performance. An inquiry-based approach to collaboration brings opportunity to expand teacher thinking about how to make changes. Hence, the purpose of this qualitative study was to examine how the teachers collaborate on student achievement and make data-driven changes in instructional practices.

Definition of Terms

The basis of the following definitions was a collaboration of teachers and what aspects of the collaboration affect instructional practices. These terms are found in the literature and are incorporated throughout this qualitative case study. These definitions are essential to understanding the processes that teachers use to make changes in teaching practices.

Collaborative inquiry: Collaborative inquiry is a process in which one might see alternating occurrences of both reflection and action, helping a group toward an objective (Bray, Lee, Smith, & Yorks, 2000, p.6).

Continuous improvement process: Continuous improvement process is one in which a cyclic procedure is followed with a goal to change for improvement (Ohio Improvement Guide, 2012).

Data-driven decisions: Data-driven decisions are those made knowledgeably and efficiently by using a range of data to improve instructional support and practices (Ohio Improvement Guide, 2012, p. 118).

Ohio Improvement Process (OIP): OIP is a model for schools to use to improve education for every student (Ohio Improvement Guide, 2012, p vi).

Teacher-based team (TBT): A TBT is defined in the OIP Guide as a team composed of teachers working together to improve instructional practice and student learning outcomes. The team works using collaborative inquiry and data-driven decisions to make changes in practices (Ohio Improvement Guide, 2012, p 122).

Significance of the Study

There has been a movement in education on the national level to change the way that teaching takes place in schools. The Every Student Succeeds Act (ESSA) authorized by law in December of 2015 included some new language about professional development (U.S. Department of Education, 2015). The act states that teachers should receive training in the use and interpretation of data on student learning. For many educators, the mandates have preceded training, leaving many teachers to attempt to

practice the improvement concept without an adequate understanding of how their thinking about practices must change. The teaching profession should encourage collaboration to drive the profession upward so that there is more concern about learning than about teaching (Hattie, 2012). Too often, teacher resources were chosen because they were thought to be best or were best known by the teachers regarding fitting their teaching style. Teachers should use the methods that produce the highest learning in their students. Only 54% of teachers reported receiving feedback from an administration that made any difference in their teaching practices (TALIS survey, 2013). It was not reported whether those changes were motivated by student performance or classroom management. With nearly half of the reporting teachers not receiving any valuable feedback about teaching practices, most teachers are not included to make a change in their practices.

Although previous studies have examined the collaborative talk of teachers about student data (Slavit et al., 2013), I considered teacher dialogue within TBTs about instructional practices, and how this talk leads to changes in instruction by individual teachers. School leaders have not typically been skillful at guiding continuous instructional improvement for all subjects within classrooms. The OIP is new to both educators and administrators, giving value to a study that can describe how teachers go through the process of learning to make changes. The struggle of teachers to make the transition from their reflective isolation to an open, collaborative effort is not overcome instantly, nor is it without significant discomfort. In this study, I help provide a closer

look at how teachers incorporate what they learn from collaborative groups, examine their reflective thinking, and then make changes in instruction.

Research Question(s)

I used a case study design to examine how the teachers collaborate on student achievement and make data-driven changes in instructional practices. One reason for this choice is because, "Case study research is a form of qualitative research that endeavors to discover meaning, to investigate processes…" (Lodico, Spaulding, &Voegtle, 2010, p. 269). Moreover, qualitative studies can contain answers to the question of "how people interpret their experiences, structure their worlds, and what meaning they attribute to their experiences" (Merriam, 2009, p. 5). The teachers in this qualitative case study were active in TBT groups at an upper elementary school. The five-step process of the OIP provides structure for teachers to follow a cycle of continuous improvement through the use of student data. The type of teacher talk in groups helped lead to a description of influences and motivating factors for change. A primary research question guided this project study: In what ways have teachers been influenced by each other to make changes in instructional practices during the TBT process?

The research questions for this study were as follows:

RQ1: Change can be intractable. What did teachers believe were the strongest motivators for changes in their instructional practices?

RQ2: The propensity to make changes can be a measure of the group effectiveness. How often were teachers applying what they learned from Step 3 of the OIP into the classroom, and where changes in instruction discussed during the

collaboration were implemented?

Review of the Literature

The purpose of this qualitative case study was to examine how the teachers' collaborate on student achievement and make data-driven changes in instructional practices. Equally important, the problem was identifying teachers struggle to make the transitional conversion from team planning to observed changes in instructional practices with evidence of improvement. I used peer-reviewed articles for this review along with online resources and relevant research books. I chose Education Research Complete and Sage Premier databases using the Walden Library. The pursuit of literature began with identifying studies about TBT talk.

Collaboration is an inclusive term leading to the thought of collaborative inquiry amongst teacher groups. The two search topics, collaborative inquiry and teacher collaboration, yielded literature that explained some connections teachers have to each other in the work environment. Teachers collaborate on many issues including pacing guides and common assessments. What is missing is whether any collaboration helps teachers connect student performance to improved teaching. To be more specific to the topic of improving education and to match the OIP, I searched for continuous improvement cycles with teaching. Although constant improvement is connected to student achievement, literature does not reveal how data-driven changes in instruction occur in the classroom. Teacher learning takes place in the same manner as it does in other professions, through the resolution of a potential conflict in thought. A literature search for teacher learning with instructional practices yielded some recent research

showing that, besides reflection, teachers learn from each other. Themes in the literature include (a) connections to peers, (b) the continuous improvement cycle, (c) collaborative inquiry, and (d) change in instructional practices.

Conceptual Framework

Shein's (1995) managed learning theory is appropriate when considering which aspect of collaboration motivates changes and how teachers change their classroom practices. Teachers need to form new standards of judgment to go through this cognitive restructuring, which is making changes in what they do in the classroom. Time spent at summer sessions on mathematics provided the only opportunity for reflection outside of the fast-paced school year. Often during these reflection periods, teachers come to believe that change is needed, which battles with their tendency to do what was best known to them, thereby creating a barrier between the desire for improvement and directing actions toward improvement. Learning takes place, according to Henderson (2014), through some significant event that requires hard work to a move forward, offering an opportunity to break the barrier. Internalizing the previous year's standard test results creates a considerable desire for self-practice examination. Making conclusions from this reflection did not automatically lead to changes in instruction. In a small case study, only 20% of the teachers showed the ability to analyze their instructional practices and determine whether these practices developed integrated knowledge among the students (Brownell et al., 2014). These same teachers also showed a strong ability to reflect on making changes in practice. If there is any commonality to the 20% mentioned above, it illustrates how challenging it is for teachers to make changes in their practices.

Being a knowledge-rich practitioner predicts whether teachers have critical teaching practices (Gitomer & Zisk, 2015). Much emphasis is put into professional development within subject areas to improve teacher knowledge of the topics being taught (Gitomer & Zisk, 2015). Teachers learn more in their subject areas and perhaps make changes to their instruction based on this new knowledge. Although there may be collaboration with other teachers during the professional development sessions, the collaboration often ends there. There needs to be a continuous process of thinking about teaching practices. Prytula (2012) stated that thinking could even be on a level beyond only teaching practices, such as examining how one looks at his or her teaching and in what ways changes are derived. Understanding how any talk in collaboration leads to changes in instruction is valuable information for teachers and administrators.

The teachers' dialogic stances (Table 1), as set forth by Slavit et al. (2013), toward talk in TBTs about instructional practices are determined to help understand how teachers influence each other through collaboration. Through a dialogic stance, a case is built for the intellectual and emotional attitude teachers have about making changes, as well as how effective the TBTs are in directing trials of new instructional strategies.

Table 1

Dialogic Stance Toward Talk of Instructional Practices

Negotiation			Not negotiation
Inquiry-based talk	Exploratory talk	Connected talk	Disconnected talk
Conversational turns build on or challenge others' ideas. • Authentic questions that emerge from critical analysis of artifacts examine beliefs and assumptions. • Tentative statements invite alternatives. • Talk characterized by uncertainty and meaning-making.	• Conversational turns build on others' ideas. • Authentic questions are raised, but may not be based on data analysis or pursued deeply. • Alternative ideas identified and considered. • Talk characterized by a degree of uncertainty and desire to understand.	Conversational turns connected to an immediate task or focus. • Questions are procedural or clarifying, and beliefs and assumptions are not pursued collectively. • Factual or authoritative statements distribute knowledge and ideas. • Talk characterized by a desire to move work forward.	Conversational turns disconnected from each other and/or group focus. • Questions, if present, are procedural or technical. • Authoritative statements or personal stories shared. • Talk characterized by certainty and declaration.

Note. From Slavit et al. (2013), modified for an instructional talk.

Review of Broader Problems

Teachers struggle to find ways to improve yet maintain consistently high-quality teaching practices. When new strategies are tried, they are merely experiments. When new methods of teaching are tried, they are a risk. Something as simple as the feedback that a teacher has a powerful yet variable effect on student achievement (Hattie, 2012). Finding data-based evidence for change rather than relying on a sense of learning would be a shift in motivation for most teachers.

Connections to Peers

In didactic coursework for preservice teachers, the creation of lesson plans has been a focus. Sharing resources for lesson plans and assessments is also emphasized. Teachers should regularly gather to share some common areas of interest such as school

culture, family and community issues, or assessments (Linder et al., 2012). These types of common interest connections between teachers do not alone lead to improved student learning. The emphasis of the instructions given to preservice teachers is to help them survive the long grind of the teaching year. There would be neither the time nor the knowledge to create all lessons during the first year of instruction. Many experienced teachers rely completely on lessons and methods found in student textbooks. Instead, research has shown that teachers who are connected to their peers in meaningful discussions about areas other than common assessments and lesson plan schedules tend to see a higher performance from their students (Siciliano, 2015).

Although sharing among teachers helps the processes of teaching occur more smoothly, collaboration for improvement means something different. Examining student learning takes place daily in the classroom but could require significant reflection to motivate changes other than slight lesson modifications, such as finding some additional practice problems for a part of a lesson. Through measuring the effects on student learning, there have to be decisions on teaching for a group of teachers to be an effective learning community (Hilliard, 2012). The decisions made need to be about changes in instruction through evidence in student performance data. Teachers identified collaboration as a key piece to how their learning transpired during a professional development project (Jao & McDougall, 2015). The teachers were excited to have learned during an opportunity to collaborate on math topics. Again, professional developments are often unique experiences and do not translate to continuous improvement throughout a school year or a teacher's career.

The Continuous Improvement Cycle

An ongoing improvement cycle has its roots in the business field known as the plan-do-check-act (PDCA) cycle, but educators have had a more difficult time accepting it. When higher education institutions are asked to be accountable for showing improvement, use of the PDCA cycle was to determine if progress had been made (Aggarwal & Lynn, 2012). By changing the check step to study, Donnally & Kirk (2015) provided tips on learning the process. One must first address that a school was in the process of continuous improvement before designing training to implement a process (Au, 2013).

Perhaps the most compelling motivations for learning to make changes in instruction have been when it was built into teacher evaluations. Hirsh (2014) described an evaluation system with six elements, three of which focused on professional learning through collaboration and learning to make changes in instruction. It was not enough to require that changes be made. The challenge was to show evidence for improvement. However, collaborative efforts for improvement were necessary for schools to be effective (Hoaglund et al., 2014).

Motivating teachers to learn should be an important part of the evaluation process, rather than mandating documentation and explanations. A strong leader is a critical component in guiding a team of teachers to make progress through a continuous learning cycle (Peppers, 2015). There are many facets to leading a school to develop an improved model, including the culture of improvement and training for data-driven decisions (Lynch et. at., 2016). Teacher decisions are not commonly based upon data, but rather on

what is seen in class during the lessons. Not enough research has focused on making changes as determined through data analysis (Arbaugh et al., 2013). But researchers have indicated some connections between their beliefs and values as related to student learning (Merz & Swim, 2011). An example is a teacher lowering their expectations of students, in response to an increase in failures, which corresponds to a belief that the students are not capable of the work. A study of a low-performing school reported a significant turnaround from the students in a short time frame, based on the evaluation of student data to drive changes in instruction (Marrapodi & Beard, 2013). The inquiry process throws through time spent with coaches and leaders in the process. Willingness to learn from collaboration with student data leads to strong improvement. However, a leader who simply hands the process to the teachers makes the growth of any groups unlikely (Butler et al., 2015).

Collaborative Inquiry

Providing opportunities to learn collaboration in a professional setting is a valuable way to bring teachers out of isolation (Jao & McDougall, 2015). The professional development setting with peers from other districts has been an effective way to introduce the teachers to learning through collaboration. The self-perceptions of educators are increased through collaborative experiences in professional development (Butler et al., 2015). A series of events that includes reflection and action that are encouraged by peers could lead to the possibility of collaborative experiences continuing in the workplace. Aspects of collaboration help focus on more than only teaching facts.

There is difficulty in determining the difference between knowing facts or procedures and knowing how or why those events are true (Gitomer & Zisk, 2015).

The key to functioning through inquiry has been that learning is taking place during the process. The process of collaboration adds to that teaching. Teachers have more opportunities to learn practices from colleagues than they do while working on their own (Lewis, Perry, Friedkin, & Roth, 2012). To change the school culture through collaboration, school leaders have a consistent approach to implementing collaborative groups in a local district (Lippy & Zamora, 2012). With reform based on the implementation of a school-wide collaborative process, an influence on teaching practices was observed (Poekert, 2012).

Student grades are often the mean of test scores for the class. There are other statistics useful in analyzing student data (e.g., percentages of different responses to individual problems). Teachers use the most efficient data statistics for analyzing student data to drive instruction less frequently than they used the overall means of student data (Hoover & Abrams, 2013). A time-consuming, detailed analysis was not commonly reported to be in practice. Encouraging teachers through collaboration to take on the more challenging tasks in data analysis could change the trend.

Change in Instructional Practices

When it comes to instructional practices, there was the long-lasting message in education that "everything seems to work" (Hattie, 2009, p.1). This beginning to Hattie's book about the findings from his synthesis of over 800 meta-analysis studies gave an essential message about changing instructional practices in education. Teachers were not

only expected to be secure in their content knowledge, but also in the understanding of how to teach the content (Gitomer & Zisk, 2015). The current model for education is leading to mediocre results at best, as a change to a learning model would encourage changes in instructional practices (Roberson, 2014).

Many teachers discovered something that works for them, applied it, perfected it, and stayed with it for a long time, without ever proving that this method was either the best choice for learning or produced the best results. There has been plenty of evidence in the literature that changes in instructional practices can take place, and student learning would be impacted positively. Teachers were more likely to consider experimentation with their instruction if they had observed successful practices by other teachers (Kang & Cheng, 2014). Much of the evidence used to show progress in student learning was based on standardized tests which occurred at most once per year. That did not lead to an emphasis on improvement during the teaching year. There were several inputs reported as leading to teacher learning: reflection about one's practices; collaboration about student learning; and professional development about a new practice.

Instructional strategies that were chosen carefully by teachers provided an impact on student learning (Lee & Huh, 2014). Other than student learning, it would be difficult to argue for a stronger purpose to make changes in practices. Finding the evidence for increased learning and challenging teachers to act upon that evidence has not been the main motivations for change. Through observations of a new practice, teachers reflected on whether the experience would change the way they teach (Murphy, 2016). Experienced teachers and expert teachers did not show the same characteristics (Hattie,

2012), such that teachers with many years of experience were not necessarily experts in teaching. Expert teachers were ones who had learned from their practices and had a tendency to try new methods when provided with supporting evidence. Over a 3-year period with embedded training, teachers became more likely to experiment with new instructional practices and showed more reflection (Sleegers, Thoonen, Oort, & Peetsma, 2014). This increased effect was due to engagement in professional learning activities and continual collaboration.

While it was most common for teachers to learn from their textbook resources, the second most common way of learning about instruction was through their colleagues (Suurtamm & Graves, 2011). Too often these discussions simply happen in the hallways as meeting times for teachers to collaborate are not built into their daily schedules. There is now a huge challenge in preparing new teachers to teach in ways that they were not taught, to collaborate in ways teachers never did before, and to use assessments to drive instruction (Dial, 2015). Implications of collaborating are to arrive at conclusions which were not otherwise seen individually through a sharing of common beliefs and practices (Lovin, Sanchez, Leatham, Chauvot, Kastberg, & Norton, 2012). When teachers viewed talk with other teachers as a way to self-evaluate their teaching methods, then teacher learning was more likely to be evident (Danielowich, 2012). Teacher candidates noted that significant learning took place through the PLCs in which they participated (Rigelman & Ruben, 2012).

Though a goal of professional development has often been to improve student achievement, many factors influenced what teachers implemented from the training that

they received (Brownell et. at., 2014). The quantity of professional development which teachers received on instructional practices was a substantial predictor of student achievement (Kleickmann, Trobst, Jonen, Vehmeyer, & Moller, 2016). Still, there was no guarantee that teachers tried new strategies in their classrooms. Besides professional development, reading of teaching literature helped motivate teachers towards experimenting with their methods to improve outcomes (Thoonen, Sleegers, Oort, Peetsma, & Geijsel, 2011).

Implications

Recently in the State of Ohio school districts with a less than average yearly progress for each student was mandated to implement the OIP. While the State continued to offer some training to teachers and administrators involved in the OIP, the districts were heavily relied upon to fund and develop the collaboration process. The progress made in the process has varied tremendously from district to district, even from school to school within a district. No data has been collected to report the level of involvement in the OIP or the progress of districts. There are self-reporting tools within the resources (OIP resource 16), perhaps providing a way to progress from the beginning level of functioning to an understanding of how the process is affecting the teachers in TBTs.

The project following the qualitative case study was a policy recommendation. There were specified supports listed for the OIP, yet it has not been certain that all of the supports were in place or being met to the degree specified (ODE District Supports Glance, 2015). A statewide data collection process and reporting on the OIP would be an expensive endeavor. The results of this research study helped to identify a policy

recommendation to assist with the implementation of the OIP and placed a focus on teacher learning at the forefront of the process.

When making large-scale improvements in instruction, there were five components which were argued to be necessary (Cobb & Jackson, 2011). These five included teacher training on instructional practices, teacher collaboration, coaches, instructional leaders and district leaders. Teachers collaborating about student achievement has been a focus of the OIP. There needs to be a higher degree of understanding how teachers make data-driven changes in instructional practices. Further data and reports of the teacher learning process through TBT collaboration could help to identify additional resources needed in the implementation process and direct training offered. Details of what should be examined more closely encourage more thought in leading or facilitating the continuous improvement process. There may be value to teacher groups who are starting in TBTs in sharing success stories of existing TBTs through special events and presentations.

Summary

There is an emphasis on changing the education of this generation of students. While there is no agreement on how to get changes to take place, it is commonly disputed that changes need to be made in instruction to increase student performance. Hence, mandates or policies exist to push educators to collaborate to find better instructional practices. The problem was the difficulty teachers had in making changes in instructional practices with evidence of improvement through a collaborative effort. Admiration for teachers inventing their best practice has not yet been pushed aside to create a desire for

collaborative successes. Even having teachers judge the success in their lessons needs to yield to data-driven changes in practices. The significance of this case study was to examine the process of changing instruction as it was discussed in TBT meetings. The review of literature included the topics of connections to peers, the continuous improvement cycle, collaborative inquiry, and change in instructional practices. One implication of this case study was that while it was a positive direction to have new studies on teacher learning, educational policies should have more of an emphasis on data-driven changes through teacher learning rather than yearly student performance indexes.

Section 2 includes the methodology. The characteristics and justification of the research design of this qualitative case study were presented. Details of the participant selection process were outlined, and a discussion of the role of the researcher was included, along with the data collection methods and instruments. Expectations for the accuracy and limitations of the analysis of data was provided including thoughts on the probable findings through the qualitative patterns which may become evident. The completion of section 2 showed the results and the data analysis of the qualitative study.

Section 3 was the presentation of the project. The section included the rationale for the project and the literature to support the decision for the policy recommendation. Also included were the implementation and needed resources for the recommendation. There was a detailed description of supports and barriers, and the implications of the social change from the project prescribed.

Section 4 contained the reflections and conclusions of the completed doctoral project and study. The strengths and limitations of the project were described, and recommendations for alternative approaches highlighted. A discussion of what was learned throughout the study was included, followed by a reflection on the importance of the work, and future research to be considered.

Section 2: The Methodology

Research Design and Approach

In this study, I addressed the struggle teachers that experience to make the transitional conversion from team planning to observed changes in instructional practices with evidence of improvement. My purpose was to examine how the teachers collaborate on student achievement and make data-driven changes in instructional practices. Gaining an in-depth understanding of how to overcome this problem required qualitative data on collaboration and motivations for teachers to make a change. A primary research question guided this project study: What ways have teachers been influenced by each other during the TBT process to overcome the struggle to make changes in instructional practices? In this section, I present the characteristics and justification of the research design.

In examining how often teachers implement changes in their classrooms, a quantitative analysis readily follows with proper data collected through questionnaires and statistics. I considered mixed methods study because the thought was to explain, based on the frequency of changes made by teachers and the level of talk in TBT meetings, how the process of making changes in instruction takes place for individual teachers. Quantitative data might have provided a positive correlation between the type of talk in groups and some changes teachers make in instruction. The type of teacher talk in groups could have helped lead to a description of influences and in finding motivating factors for change. Instead, my interest was in learning how the changes in instruction are made and what aspects of the TBT talk lead to making those changes.

Description of Basic Qualitative Research Design

Research can be focused on understanding or insight rather than determining a relationship between quantities. Moreover, qualitative studies seek to answer questions on "how people interpret their experiences, and how they construct their worlds, and what meaning they attribute to their experiences" (Merriam, 2009, p. 5). It is this part where "individuals construct reality interaction" that can occur within teacher groups (Merriam, 2009, p. 22). With the four levels of talk, teachers can be chosen with the highest level of talk, which is inquiry-based talk about instruction, to explore how the talk generates changes in instruction. Within the lowest level of talk, which is disconnected talk, it is not clear as to whether teachers give any credit for the changes in instruction to their collaboration. Bogdan and Biklen (2007) discussed that this is a postmodern period where the foundation of beliefs in the way humans progress no longer holds fast. Thinking that teachers still develop in isolation may be one of those beliefs that need to be modified.

Ethnography

Researchers use ethnographic designs to understand "a culture-sharing group's shared patterns of behavior, beliefs, and language that develop over time" (Creswell, 2012, p. 462). Patterns through time are seen in the group interactions to yield information about how the group functions through a particular issue or situation. Beliefs about teacher growth are not limited to any culture within the United States and can vary significantly from district to district. The focus of an ethnographic design study is an

entire culture of people as the researcher describes the community and the essence of that culture (Lodico et al., 2010).

Phenomenology

Phenomenological research involves examining features of people's everyday experiences. This research type can be applied to most qualitative studies. I examined teachers in a common experience of TBT meetings, and how it translated to the even more common experience of teaching. The phenomenon taking place was deciding how to instruct the students, bringing them to their highest level of learning. This type of study is based on the core meanings that teachers construct in making decisions about instruction in the classroom. In my research, I tried to identify the conscious processes of the teachers working through collaborative efforts to make changes in instruction, and to determine the essence of the experience. Creswell stated, "For the five approaches, researchers might study individuals (narrative, phenomenology); or explore process, activities, or events (case study, grounded) . . . " (Creswell, 2009, p. 177). In my study, I examined the process rather than the individuals. A researcher might use a phenomenological study to explain how the teachers are affected by the struggle rather than how to break through it.

Grounded Theory

Researchers also use grounded theory to explore a process rather than the individuals involved in the process (Creswell, 2012). A theory is developed from the data to explain the process being studied, thus making it grounded in the data (Creswell, 2012). It would be beneficial to examine the process of how teachers come to make

changes in their classroom instruction. The focus is on the long-term development of the teachers, perhaps through their careers. A constructivist approach has the researcher "explain the feelings of individuals as they experience a phenomenon or process" (Creswell, 2012, p. 430).

Narrative Research

Researchers typically use narratives to provide a detailed description of experiences (Creswell, 2012). The data are the stories of the individual's experiences, and the meaning found from those stories by the individual. The stories are most often "first-person accounts of experience told in story form having a beginning, middle, and end" (Merriam, 2009, p. 32). Details are rich, and relationships are considered part of the experience. The chronology of the events within the narrative is a significant component of the study.

Case Study

The qualitative study utilized a case study design to examine how the teachers collaborate on student achievement and make data-driven changes in instructional practices. To clarify the definition, "Case study research is a form of qualitative research that endeavors to discover meaning, to investigate processes…" (Lodico et al., 2010, p. 269). Examining the process from different perspectives can provide rich details to help bring understanding. An instrumental type of case study has a focus which "may be a specific issue with the argument being used to illustrate the issue" Creswell, 2012, p. 465). There may be patterns of behavior from individuals within the case, describing how they experience the presented issue.

Justification of Research Design

Since the subjects of the study are teachers of specific groups who meet in TBTs, the system studied was bounded by the constraints of when the teachers meet, who placed them in these groups, and what the objectives are of the group (Lodico et al., 2010). There are bounded characteristics of time, place, and physical parameters which identify the system under study (Creswell, 2012). The proposal was to study a system within specific teacher groups meeting to follow the OIP. Similar circumstances may also be found in Ohio within the many schools that participate in the OIP. Because this is "an instance of the process" according to Merriam (2009, p. 41), this bounded system made for a case study design. The questions within this research study examined what the teachers think or feel during the TBT process as well as how the collaboration affects their instruction.

Characteristics of Qualitative Research (Tradition)

It is most common in the field of education, amongst others, that qualitative studies are basic (Merriam, 2009). A reason that this study was a basic qualitative study is that the researcher looked for what meaning teachers gave to the experience of talk in TBTs. Another was to examine how teachers make changes in their classrooms, which according to Merriam (2009), would be their teaching world. There is a procedure that takes place during the TBT meetings according to the OIP and the local district leadership team. Because the teachers observed are part of a bounded system (Lodico et al., 2010), a case study was selected as the most applicable choice. It is hopeful to apply the findings from the study to a larger population, at least in Ohio and the OIP. This study

has a special feature of being particularistic as the OIP is being targeted as a particular program which holds teachers accountable in groups (Merriam, 2009). With specific circumstances of the group being observed due to having unique individuals, a case study may yield ideas as to how to study the TBTs on a larger scale. By observing the talk of teachers within their natural groups (Bogdan & Biklen, 2007), the research engaged was observational. As mentioned in the problem, the issue is how the teachers in TBTs talk about instructional practices. An instrumental type qualitative study such as this one is to focus on a specific issue (Creswell, 2013).

Participants

The participants have been a part of TBT for the two previous years unless they are new to the district this year. Each group of teachers had a range of experience in the field of teaching and collaboration, as the area does hire new teachers each year. The district has a significant number of experienced teachers with at least 20 years of teaching. The groups have been formed by grade level and by subject taught as per the instructions of the principal. A teacher who is retiring during the present school year could negatively affect the talk within the group, as they would not be looking to improve their teaching for the longer term. The development of how the process of using data-driven instruction leads to increased student achievement can take several years to build and makes the educators efficient and productive collaborators.

Criteria for Selecting Participants

The subjects of the case study were two groups of teachers who each collaborated as a TBT. Since groups were formed at the start of each school year, these particular

groups of participants were not altogether in the previous year. Some of the teachers were in the same grade and school the previous year, while others were moved grades to replace another teacher who retired or left the district. Each academic year then seems to be the start of a new group. The leader or facilitator of the groups changed as well.

The first criterion was time spent in the TBT process, such that the teachers are not all new to the process. Very little data come from a group with low buy-in to the improvement process, and thereby, shows no regard for the collaborative effort to improve instruction. The second criterion was a preference for a mixture of teaching experience. There were expert teachers as well as first-year teachers included, some with a strong history of isolation and some with an eager approach to learning from their peers.

Justification of Participants

The value of including two groups in the study was the variety of the criteria contained in the sample. One group may not have yielded a single teacher whose dialogic stance towards talking about instruction was above the connected level. Over the 3-year period of operating in TBTs, the teachers in the sample may have seen good examples of collaboration and may have experienced making some changes. As the research questions were about how teachers were affected by the others in the group and what they felt were the strongest motivators for making changes, a group with disconnected talk would provide very little information of how the collaboration influences any changes in their instruction. The sample was large enough to find some variation in the type of talk within the TBTs.

The teachers were following the OIP 5-step process (see Appendix B). With the first two steps being to unpack the learning standards and plan to collect data about the student's initial knowledge of the topic, it was preferred that the teachers were entering the third step of the process. The third step is to ascertain how the student data show the needs for student learning, and then to discuss and plan instruction of lessons. The third step provided the best opportunity to hear discussion of lessons and observe how the teachers influenced each other in their decisions about teaching.

Access to Participants

The selection process was to ask the principal of the Upper Elementary school for recommendations as to which two groups might participate in the study. An initial introduction to the groups took place through the principal or another member of the staff. It is not unusual for an administrator to sit in on the TBT meetings visiting the group an acceptable occurrence. After an introductory meeting, a formal request to participate in the study was extended to the members of the groups.

Researcher/Participant Relationship

As the researcher, I sat in on the TBT meetings. Though these are not formal focus group meetings, I was able to ask questions for clarity during the discussion. I did not assume the role of a facilitator to the group as they maintained their normal procedures. Being a fellow teacher familiar with the TBT process, I understood focusing the conversation on instruction and on making data-driven decisions, yet tried to develop our relationship by asking specifically about instruction. It was critical not to judge the talk of the teachers or share opinions of what was lacking in collaborative effort. Instead,

the discussion was enhanced in which strategies can be used to teach the subject content to the students when they reach the upper grades. Being an encourager with the group in discussion built the researcher-participant relationship.

Target Population

The population was comprised of teachers from a local school district in the State of Ohio. Many districts such as this one are under the mandate to follow the OIP by creating district leadership teams, building leadership teams, and teacher-Based teams. bThe population from which a sample was found can be looked at as a funnel. As all of Ohio districts would be the large end of the funnel, the middle of the funnel are the teachers in a specific school district chosen for the case study (Bogdan & Biklen, 2007). In the constricted end of the funnel were the teachers from each of the two TBTs who were asked to participate in the study.

Sample Method

The two groups of teachers were already meeting for regular TBT meetings to discuss data and how instruction affects student learning. They were asked to participate by allowing the researcher to observe the group discussion. After observing the two groups of teachers in a meeting, three teachers were chosen for interviews. The purposeful sample consisted of teachers with different levels of talk about instructional practices and thereby was considered key informants (Lodico et al., 2010). Teachers were asked to participate in the interview process, but some declined to continue beyond participating in TBTs.

Sample Size

The research site was a suburban Ohio school district.The sample size consisted of 10 teachers meeting in two TBTs at an Upper Elementary School. Only five of the participating teachers volunteered for interviews. The teachers were responsible for either mathematics or language arts material and teaching 6th grade in the school.

Setting

The setting was ABC Upper Elementary School in a suburban Ohio school district. The students were drawn from approximately 48,000 residents in the area. While the population was diverse, there were 48% of the students in the district living at or below the poverty level. The selected school district had three elementary schools for grades k-3, one upper elementary school for grades 4-6, a middle school for grades 7-8, and a high school. The student body consisted of over 60% African American.

Ethical Issues and Confidentiality Agreement

The research began once the IRB and Walden University had given permission. Informed consent to participate was given by those involved in the TBT meetings and interview process through the Participant Consent Form (see Appendix F). The TBT meetings were somewhere in the TBT 5-Step Process (see Appendix B).The agreement (see Appendix G) was explicit that the participant's name remains confidential through the data collection and analysis process by use of a letter designation for each participant. As I enacted the transcription process, there were not any participants identified within the notes. All measures in place were there to protect the participants involved in this

study. All names were kept confidential during the reporting and analysis of the data as per the confidentiality statement (see Appendix G).

Data Collection

The data collected during this qualitative study were generated from conversations between teachers during TBT meetings. The TBT meetings lasted 45 minutes taking place in a 6th-grade classroom of one of the members, and the teachers sat facing the projection of the protocol on the wall. The meetings were directed by the TBT process to provide input for a TBT protocol designed by the district leadership team. Three protocols are required each school year. Interviews were conducted using a set of questions (see Appendix C) designed to inquire about changes in instructional practices and the factors that influenced those changes.

Justification of Data Collection

The observations of the TBT meetings were done using the chart in the observation protocol to mark different occurrences of the types of talk about instruction during the teacher conversations (see Appendix D). The focus of these conversations was talking about instruction which was most specifically found when the group was in step 3 of the TBT process. Qualitative data were gathered through interviews to reveal the process of making instructional changes as well as how their group talk helped them to engage in the OIP. From the analysis of data, it was learned how to help teachers become invested in increasing student learning through collaborative efforts and this continuous improvement process.

Data Collection Instruments and Source

Researcher notes were generated during the TBT meetings on the observation protocol (see Appendix D), and a mark was made for each occurrence of the type of talk. After the meetings, notes were added to the conversations in the meetings, and reflections were made about each session on the research log. The interview questions (see Appendix C) were used as an outline to move the discussion to the main points of interest. The questions were designed to gain an understanding of how the teacher felt about change as well as the frequency of changes made.

Data Collection Sources

As 2 scheduled meetings took place for the TBT, I attended the meetings. The first source for data was an observation of the talk. Notes from the observation recorded thoughts about teacher understanding of the process, their feelings for the process, and how well the group interrelated with each other. The chart for the type of talk (see Appendix D) was marked for each occurrence of that type of talk. The notes yielded categories for coding, specifically about planning instructional practices.

Interviews were a second source of data as teachers elaborated with more detail on their process for making changes in instruction. Interview questions (see Appendix C) were focused on gathering the teacher's thoughts about changing instruction. The interview questions were developed to gain an understanding of how the participants viewed change, and what motivators he or she had for making these changes.

Observations

While the observations of the TBT were not recorded, there were aspects of interaction that could be seen and not easily heard. The notes taken described how the teachers felt about the process as seen in the observations and constituted reflective field notes (Lodico et al., 2009). The TBT meetings took place once per week after school and had typical starting and ending times. The conversations were expected to be on task and motivated by the time limit aspect. The meetings were just 45 minutes and followed the TBT protocol designed by the district leadership team.

Interviews

I conducted one-on-one interviews with the teachers who elected to participate. The questions used during the interviews followed the Interview Protocol (see Appendix C). Using the research questions to guide and build the conversation, I asked questions which led to ways in which the teacher viewed change, and how the teacher perceived making changes from the collaboration. The participants for the interviews were observed as having a dialogic stance which was not disconnected as determined by their talk during the TBT meeting. I wanted to gather further details about how open the teachers were to the collaboration process and what perceptions were held about whether it was of benefit to their teaching.

Sufficiency of Data Collection

Two groups of TBTs were observed with teachers chosen from each for interviews. One set of notes was generated from observing the teachers in the meeting.

The most extensive coding took place during the meeting conversations. An additional set of records was generated from the interviews.

Processes of Data Collection

Notes were taken during the TBT meetings, and a chart was completed for the level of talk observed (see Appendix D). Notes included references to instruction, from stories which were disconnected to ideas which fed a new conversation. It was important to note questions asked by the participants. The TBT meetings lasted 45 minutes and were kept within the time limit. Interviews were scheduled following the coding of the TBT meetings and conducted with individual teachers.

Data Collection Tracking System

A chart was completed for the level of talk observed (see Appendix D). Other notes taken during the meetings made up parts of the reflective journal written after completing each observation. Some occurrences of the type of talk along with the depth of input were charted. A research log was kept with the number of participants, dates of the meetings, and individual contacts with the teachers. Answers to interview questions were related to the categories from the coding of the data gained from the TBT meetings. Insights provided depth to the process used by the teachers and were summarized in brief notes.

Access to Participants

The selection process was to ask the principal of the Upper Elementary school for recommendations as to which two groups might participate in the study. An initial introduction to the groups took place through the principal since it has been an acceptable

occurrence for an administrator to sit in on the TBT meetings. After an introductory meeting, a formal request to participate in the study was extended to the members of the groups.

The TBT meetings held after school hours provided a chance to interact with the teachers. The meetings were outlined from a Protocol showing the Five-step process (see Appendix A) for improvement. Conversations occurred as a facilitator-led the groups to focus on one step for a set period during the meeting. A request for an interview with teachers followed the TBT meetings.

Role of the Researcher

As a teacher in the district, I have met a few of the teachers in the study, though I have never taught in the 6th-grade building and I have seen the teachers at some professional development events. I expected that being a peer could help build an open relationship in the discussion of the TBT process and how it affected each of us at the workplace. It also meant that I did not have any authority over the participants in my researcher role. As I have grown to believe that a continuous improvement model can benefit development as a teacher, I hoped to hear their beliefs about this process as well.

As the researcher, I attended the TBT meetings. Though these were not formal focus group meetings, I asked questions for clarity during the discussion. I did not assume the role of a facilitator to the group as they followed the procedure in place. Being a fellow teacher familiar with the TBT process, I heard the conversation on instruction and on making data-driven decisions. It was critical not to judge the talk of the

teachers or share opinions of what was lacking in collaborative effort. Encouraging the group discussion was a way to build a working relationship with the participants.

Data Analysis

Data analysis during qualitative research began as soon as the first data were collected and proceeded throughout the study (Lodico et al., 2010). Using inductive processes, analysis of data built the case from its smallest elements to present the final, more general conclusions. Determining how to organize the data was an essential characteristic of this qualitative study. The process took several attempts at pouring through the data for the organization. Coding was a procedure used to sort the data at first into larger categories, and then to segment data from those categories into more specific common details. Data were organized by the comments and questions with themes developing as related to instruction or student data. Coding of the conversation followed the categories listed in Table 1 for Dialogic Stance.

Analysis of Data

For the conversations of the teachers observed in the meetings, no names were included in the notes to protect the participants. During the TBT meeting, data were coded according to the levels of talk in Table 1 and recorded on a chart. A level of talk from Table 1 was assigned to each group as the most common one used and considered during the follow-up interviews. Other categories developed from the notes on the observations, such as talk about data, reflection on lessons, questions asked, and responses to questions. These categories helped in developing the follow-up questions used in the interview process.

Accuracy and Credibility of Findings

Meetings were observed, and a summary of the notes was written shortly after the meeting. Triangulation of data came from the observational notes, the summary notes of the interviews, and the member checks following the interviews. During the meetings, the TBT process was followed with support and encouragement for engaging in the process. The interview time was a chance to clarify the statements made during the meetings and some meanings behind these declarations were determined.

Discrepant Cases

Data that did not match the categories were considered as possible discrepant cases. Teacher perspectives were dissimilar as their experiences were all different. The TBT included special education teachers who provided alternative perspectives to the process. There were insights provided for instruction not typically used in the core subject classrooms. Teachers who had been in co-teaching environments also shared a different set of collaboration experiences. The implementation of a new curriculum either encouraged a stronger need for collaboration or brought on further isolation practices as the teachers decided to work independently to learn the new methods. Discrepant cases were considered in the discussion as perspectives to be shared but were not able to be connected to the restructuring of thinking by the teachers in the groups.

Data Analysis Results

The qualitative data were obtained from observations of teacher TBT meetings and one-on-one interviews with the teachers involved. Through the recommendation of the principal, contact was made with the facilitators of two particular 6th grade TBTs. A

schedule of meetings easily allowed for the arrangement of the observations. The participants were 10 teachers from two TBTs formed within one grade level in the same building. These two groups matched the criterion for participant selections, and each had four teacher members plus an intervention specialist. The teachers had a range of experience from three years to over 25 years teaching, and all had been meeting in TBTs for two years, though not necessarily together. The groups were at different points in the TBT process. One group was precisely in step three and discussing the instructional methods to be used over the next several weeks, while the other group was jumping between steps all in the same meeting. After the observations, interviews were arranged with five participants who elected to join the next phase of the study.

Data Analysis Process

The facilitator conducted the TBT meeting, and no further remarks were made after thanking them for their participation in the study. During the TBT meeting, the observation protocol (see Appendix D) was used as the format for field notes for the event. Marks were made according to the type of talk about instruction in each row. Column A was used for one group and column B for the other group. While there was expected talk about standards and completing the TBT protocol, these statements were not included in the observation chart. Notes taken during the TBT meeting included observations about how the teachers interacted and how open each seemed to appear to the TBT process. After a question was asked, commonly a discussion took place between two teachers to provide an answer to the inquiry. Each question was noted as a guiding interaction in the field notes.

From the observation protocol, it was seen how often the different types of the talk were observed, showing whether the group was mostly toward types of talk at the upper end of the chart, the middle, or near the bottom of the chart. The higher rows on the chart corresponded to a dialogic stance of inquiry talk while the bottom rows were disconnected talk. The marks were tallied for each row so that there was a total for each group in the row with the characteristic. To analyze the observation chart, the number of occurrences were read in determining where the group was functioning. The expectation was to find the conversation to be the connected talk to exploratory talk range of types, which were in the middle of the chart. It was crucial that the groups were not operating only within the disconnected talk range at the bottom, which occurred at the beginning of the school year when the groups were just meeting for the first few times. Written in the notes was the number of questions asked during the process through writing a question mark in the margin of the protocol. Having the question marks recorded was valuable to understanding when the group was acting closer to an inquiry mode as compared to when they were in a period of completing the protocol form displayed on the screen.

After the TBT meetings had been observed, an email was sent with the recruitment letter to each participant requesting a one-on-one interview (see Appendix G). When individuals responded positively, a quick follow-up email was sent to set up the times and days for the interviews. The interview protocol was provided to the teachers as soon as we met for the 30-45 minute interview so that the questions could be looked over before we started. The teacher was reminded that he or she could opt out of the interview at any time during the process if they chose and that confidentiality was

provided as no names were used in the results or writing of the study. The interviewees were thanked for their time, and the questions were asked from the protocol. During the interview, notes were written on the interview protocol to ensure that the questions were covered. After the interview, the notes were summarized to be sent to the participant for a member check. Any requested changes by the participants were done to maintain the accuracy of data.

The first analysis of the interview data involved looking for evidence of cognitive restructuring as described in Shein's (1995) managed learning theory. In applying this theory, to make a change in instruction teachers must restructure their thought process about teaching. Data were examined for mention of previous ways versus current ways of teaching. There were general comments about teaching methods, but it was important to look at how the comments were related to collaboration.

Another analysis of interview data was done through coding into categories. The data were sorted into categories of strategies shared, of resources used from the curriculum materials, and of the materials which were self-made that were shared. Another set of coding was done with the two categories derived from the research questions. These were influences and motivations. This second set of categories provided useful information to be analyzed in the findings.

Research Findings

The problem this study examined was that teachers struggled to make the transitional conversion from conversations in the TBT meetings to observed changes in instructional practices with evidence of improvement. TBT was observed to determine

the dialogic stance of the participants towards talk of instructional practices. The four levels of the talk were disconnected talk, connected talk, exploratory talk, and inquiry talk, each having a set of characteristics that can be observed. Table 2 below was made to show the number of occurrences for each characteristic observed during the TBT meetings. The two teacher teams, group A and group B, were listed in separate columns with the number marked for each characteristic in the appropriate row. Group B had far fewer occurrences due to a limited discussion about instruction as the lessons were already taught. More than twice as many notations of question marks were made for group A as there were for group B. Again, this simply reflected the amount of time spent discussing instruction during the meeting.

Table 2

Occurrences of Characteristics During TBT Meetings

Talk about instructional practices	Group A	Group B
Authentic questions evolving from analysis of instruction examine beliefs and assumptions	1	0
Tentative statements seeking new solutions	1	1
Talk characterized by grasping meaning of data and situation involving data	1	0
Questions are raised but may not be founded on student data or do not have solutions presented	3	2
Alternative instructional methods identified and considered	4	2
Talk characterized by desire to understand and an amount of uncertainty	6	3
Questions are procedural or clarifying without full discussion of how to answer them as a group	5	2
Factual or leading statements to express personal knowledge and procedures	3	4
Talk shows the intent to move work forward	3	4
Basic questions that only examine procedures or are technical references	2	0
Personal stories are shared, or statements are made with rigid barriers	2	0
Talk is only declarations and facts of behaviors	2	0

The observations showed that the types of talk most common within the teacher groups were exploratory and connected talk found in the middle of the chart, rather than inquiry talk or disconnected talk at the top or the bottom. Field notes were written describing strong interactions between participants, such as they turned towards one another to address the question being asked, or the resulting responses were greeted with

smiles of acceptance. Encouraging words were shared multiple times during each meeting as they felt strong progress with student performance was being made in each class. During the observation of the TBT meetings, the teachers seemed eager to ask questions about how to address certain student needs for the topic being taught. They also looked at each other, is eager to share what was going on in their classes.

While the direct answer to the primary research was found during the interviews, the enactment of that answer was seen during the TBT meetings. The primary research question asked teachers to describe how they have been influenced by each other to make changes in instructional practices during the TBT process. Observations showed that influences occurred through encouragement, sharing of knowledge of instruction with common planning, relying on each other to spread the workload, trusting each other by being open about student progress, and holding each other accountable for student data and analysis. Having colleagues available to consult with or seek information from was mentioned as having occurred in the days between meetings.

The second question was what teachers believed were the strongest motivators for changes in their instructional practices. The interviews revealed a significant amount of data on both of the first two research questions. Coding of the data into the categories of influences and motivations organized the information to be analyzed. Table 3 was made to show the coding for the relationship between comments made during interviews as being influences or motivations.

Table 3

Interview Analysis: Relationship of Influences and Motivations

Motivations and influences	Influences but not motivations
See different perspectives, what is more, pressing material.	Sometimes the how part is overlooked.
Did use suggested instruction as a model and add the types discussed.	Some higher thinking questions from book material were added.
We let the data help us with instruction.	Flexible with instructional strategy.
See other strategies; then I adjust strategies based upon what I can do.	Many people were able to help with resources, to try different strategies.
Good to share a common goal to see student improvement.	Trying new strategies are a risk. Willing to take those chances to see what works.
Vision of how to use technology for data collection and decisions about teaching.	See some great ideas, the problem is a challenge to cover all material and yet take time for these strategies.
Shared some student work, very motivating for teaching.	My ears are always open.
Willing to try materials provided, then modify next page.	Experienced enough to know how to choose some and not others.

Through the interviews, teachers shared several ways their instruction was influenced by other teachers: that they were pointed to use material from the textbook resources; that they were recommended to change the order of tasks students performed during the lesson; and that they became more flexible in their teaching choices. Teachers were motivated through the collaboration in that additional material was made by someone in the group, such as exit slips which became a source of formative data. Data-driven decisions were made together to teach more on a topic, to push for the goal of seeing student improvement, and to modify the materials to impact learning. The

connection between motivations and influences was that the motivations shared were types of influences found in the collaboration, yet additional influences for growth presented due to the collaboration process were not necessarily motivations, rather things to consider during reflection upon lessons during planning.

The propensity to make changes can be a measure of the group effectiveness. The final research question was to look at how often teachers were applying what they learned from step three of the OIP into the classroom. The answers to this question did not provide the data needed to put a number on the result. Teachers said that since they did three protocols, they collaborated on three units together during TBTs. Collaboration took place outside of TBT to help bring the best strategies into the classrooms. Ideas that were shared during TBT meetings were considered during planning and implemented as each person felt they fit within any of their lessons. Several teachers discussed how they used data to support their decisions for instruction, saying that the data-driven process works. The best part is sharing numbers that tell a story informing the decision of what to do next. The number of decisions made and the frequency was not easily determined from the responses.

Patterns-Themes in Findings

Data from the interviews were examined for evidence of cognitive restructuring as described with Shein's (1995) managed learning theory. Each participant interviewed described some way that the collaboration influenced them so that it provoked thought about their instruction. Thus, having teacher's reflection time be influenced by the

collaboration process was a strong indicator of the theory in practice. Examples of comments from interviews considered as cognitive restructuring are:

- Seeing different perspectives about student learning;
- Considering what the more pressing material to be taught is;
- Examining one's lesson for adjustment;
- Looking at data from each student changed the teaching process;
- Being willing to take more chances on lessons being unsure of the result.

When the data from the interviews were coded as motivations and influences, it was seen that there was a significant overlap between the two categories. All motivations shared were influences from collaboration, but not all influences are motivations for change. Within the motivations for change, teachers liked having different views on how to teach a topic and wanted to know more about anything that worked well for someone else. There was a strong enough respect aspect that if anyone took the time to execute and share what happened in a lesson, which made it worth considering. Nearly every participant stated that when they made a decision to use a lesson provided and then taught that lesson, each would reflect on the lesson and modify the method for further use. This mechanism for decision-making was not expounded upon, as perhaps it was as different as the way each of us thinks. Our thinking was also a vulnerable depth that not many people reveal, for fear that others might express that it is a poor or even wrong way of thinking.

Many comments from each interview were coded to be influences from collaboration. As for how teachers influenced each other, a common theme was that the

teachers were open to hearing about different strategies tried. They had become encouraged to be flexible in the teaching strategies chosen. There were a variety of responses coded as influences, yet all seemed related to getting the participant to think about what he or she currently does in the classroom. Table 3 has a chart showing the relationship of the influences and motivations expressed through interviews.

The participants did not readily answer the question of how often changes were made. Since most participants felt influenced by other teachers through the collaboration, the belief shared was that lessons were affected, even while most lessons were made in style most used by the particular teachers. All noted that they were influenced strongly by the others in the group and were motivated to try the instructions presented. This openness to the collaborative effort provided a great learning environment for each person involved.

Salient Data and Discrepant Cases

There were two interview questions which did not yield data that fit into the categories of influences or motivations, which can be regarded as discrepant case information. One question asked about a favorite type of instructional strategy. Participants stated that they use a variety and were not easily pressed into choosing just one. Only two participants made a choice. One stated that the most used strategy was the gradual release framework, which led students from notes to guided practice and ended with independent practice. The other teacher mentioned collaborative learning as being most commonly used. The second discrepant case was found in the interview question about observing teacher lessons. Teacher responses stated that a visual lesson was

preferred or that they have seen videos of lessons during some training for the group to discuss. All participants agreed that these were helpful tasks for learning. Observations or examining video lessons have not been part of the common training or TBTs for these teachers.

Accuracy of Data Analysis Procedures

The observations of TBTs were completed using the chart which tracked characteristics of dialogic stance. The chart was very useful to promptly make a tally for an occurrence of each character or each question asked. Field notes (See Appendix H) taken described how the participants acted during the meetings and what feelings they portrayed for the process. The field notes served as the first set of data for triangulation.

During the interviews, notes were taken as questions were answered. Once participants were talking, they tended to answer several questions ahead of the one that I had asked. A summary of the interview was written (See Appendix I) as the second source of data triangulation. After being sent to each participant for a member check, each participant responded with updates to the summaries, and the changes comprised the third set of triangulation of data.

The coding process of interview data was done on three levels. The first was to find evidence of the learning theory as for whether the teachers indicated any changes in thought processes. The second method of coding was to sort by materials, resources, and strategies shared. The final method was sorting interview comments by influences and motivations.

Summary of Outcomes

According to Shein's managed learning theory (1995), teachers needed to restructure their thinking about the instruction to make a lasting change in what they do. The results of this study showed a restructuring taking place in teachers' beliefs about collaboration, but the process of change had not yet come to completion. While teachers liked the continuous improvement model, operating at the highest level of that model was not reached through an easy step by step set of instructions. It seemed easy to remain at the disconnected level where the TBT meetings and the completion of protocols were independent of what teachers did in their classrooms. The participants in this study have moved the level of collaborative talk to at least the connection level with a strong representation of exploratory talk being present in the meetings.

The variety of ways teachers influenced each other through the collaborative process was evident in the data. Influences were seen to affect the teachers' thinking processes during the planning of instruction for lessons. The openness to ideas and acceptance of input was a marking point towards raising the level of talk closer to the inquiry level. The influences were reported as reaching beyond the TBT meeting times into reflection about best strategies for lessons.

Motivational factors were reported by the teachers as ideas to bring changes to their instruction, but no one reported these motivations as pure evidence of must-try techniques. Nor was there evidence of collaboratively developed lessons which all members of the TBT were implementing in the same way. The reason for this was likely that there was not convincing student data presented to the TBT to drive the instructional

choices. In fact, the teachers did not articulate student data as a missing piece that would lead them to make data-driven decisions about instruction.

Project Deliverable and Findings

The results of the study showed both motivations and influences from the teacher collaboration. During the interviews, several teachers described the learning that was taking place for them in making decisions about their instructional practices. The policy requiring teachers to meet does not bring about the learning as it only provides a platform for teachers to think about what is occurring in the classroom and what evidence there is to show improvement. While it is easy to fill out the protocols required by the policy and have the data show improvement, the real power of the improvement process is through teacher learning.

The results of this study indicated a need to focus on teacher learning and how that developed from collaboration. The project was determined to be a policy recommendation paper that created an implementation plan for the OIP. The plan described a gradual implementation over three years building in time to train teachers and produce a higher degree of success during the implementation. The policy recommendation paper guided schools through the implementation of the OIP and placed a focus on teacher learning at the forefront of the process. A more gradual implementation could help change teacher goals from meeting the expectations of the policy to realizing teacher learning that leads to improved student performance.

Section 3: The Project

Introduction

The research that I conducted in this qualitative case study enabled strong consideration for changes in policy. Ohio policy requires all schools, which fall under the priority category or watch category due to the results of state testing, to implement the OIP. The policy specifies the process but not anything about the implementation. The state provides resources, which were created and guided by an outside company, for implementation. As so often occurs in education, great ideas were given to schools to find ways to implement them.

The project that resulted from this study is a policy recommendation paper with a plan for schools to have in place a three-step implementation of the OIP, leading to observable accomplishments each year. One goal of the project was to outline an OIP implementation plan with a focus on teacher learning. A second goal of the project was to allow schools to bring measurable success to the teacher groups throughout each step of the plan. The resources provided, including training currently offered, may be modified to support step-by-step implementation.

Genres of Project

I chose to write a policy recommendation paper. Too often, a program or policy has been presented causing teachers and administrators to flounder through implementation. Therefore, a policy recommendation that places focus on how teachers learn and develop in the collaboration process can provide a significant boost for implementation. The state's board of education did not want to restrict districts with a

policy that prevented them from using resources that were in place. Therefore, I took an unrestrictive approach in recommending implementation of the OIP.

I found that teachers developed in a collaborative environment by choosing to learn from the collaboration time provided. Teachers communicated that they started out in the TBT only trying to meet the needs of the policy, which could be done without a high degree of learning. Therefore, the policy that required the OIP was, by itself, not necessarily engaging the teachers in learning activities. I wrote the policy recommendation to help teachers participate in a learning process through the implementation of the OIP.

Rationale

Shein (2006) stated that when data provide some level of evidence showing that existing practices are not meeting expectations, then learning takes place due to the discomfort generated. Teachers restructure their thinking because current methods of judgment may not match the outcomes hoped for, and "if we use a different anchor our scale of judgment shifts" (Shein, 2006, p. 4). It is not the policy or mandates that cause the shift, but rather an opportunity exists to change teacher thinking by examining data. The result of a change in thinking will be teacher learning.

With the focus of this study being on teacher learning, I recommended including a learning aspect in the implementation of the policy. A policy recommendation created to focus on teacher learning will help the implementation of TBTs required in the OIP. The three-step implementation proposed began with teacher learning through an examination

of student data and ended with the development of the complete five-step continuous improvement cycle.

In the observation data of the TBT meetings, I recorded tallies (Table 2) for each of the top four characteristics on the chart. The talk was characterized by uncertainty along with tentative statements, which invited alternatives. I identified authentic questions made during the meeting about instruction and student learning. Teachers reached these inquiry level characteristics because members of the TBT decided to move from fulfilling the requirements to learning from collaboration. Interview data supported that the teachers desired to learn from the group and were open to analyzing student data along with their instructional practices.

As seen in Table 3, teachers influenced each other during the collaboration process. However, not all influences motivated them to make changes. Several motivations included statements of data evidence being a leading factor for change. This restructuring of thinking follows from Shein's (1995) managed learning theory in which the teachers are met with evidence that does not match their current beliefs about instruction. Learning from data or situations in the classroom prompted teachers to know to act differently than they would have previously thought to act during instruction (Murphy, 2016). The value of the collaboration was the teacher learning that took place throughout the process. The motivations in teachers became more significant as they learned from collaborations and then gathered data suggesting that the changes were making a difference.

Review of the Literature

Being a form of a PLC, the TBT collaboration process includes an aspect of teacher learning. An essential part of the teaching is making data-driven decisions to improve student performance on state testing. The policy needed to identify several important characteristics during the implementation process, which would have brought a greater degree of success to the schools that employed the OIP. Teachers needed to learn to operate in collaborative groups and make data-driven decisions. Any training presented to help this process should have contained the key components from research, which yielded longer lasting results.

Therefore, there were five areas of literature identified to support the recommendations of this project study. These areas included (a) policy recommendation; (b) PLCs; (c) data-driven decisions; (d) teacher learning, and (e) policy. Each of these areas was a search guide along with the word *instruction* to find recent literature. The search included peer-reviewed articles for this review along with online resources and relevant research books. The Walden Library had sources for topics including the databases of Education Research Complete and Sage Premier.

Policy Recommendation

The policy recommendation presented involves the teacher learning communities specified in Ohio as TBTs. It was clear that policy will affect the structures of teaching, such as classroom instruction, to enable successful outcomes through the changes enacted (Richmond, Bartell, & Dunn, 2016). Therefore, the policy itself requiring the OIP has not affected the teaching structures but presented a process through which changes could be

discussed. Teachers assisted each other in deciding to make changes and verified the value of those changes in instruction (Kang& Cheng, 2014).

As the bounded parameters of this study fell within the existing policy of the OIP, a policy recommendation paper gave direction within the current structure of the policy as well. It was important to recognize the finances involved in the implementation of a plan when considering the resources needed for the policy recommendation (Center for Aging Research and Development in Ireland, 2014). Significant resources were provided that involved the designated education monies, but the resources were made available after the implementation was required within the schools. As the teachers in this study worked to meet the requirements of the Ohio policy, the local district became the target audience for the policy recommendation. Knowing the target audience was an essential piece of a policy recommendation (Research to Action, 2017). By demonstrating a focus on teacher learning through the implementation of the OIP, the policy recommendation will empower to work through the struggle to make changes. The policy recommendation change involved teacher learning about instructional practices and proved the value of the practices used in the classroom, both of which changed the reflective processes of teaching staff (Msomi, Westhuizen, & Steenekamp, 2014).

States have stopped short in their policies to focus on teacher learning, and instead only offered guidance with little evidence to support the effective changes (Blank, 2013). A policy recommendation paper that brings to attention the need for a focus on teacher learning will hold value with educators when presented with research evidence. While the essential structures of the policy were in place, a change in policy was found to be valued

when the goal was learning for all (Huffman, Oliver, Wang, Chen, Hairon &Pang, 2015). As learning takes place over time, seeing a change in student performance will also take time. Teachers that have assessed a policy recommendation regarding professional learning have communicated that a lengthy process was needed for change in instructional practices (Camburn & Han, 2015). A commitment from policymakers was needed to allow for the time necessary to make changes in teacher education (Forzani, 2014).

Professional Learning Communities

PLCs offered an opportunity for an exploratory talk, which promoted knowledge building (Popp & Goldman, 2016). One difference between PLCs and TBTs was that the TBT protocols started with a learning objective to give a reason why to the ensuing discussion. Many PLCs often had a discussion focused on instruction without being directed towards a goal of the particular lesson (Popp & Goldman, 2016). Yet both collaborative group types must be focused on the learning taking place by the teachers involved.

Much has been documented already about phases or progression for PLCs or TBT (Huffman et al., 2015). Identifying the supports needed by each group throughout their progression seemed to be much more challenging. Communicating those supports to the leadership, whether it was the administrators or the coaches and facilitators, has become essential to maintain progress. PLCs that had the support of the building administrator for resources and time were very successful in bringing change to the classroom through teacher innovation (Hollingsworth, 2011).

Understanding about professional learning, which takes place through collaboration, should occur before involvement in TBTs. Teachers who worked in collaborative inquiry to identify instructional practices were motivated to make classroom changes based on the collective reflection about the practices (Ciampa & Gallagher, 2016). It was possible that teachers required to form TBTs had never been involved in PLCs. However, learning activities which were centered around teacher collaboration were more effective in improving student learning than activities which did not have the collaboration component (Akiba & Liang, 2016). Along with involvement in PLCs, teachers needed differentiated learning, perhaps through coaching, to harness the change that was fostered during the collaboration process (Grierson & Woloshyn, 2013).

There has been a challenge, and also a strong reward, for maintaining groups over longer periods of time. Long-term groups, such as TBT which meet for a full year, were needed to foster transformation in practices (Brancard & Quinnwilliams, 2012). Unfortunately, movement of teachers from grade to grade and subject to subject caused frequent variations in groups trying to stay together for more than 1 year. Through a combination of collaboration and in-class experiences, teaching practices have been improved (Poekert, 2012). Having administrators find the way to include the in-class teaching experiences has been a frequent challenge for schools. Collaboration within communities of practice promoted a renewing of purpose in the profession (Daniel, Auhl, & Hastings, 2013). The sense of purpose grew over time as the groups met continually with common goals.

Data-driven Decisions

In a typical teacher's educational background, learning how to collaborate and make data-driven decisions has not been a significant part of their preparation for teaching. New teachers tended towards choosing instructional practices based on beliefs rather than evidence through any data (Daniels, Radil, & Wagner, 2015). Recently, both collaboration and using data to drive instruction have become a focus of reform. Teachers, though, had gained more expertise in the process when they were involved in the design and the implementation (Lynch et al., 2015). In the standards for professional development in Georgia, the process standards were given the weakest score for implementation, including training for data-driven decisions and collaboration (Chandler & Chan, 2012). Using data is not just a consideration, but is becoming an area of expectation for teachers, and there may be measurements associated with how data and collaboration are being used to change instruction.

There were four conditions which promoted the use of data by teachers in making decisions (Wayman & Jimerson, 2014). The four conditions were collaboration, triangulation, common understandings, and time. Teachers did not necessarily have a strong understanding of how each of these four conditions played a role in using data, and there were skills for each that enabled the use of data to drive instruction (Wayman & Jimerson, 2014). It followed that implementation needed to include strength training for teachers collaborating on student data and instruction. The collaboration needed to reach an inquiry level for teacher learning to steadily build (Slavit, Nelson, & Deuel, 2013). The existing process of teacher groups has been built upon to increase the quality of the

collaboration (Ronfeldt, McQueen, & Grissom, 2015). Using evidence to make changes requires asking questions and then finding proof to guide the decision (Valenza, 2015). Learning needed to take place through a restructuring of thinking for teachers to become comfortable with the use of data and to make it a standard practice.

Teacher Learning

To meet the in-class needs of instructional teacher learning, the content specific piece had to be included in the training. There were suggestions as to how teachers learn and make changes in instructional practices. Several of the important characteristics of delivered professional learning included that it was timely to teachers' instructional practices, that it provided the resources needed to implement, that credible sources gave it and that there was a follow-up to the learning activities (Wayman & Jimerson, 2014).Depending on prior knowledge, teacher learning took place in either content knowledge or pedagogical content knowledge (Popp & Goldman, 2016). With a learning experience about classroom instruction that was content focused, teachers were more willing to experiment with new teaching practices (Camburn & Han, 2015). When teachers added new ideas to content within a subject, they found alternate approaches for instruction (Davis & Krajcik, 2016). Learning the whole process of the 5-step continuous improvement cycle takes time and needs to be within the subject area that is taught by the teachers.

Learning is not the same for everyone, and there is value in recognizing the learning that takes place in education. Some teachers lead a charge to new methods, who should be acknowledged and empowered to forge ahead with experimental work in their

area of interest (Gosselin, Northcote, Reynaud, Kilgore, Anderson, & Boddey, 2016). Experienced teachers were described to have unlearned some previous methods of teaching to realize the potential of new instructional practices (Gleeson & Davidson, 2016). Until teachers understood the lack of continuity between previous beliefs and new knowledge, it was difficult for new learning to take place. What teachers perceived that they learned depended upon prior content knowledge (Minor et al., 2016). Thus, how much teachers used what they learned could not be determined without knowing the extent of teacher content knowledge. An interesting result was that teachers who appeared to learn the most from a professional learning experience were able to more clearly articulate the needs of their students (Brownell et al., 2014).

Another characteristic of learning was that it was collaborative. Teachers missed important aspects of student needs expressed directly to them through dialogue when opportunities beyond personal reflection were not given (Beltramo, 2017). Teachers learned more when discussing and sharing, especially within the content area. There was an improved self-perception by teachers engaged in inquiry level collaboration (Butler et al., 2015). Engagement in collaboration has gathered a set of collective information useful to all within the group. Teacher learning took place when information was stored within the collective group, then passed along continuously to influence teaching practices (Hiebert & Morris, 2012).

Policy

There have been international groups of educators meeting to discuss education. International PLCs had as one of their focus points policy and procedures (Huffman et

al., 2015). Policies in the United States came from both the national government and the State governments. The focus of the Standards for Professional Learning continued to be connecting professional learning to changing the way educators taught, addressing their knowledge and skills (Hirsh, 2013). Reforms to change instruction have not met the desired intentions so far in the U.S. (Camburn & Han, 2015). To meet the requirements set before them, local districts have sought programs which increase student achievement. While the programs chosen to form policy for professional learning were often justified, the implementation was not always founded on results of research (Blank, 2013).

New teacher education had a focus on the competency of teaching practices which targeted making certain behaviors evident in one's lesson (Forzani, 2014). The shift is going towards learning through collaboration as teachers share what has and has not worked for any given lessons. Discussions have taken place amongst school leaders, policy-makers, and teacher educators about what was essential for teachers to learn, both before they enter the field and after entering (Schultz & Ravitch, 2013). There were proposals for teacher portfolios, which included instructional practices, to be a part of evaluation methods (Elliot, Roach, & Kurz, 2014).

With so many policies enacted regarding standards for content, it was easy for schools to lose the vision of improved teaching (Richmond, Bartell, & Dunn, 2016). It was not enough to just make sure that the common core standards were being taught through the curriculum. Policies, such as the OIP, have included components of collaboration. Many schools have not used collaboration as a tool to increase student

achievement (Au, 2013). When teachers have gained experience with collaboration, they developed the feeling that they were not alone with the struggles faced in the classroom (Jao & McDougall, 2015). Results have not indicated that requiring collaboration would automatically raise test scores. The policy is requiring collaboration needed to include an element of professional learning, whether it was content, standards-based, or data-driven instruction (Kennedy, 2014).

Project Description

The project resulting from this study was a policy recommendation for the school to have in place a 3-step implementation of the OIP leading to observable accomplishments each year. The plan presented in a position paper was a modification to the Ohio policy of requiring the full implementation of the OIP in each school. The modification involved following an implementation plan that built to full acceptance of the TBT process over a 3-year time frame. There is a great deal involved in the OIP that is new to school administrators and the teachers, so much that implementation has been at the very least challenging, and commonly overwhelming during the first couple of years. The new plan was designed to bring a greater degree of success to the teachers and the school with teacher learning evaluated after each step.

Resources, Supports, Potential Barriers, and Solutions

The recommendation from this study was to include a 3-step implementation procedure to build on teacher learning while developing the OIP. Often the teachers involved in the process did not even know what it was that they need to learn for the 5-step TBT cycle to be effective. One existing support for the OIP implementation was a

district facilitator who arranged the district and building leadership teams and who designed the training within the district. The state offered several training courses as well as making a coordinator available for additional training. The building leadership teams currently in place were also a support needed to improve the progress of the TBTs. Some of the members of the building leadership teams should be trained as coaches or facilitators.

The policy recommendation included guiding topics for teacher training as a resource needed for a gradual and successful implementation of the OIP. Continued development of the recommended coaches and facilitators is needed for the successful growth of the TBT groups. Coaches may seek out resources to use for training and teacher education during the gradual implementation, possibly including a book resource list, Learning Labs, PowerPoint or video instructions, and other materials used in operating TBT meetings. Time is a needed resource for sharing success stories, the progress of groups of the implementation, and data involving student performance.

One barrier is the amount of time needed to train all of the teachers required to engage in the OIP. Schools already chose their schedule for training teachers, and it was most often spread over some years. There has been no requirement for training of teachers involved in the OIP and no requirement for new teachers to receive training. Another barrier is a lack of acceptance of the gradual implementation process by the administration at the schools using the OIP. Support of teachers and their union is needed to benefit the approval process of the proposed gradual implementation. A final barrier is

additional money for training, resources, and materials as requested by coaches or administrators.

The solution to failures in the implementation of the OIP as described in the position paper (see Appendix A) was a modification of the process. The goal was to outline an OIP implementation plan with a focus on teacher learning. By providing scholarly evidence, the suggestions in the project will be strongly considered and can be enacted as a means for meeting the needs of the teachers during implementation. A successful implementation may yield a sustainable improvement in student achievement through teacher learning.

Implementation Proposal and Timetable

The proposal is that the implementation is separated into three steps building upon each other until the complete OIP is in place. Each step consists of one year of the development of skills and knowledge involved in the continuous improvement cycle. The one-year time also allows for starting new TBT as the next step of development begins. The TBT can change from year to year as members develop skills. The steps are outlined as follows:

First step – *data-driven decisions* and data analysis during TBT meetings;

Second step – *instructional practices* training and collaboration during TBTs about instructional practices;

Third step – *the 5-step cycle* used in TBT meetings for improvement of teaching and student performance.

Making Data-Driven Decisions - The first year is designed for teachers to gain an understanding of how to make data-driven decisions, along with training needed for facilitators and coaches to lead groups of teachers in data collection and interpretation. Keeping the groups content specific allows for in-class data to be used. An abbreviated version of the protocols now being used by TBTs can emphasize the data collection and data analysis processes with minimal other writing. An overall time to celebrate successes shown through data, including presentations of different data collection methods and results, is set apart towards the end of each semester, possibly during a district professional development day.

Instructional Practices - The second year is designed to be about instructional practices. Learning Labs are an example of a tool for changing instruction that utilizes videotaped instruction. The Learning Labs utilizes observations of lessons, whether in the school or not (Brancard & Quinnwilliams, 2012). Examining student work by content area, such that the job-embedded quality of the training is included, is built into any training provided by the district. Coaches can step into the groups to assist with the learning and lead presentations of successful new strategies. Additional time for lesson observation and discussion must be supplied. Other resources include books such as Hattie's "Visible Learning" (Hattie, 2009) for teachers to choose and examine different instructional strategies. An overall time to celebrate successes shown through data, including presentations of various instructional practices, is set apart towards the end of each semester, possibly during a district professional development day.

The 5-Step Cycle - The third year is designed to be about the 5-step continuous improvement cycle. While there is presently teacher training in place to cover the protocol and process of the OIP, these sessions lack some characteristics that make professional development most successful, such as subject content, collaboration, and follow-up. Facilitators and coaches could provide the components needed for full implementation. Protocols can now reflect the teacher learning which took place over the previous two years of development and lead to results in improved student performance. An overall time to celebrate successes shown through data, including presentations of complete 5-step cycles, is set apart towards the end of each semester, possibly during a district professional development day.

Roles and Responsibilities

My role as the researcher is to prepare a position paper (See Appendix A) for initiating the proposal of a change in the OIP implementation. Communications about the proposed change are between the school administration and me. It is my responsibility to calculate the semester evaluations of the project. I may be asked to be a member of a building leadership team or the district leadership team, to assist with the "Celebrations of success" days at the end of each year, or to be a coach in the process. The role of the administration is to accept and prepare for the gradual implementation of the OIP. The preparation details include communications with principals, teachers, and coaches for the step by step changes in the process. The school administration also designs teacher training to support all of their initiatives.

Modification of the protocols used by TBTs is needed for each year of implementation according to the focus of learning each year. Collaboration is needed with the district leadership team and the administration on the protocol changes to meet the gradual implementation plan. Modification of the feedback on the process space at the end of the protocols is to be used for the semester evaluations of the project. The TBTs are expected to complete the feedback on each protocol with integrity and openness. Feedback can also be used by coaches to further provide for the needs of the teacher groups. The administration will also plan for the training offered and the "Celebration of successes" days in the buildings at the end of each year.

Project Evaluation Plan

A 2-part summative assessment was proposed to evaluate the project. The justification for using a summative approach to evaluation was to provide evidence of the effectiveness of the program after the completion of each year. The first part was a written description of the celebration presented by the school. The second part involved data collected from the TBT about the progress made each year. These two assessments provided a strong evaluation of the yearly growth made through the gradual implementation of the OIP.

The "Celebration of successes" days was a valuable first assessment in hearing about the highest level of progress made by individual groups within the buildings, each building having their celebration. The celebration should build enthusiasm for further progress by all of the groups in the schools. A description was written of the successes reported during each event. The second assessment of the project was to collect data at

the end of each semester as the steps were completed (see Appendix A) and reported as the overall survey data. Feedback listed on the protocols requested each TBT to evaluate its progress as a score from 1 to 5. A record of the mean scores during each semester was recorded to show at least a 20% increase demonstrating progress as each year of implementation was completed (see Appendix A). Both of these summative assessments combined to give a full picture of the project effectiveness.

Teachers and administrators of schools were the key stakeholders of the Ohio policy called the OIP. However, this policy affected the State Board of Education, schools, administrators, teachers, and students. With teachers and schools investing time and resources into following the requirements of the OIP, the results may not have shown in student performance. Once the policy implemented by the local district reflected the need for teacher learning, student performance would be affected by data-driven decisions and new instructional practices. A successful implementation by schools leads to improved education for everyone involved.

Project Implications

The project was designed to benefit the local district by placing a high emphasis on teacher learning during the implementation of the OIP. Teacher collaboration has become the focus of policies for making gains in student performance. Gradual implementation of the OIP builds teacher knowledge and skills through the process to develop a working continuous improvement cycle. The district can make gains in student performance with improved instructional practices through data-driven decisions.

Social Change Implication

Among other states, the state of Ohio included in its policy on education a requirement for schools to implement an improvement process that includes teacher collaboration and use of data to determine best practices. The project following this study was to make a policy recommendation for an implementation that included aspects of teacher learning and to gradually incorporate inquiry talk into teacher routines. A positive social change was for teachers to learn about providing evidence of success, such as making data-driven decisions determined through the TBTs. Improving scores on high-stakes testing has been the overarching goal for more than 20 years, though it has been difficult to make any claims of progress as a district or as a state. Continuous evidence of student improvements would show progress being made before the overall gains in test scores. Overcoming the barrier of isolation and resistance to changes in instruction were challenges facing teachers as education strives forward towards data-driven instruction.

For there to be changes in instructional practice resulting from the TBT meetings required by the OIP, teachers must understand fully and have evidence that the process improves both their instruction and the outcomes of their students. The progress already made by schools through collaboration can now move forward with policies for teacher learning in place (Ronfeldt et al., 2015). The social change implications of this project included making the change from isolation in teaching to collaboration between teachers a lasting restructure of thinking, rather than another program to be followed until it goes away. Having a culture of learning through collaboration develop in the staff was another

positive social change. It is possible to begin a new era of education which strives for teacher learning to meet the needs of the students.

Importance of Project to Local Stakeholders

The goals of the project following this study were to provide an implementation plan with a focus on teacher learning and to show measurable success in the progress of the TBTs. The 3-step implementation process suggested in this project helped the key stakeholders, the schools, and the teachers, to gradually implement the OIP and build a positive social change in a collaborative learning environment. It will take years for teachers to have collaboration as a major source for lesson planning and daily decision-making, but having success during the 5-step continuous improvement cycle was a beginning source to convince teachers of the value and power held within the process, which will lead to improved student performance. Once the district sees an impact on teacher learning, there will be an impact on student achievement as well. Changing the educational culture from isolation in teaching to collaboration between teachers will open levels of student achievement that have long been desired by educators.

Section 4: Reflections and Conclusions

Project Strengths and Limitations

This qualitative case study allowed me to examine how teachers change from operating in isolation to using collaboration and data to drive instruction. A restructuring of thinking allows for learning to take place in new ways. By focusing on the implementation process for the OIP, I aimed to help create a learning environment for teachers as the process unfolds.

One of the strengths of this project was the focus on teacher learning. Because content knowledge plays a significant role in what teachers learn from any training received, structuring the learning time to include content can help address the variation in prior content understanding (Minor et. at., 2016). The first year of OIP implementation is focused on teachers meeting by content to examine student data and discuss how it can lead to changes in classroom instruction. The time provided enables the transition from isolation to take place in meaningful discussions of content and student work.

Another one of the strengths of the project was providing a variety of opportunities for learning. The second year of implementation is focused on instructional practices. The presentation can take several forms including video or PowerPoint presentations to direct teachers in examining lessons. Learning Labs can be done online to build a discussion about a videotaped lesson. Fundamental elements of the Labs increase learning opportunities (Brancard & Quinnwilliams, 2012). Experiences may be video recorded within the classes of individual schools or time may be provided for lesson observations.

A limitation of the project is that the state cannot provide unlimited resources. The monetary resources needed to offer training for all teachers involved in the OIP is substantial. States are not likely to mandate how a district spends its professional development money. Development of some of the resources used for training of data-driven decisions during the first year and instructional practices during the second year requires both money and experience.

Recommendations for Alternative Approaches

Although not included in this study, other schools within the target district have had TBTs in place for much longer, and they have followed a different implementation path. An alternative approach to the problem would be studying the effects of the differences between implementations to provide more information on the best ways to develop collaborative working groups. Differentiating training could have a high value in a system of implementing collaborative groups that focus on changing lessons (Popp & Goldman, 2016). Though it is up to the districts to determine what this differentiation looks like for their teachers, another approach to the problem would be to identify effects of distinction of teacher training leading to data-driven decisions. Determining whether having coaches is a way to help address the particular needs of each group could be a solution to the problem.

An alternative definition of the problem is having a lack of content knowledge within teacher training that leads to the implementation of the OIP. Content knowledge should be a part of the training to place importance on the type of instruction needed (Popp & Goldman, 2016). Building subject material into training requires content-

specific expertise and can be challenging to accomplish. There have been programs, such as PROM/SE, that partner with universities that can provide the expertise needed for development of content. Many schools are operating far from the level of rigor desired within the content (PROM/SE Final Report, 2012). Another alternative definition of the problem is the struggle that teachers have to incorporate rigor into the instruction, especially during the collaboration process. If one teacher presents material with a higher level of rigor where others are not comfortable, it would be difficult for any others to make use of the instruction suggested.

Scholarship, Project Development and Evaluation, and Leadership and Change

Qualitative data is not something that I was used to seeing. It takes my mind down so many different paths that it quickly becomes somewhat difficult to make a choice where to take the analysis. In a fascinating article on qualitative teaching tips, Waite said he gives each researcher a deck of cards and then asks them to sort the cards with no talking (Waite, 2012). After doing this once and then sharing the sorting methods, he tells the participants to sort the cards again but in a different way. This was a demonstration of interpretation and perspective. Data should be looked at from several different ways to choose a strong analytic value.

This project study was a qualitative case study which provided the challenge of not having the identifiable variables involved in quantitative research, and the intrigue of deciding how to measure the variables. I wanted to examine how teachers use the collaborative talk to make changes in their instruction. It was expected that the changes

would be dependent on the talk of instruction, but that was not the focus of the study. How teachers decide for change is what directed the research.

I chose to look at much new research while I was waiting for IRB approval. Research articles about instruction let me have several different lenses to look through once the data were gathered. A new look directed me to veer the interviews from my original protocol, which is what I had hoped would happen when using qualitative data. I learned from the observations what I wanted to ask in the interviews for depth in my understanding of how teachers take collaboration about the instruction to make changes in their teaching methods. The data covered several different aspects of teacher thinking which directed the research discussion as I coded the data with each lens. There is certainly much depth to understanding how the process of change works for teachers because it has the complexity of learning along with how each person breaks through the difficult barriers of resistance.

By putting in hours of time looking for new research, my mind was able to recall some key aspects found in the literature during conversations and the analysis of findings from the study. Doing the background work is a key element in the process of developing a research study. I am learning that qualitative research is something like doing a puzzle, and new research led my thoughts to see some of the pieces to this puzzle. I do believe that most research studies can be viewed as a puzzle to gradually put one piece in place at a time until the final content of the picture can be seen. When I was able to put together the study findings with the topics found in the literature, I was able to see the full picture of the project and the study.

The project following the research study came to light as a policy recommendation during conversations with an administrator of the school. The implementation process could be significantly improved to benefit teachers in developing the skills and beliefs needed to make changes. To restructure thinking is so challenging, yet with a nature of isolation so ingrained in me as a teacher, I know that my way just works best. The project is designed then to help convince teachers that there are ways to improve what is done, that these techniques can be learned and that all teachers are going through this learning process together.

I did not understand the project evaluation until I was directed to focus the project on solving the local problem. Once the project was rewritten to implement the OIP in the district, an evaluation plan of the protocols made sense. The protocols already exist with feedback boxes, so they just need to be modified and the information collected as data. With the ability to collect that data, it was easier to determine that the evaluation was outcome based.

Throughout the writing of this research study, I have assumed more leadership roles within my teaching environment. As the study was completed, I could see the need for further teacher education and encouragement for teachers to collaborate with each other about instruction. Progress is being made because some teachers are stepping into leadership roles and demonstrating the openness to learning, and the dedication to working hard enough to bring that learning to the forefront of their efforts.

Reflection on Importance of the Work

Moving teachers from isolation to collaboration is a daunting task that education is taking on. Policies are affecting the role of teachers and how they are to operate. Therefore, it is crucial to understand how teachers use the process of collaboration to restructure their thinking. Showing the need for teacher learning and providing the opportunity for that learning is an essential piece of the movement in education. Policies that targeted only student outcomes have never proven effective in making overall changes, leaving educators to find for themselves the best methods.

In the findings of this project study, teachers described many motivations and influences which could be attributed to the collaboration process. Teachers have always been reflective practitioners who examine what they do in the classroom and how the students were affected. The participants found a good avenue for hearing about instruction taking place in other classrooms and shared that they were taking the time to reflect upon this new learning. Therefore, a restructuring of thinking is taking place, probably to the level of using different sources to provide evidence of success or feedback about teaching practices.

Implications, Applications, and Directions for Future Research

The change being made in education can be exciting. For the teachers who are engaged in a collaborative learning process and are seeing results in a data-driven environment, the field of teaching is awakening to see enormous potential gains with evidence of student performance. Perhaps for some, this new mode of collaboration is finally the path to knowing the impact of making changes in teaching. Understanding

more about teacher learning as well as the influences and motivations that come from the collaboration will be of value in helping to drive education in the new era of data.

Within the target district, teachers are learning from each other during the collaboration process. The results here show how they impact each other and can help lead teachers to understand the key element of teacher learning. The policy recommendation for a gradual implementation to focus on teacher learning brings a positive social change to the school and the district as teachers grow to use collaborations by their choice rather than through the mandate. The TBT will have an impact on overall student performance when the mindset changes from compliance to improving teaching.

As collaboration becomes the norm for teachers, districts will want new teachers to enter their buildings knowing how to collect and use data to drive instruction. Making a data-driven decision as the first step of implementation will affect a positive social change through teacher learning. Future research could be done exploring the process of learning to use data and understanding how incorporating data-driven decisions into the regular planning of lessons develops through collaboration. Further research may collect and analyze quantitative data to determine whether relationships exist between collaboration, teacher learning, data-driven decisions, changes in instruction, and student performance. While teachers may not use data to make most of their decisions, there is also more to learn about how teachers come to rely on data for decisions.

Conclusion

A whole new way of thinking does not take as much to make happen as people think it does. People can be afraid of change. For anyone who has been teaching 20 years

or more, the field of teaching was an art to be discovered within the same four walls. However, when enough educational leaders have agreed that change was long overdue, the transition began moving teachers from operating in isolation to collaborating about what their students were learning. The collaboration will become and remain a crucial component of teacher learning. Understanding that teacher learning is the goal will unite the field of education and open the field to new ways of teaching: ways that empower the teachers to find the most effective instructional strategies; ways that engage more students and create improved learning environments; ways that raise a generation of young people to view education differently.

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Appendix A: Teacher-Based Teams Talk of Change in Instructional Practices

The recommendation from this study is to include a 3-step implementation procedure to build on teacher learning while developing the OIP. The proposal is that the implementation be separated into 3 steps building upon each other until the complete OIP is in place. Each step consists of 1 year for the development of skills and knowledge involved in the continuous improvement cycle. TBT can change from year to year as members develop skills as individuals. The steps are outlined as follows:

First step – *data-driven decisions* and data analysis during TBT meetings;

Second step – *instructional practices* training and collaboration during TBTs about instructional practices;

Third step – *the 5-step cycle* used in TBT meetings for improvement of teaching and student performance.

Making Data-Driven Decisions - The first year is designed for teachers to gain an understanding of how to make data-driven decisions, along with training needed for facilitators and coaches to lead groups of teachers in data collection and interpretation. Keeping the groups content specific allows for in-class data to be used. An abbreviated version of the protocols now being used by TBTs can emphasize the data collection and data analysis processes with minimal other writing. An overall time to celebrate successes shown through data, including presentations of different data collection methods and results, is set apart towards the end of each semester, possibly during a district professional development day.

Instructional Practices - The second year is designed to be about instructional practices. Learning Labs are an example of a tool for changing instruction that utilizes videotaped instruction. The Learning Labs include observation of lessons, whether in the school or not (Brancard & Quinnwilliams, 2012). Examining student work by content area, such that the job-embedded quality of the training is included, is built into any professional development provided by the district. Coaches can step into the groups to assist with the learning and lead presentations of successful new strategies. Additional time for lesson observation and discussion must be supplied. Other resources include books such as Hattie's "Visible Learning" (Hattie, 2009) for teachers to choose and examine different instructional strategies. An overall time to celebrate successes shown through data, including presentations of different instructional practices, is set apart towards the end of each semester, possibly during a district professional development day.

The 5-Step Cycle - The third year is designed to be about the 5-step continuous improvement cycle. While there are presently professional development sessions in place to cover the protocol and process of the OIP, these sessions lack some characteristics that make professional development most successful, such as subject content, collaboration, and follow-up. Facilitators and coaches could provide the components needed for full implementation. Protocols can now reflect the teacher learning which took place over the previous two years of development and lead to results in improved student performance. An overall time to celebrate successes shown through data, including presentations of

complete 5-step cycles, is set apart towards the end of each semester, possibly during a district professional development day.

The goal of this project is to outline an OIP implementation plan in a position paper with a focus on teacher learning. By providing scholarly evidence to the district, the suggestions in the project can be made as a means for meeting teacher needs during implementation.

Position Paper: Policy Recommendation

Changes in educational policy are needed for improved teaching. It has been stated that Ohio policy requires all schools, which fall under the categories of Priority or Watch due to the results of state testing, to implement the Ohio Improvement Process (OIP). The policy specifies the process but not anything about the implementation. There are resources suggested for the implementation which is created and guided by an outside company. The resources include professional development sessions and some use of a facilitator. As so often occurs in education, great ideas that come along are given to schools to find the way to implement. The policy leaves it up to the individual school districts to figure out how to put in place the Teacher Based Teams (TBTs) and what professional development the teachers need to implement the process.

The district should have in place a 3-step implementation of the OIP leading to strong accomplishments each year. The gradual implementation provides for teacher learning and gaining a better understanding of the OIP as each step progresses. Teacher learning should be a goal of the OIP during each phase of the implementation. Thus

within each step is a specific learning target which can take place for teachers to be successful operating as TBTs.

It is understandable that the state school board does not want to restrict districts with a policy that prevents them from using resources which are in place. Commonly taking place in schools is that a program presented through some initiative causes teachers and administrators to flounder through the implementation. Therefore a policy that places focus on how teachers learn and develop in the collaboration process can provide a huge boost for the implementation. The study which was conducted has seen teachers develop in a collaborative environment by choosing to learn from the collaboration time provided. Yet, it was communicated by the teachers that they started out just trying to meet the needs of the policy, which can be done without a high degree of learning taking place. Therefore, the policy by itself is not necessarily engaging the teachers in learning activities.

Shein described that when data provides some level evidence that our existing practices are not meeting our expectations, learning takes place due to the discomfort generated (Shein, 2006). Teachers can restructure their thinking because the existing methods of judgment are not matching the outcomes hoped for, and "if we use a different anchor our scale of judgment shifts" (Shein, 2006, p. 4). The indication here is that it is not the policy or mandates that caused the shift, but an opportunity to change teacher thinking through the examination of data. The result of a change in thinking is teacher learning.

Within education, the teaching,"profession needs to be embracing the notions of what it is to be successful in teaching, helping all collaboratively to attain this excellence and recognizing major effects when they are evident" (Hattie, 2012, p. 37). Hattie discusses this incredible challenge by providing a huge array of example methods that have shown through studies to have a significant effect on student learning. It is known that high-quality teacher collaboration, as measured through self-reporting surveys, has a positive impact on student learning (Ronfeldt et al., 2015). While working in collaborative groups, teachers do not immediately make significant changes in their instruction as a means to increase student performance outcomes.

Teachers do not naturally come into the field with the ability to make evidence-based conclusions (Yeh & Santagata, 2015). The self-assessment tool provided by the OIP guide (OIP, 2012, Resource 16) shows a progression in teacher collaboration leading to evidence-based instructional practices. As teachers get used to talking about instruction, they find there is an increasing need to prove that their methods are working. Teachers develop a sense of whether their students are learning the material but proving it is often not documented. With some coursework focused on analyzing student data, pre-service teachers decreased the number of unsupported claims they made about student performance (Yeh & Santagata, 2015). Developing stronger analytical skills takes time which is not commonly offered on a regular day of teaching. There were mixed results in seeing a change in methods of instruction between teachers who received professional development on new materials as compared with teachers who received no training from an expert (Kleickmann et al., 2016). There is more about individual teacher learning that

needs to be known to understand the mechanism that teachers use for making changes in instruction.

There is evidence that teachers hold positive feelings within an existing inquiry-based initiative (Butler et al., 2015). It would make sense that these positive feelings could lead to a higher degree of collaboration about making changes to their instruction. While it has become widespread to offer professional development for teachers in collaborative groups, there is not much research focused on how this collaboration involving student data affects teaching (Arbaugh et al., 2013). There are several ways in which change can take place in a teacher's instruction methods including a chance to observe a particular teaching practice within a classroom (Kang & Cheng, 2014). While observation of other teachers is not a common practice in most schools as it breaks the isolation of teachers, it is often used as a response to poor teacher evaluations. As an encouragement to collaboration, peer observations can be utilized without any pressure of performance. An inquiry-based approach to collaboration brings opportunity to expand teacher thinking about how to make changes. Hence, the purpose of this qualitative study was to examine how the teachers collaborate on student achievement and make data-driven changes in instructional practices.

In the rest of this policy recommendation, the research study conducted through observing TBTs and conducting interviews is summarized. The results of the study along with the supporting literature were used to formulate the recommendation of an implementation procedure. The proposed implementation explains how to maintain teacher learning as the focus and develop the process through steps which guide

participants through learning opportunities. The study conducted provides evidence of the need for teacher learning as well as the value of the step by step implementation process suggested.

The Research Study

The qualitative data were obtained from observations of teacher TBT meetings and one-on-one interviews with the teachers involved. The participants were from two TBTs formed within one grade level in the same building of a northeast Ohio school district. These two groups matched the criterion for participant selections, and each had five teacher members plus an intervention specialist. The teachers had a range of experience from three years to over 25 years teaching, and all have been meeting in TBTs for two years, though not necessarily together. The groups were at different points in the TBT process. One group was exactly on step 3 and discussing the instructional methods to be used over the next several weeks, while the other group was jumping between steps all in the same meeting. After the observations, interviews were arranged as five participants elected to join this phase of the study.

In the observation data of the TBT meetings, tallies were recorded in Table 2 for each of the top four characteristics on the chart as modified from one used by Slavit, Nelson, & Deuel (Slavit, Nelson, & Deuel, 2013). While Slavit et al. used the chart to examine talk of student data, this study used the chart to examine talk of instructional practices. The talk in the TBT was characterized by uncertainty along with tentative statements which invite alternatives. Authentic questions were presented about instruction and student learning. These inquiry level characteristics were likely seen

because members of the TBT decided to move from fulfilling the requirements to learning from collaboration. Interview data supported that the teachers desired to learn from the group and were open to analyzing student data along with their instructional practices.

Table 2

Occurrences of Characteristics During TBT Meetings

Talk of instructional practices	Group A	Group B
Authentic questions evolving from analysis of instruction examine beliefs and assumptions	1	0
Tentative statements seeking new solutions	1	1
Talk characterized by grasping meaning of data and situation involving data	1	0
Questions are raised, but may not be founded on student data or do not have solutions presented	3	2
Alternative instructional methods identified and considered	4	2
Talk characterized by desire to understand and an amount of uncertainty	6	3
Questions are procedural or clarifying without full discussion of how to answer them as a group	5	2
Factual or leading statements to express personal knowledge and procedures	3	4
Talk shows the intent to move work forward	3	4
Basic questions that only examine procedures or are technical references	2	0
Personal stories are shared, or statements made with rigid barriers	2	0
Talk is only declarations and facts of behaviors	2	0

As seen in Table 3, teachers influenced each other during the collaboration process. However, not all of how they were influenced motivated for them to make changes. Several motivations included statements of data evidence being a leading factor for change. This restructuring of thinking follows from Shein's managed learning theory where the teachers were met with evidence which did not match their current beliefs about instruction. Learning from data or situations in the classroom prompts teachers to know to act differently during instruction than they would have previously thought to act (Murphy, 2016). The value here in the collaborations is teacher learning that takes place throughout the process. The motivations in teachers become greater as they learn from collaborations and data that their changes are making a difference.

Table 3

Interview Analysis: Relationship of Influences and Motivations

Motivations and influences	Influenced but not motivations
See different perspectives, what is more, pressing material.	Sometimes the how the part is overlooked.
Did use suggested instruction as a model and add the types discussed.	Some higher thinking questions from book material were added.
We let the data help us with instruction.	Flexible with instructional strategy.
See other strategies; then I adjust strategies based on what I can do.	Many people were able to help with resources, to try different strategies.
Good to share a common goal to see student improvement.	Trying new strategies are a risk. Willing to take those chances to see what works.
The vision of how to use technology for data collection and decisions about teaching.	See some great ideas, the problem is a challenge to cover all material and yet take time for these strategies.
Shared some student work, very motivating for teaching.	My ears are always open.
Willing to try materials provided, then modify next page.	Experienced enough to know how to choose some and not others.

Literature to Support Project

The policy recommendation here involves the teacher learning communities specified in Ohio as TBTs. Being a form of a professional learning community (PLC), the TBT collaboration process must include an aspect of teacher learning. An expected aspect of the learning is making data-driven decisions to improve student performance on the state testing. The policy needs to identify several important characteristics during the implementation process which would bring a greater degree of success to the schools

employing the OIP. The professional development could train teachers to operate in collaborative groups and make data-driven decisions. The training should contain the key components from research which yield longer lasting results.

Therefore, there are five areas of literature that can be brought together to support the recommendations of this paper. These areas include a) professional development; b) PLCs; c) data-driven decisions; d) teacher learning and e) policy.

Professional Development

In reviewing literature, it was found that there are multiple characteristics which are involved in professional learning (Wayman & Jimerson, 2014). When providing professional development, components that should be included are that learning is intense, job-embedded, collaborative, contextual, coherent, and engaging. That is an extensive list to provide quality professional development which brings about a higher degree of learning for the participants. By using a cycle which includes learning, trying, and evaluating, teachers have a system to follow that is job-embedded within the OIP. The professional development recommended does not have a job-embedded quality. The training does not include a content area component which could make it contextual. The remaining components could do not fall within the parameters of this study as no data is available to make claims about them.

The question lies in whether there is learning taking place from the 5-step cycle used by TBTs and what degree of evaluating is happening within the process. There is a complex process involved in translating professional development to usable knowledge for implementing new instructional practices (Minor, Desimone, Lee, &Hochberg, 2016).

Some recommendations within the OIP include supplying coaches or facilitators to groups, but these people would need to be trained more thoroughly. There is no measure included in the OIP for identifying usable knowledge or new instructional practices.

There is research which strongly supports differentiating professional development (Popp & Goldman, 2016). Presently the training is the same for everyone. Some schools send several members from one TBT or the entire group to the same training. There would be the opportunity to differentiate the training for these groups. There could also be differentiation by the teachers' experience with groups or by content areas. Teacher collaboration which involves content is valuable in obtaining student growth (Akiba & Liang, 2016).

Professional Learning Communities

PLCs offer an opportunity for an exploratory talk which promotes knowledge building (Popp & Goldman, 2016). One difference between PLCs and TBTs is that the TBT protocols start with a learning objective to give a reason why to the ensuing discussion. PLCs often have a discussion focused on instruction without being directed towards a goal of the particular lesson (Popp & Goldman, 2016). Both groups must be focused on the learning taking place by the teachers involved.

Much has been documented already in phases or progression for PLCs or TBT (Huffman, Oliver, Wang, Chen, Hairon &Pang, 2015). Identifying the supports needed by each group throughout their progress seems to be much more difficult. Communicating those supports to the leadership, whether it is the administrators or the coaches and facilitators, is essential to maintain progress. PLCs which had the support of

the building administrator for resources and time were very successful in bringing change to the classroom through teacher innovation (Hollingsworth, 2011). There are success stories for TBTs in Ohio and even within any district that has begun the process.

Understanding about professional learning which takes place through collaboration should occur before involvement in TBTs. Teachers are working in collaborative inquiry to identify instructional practices and were motivated to make classroom changes based on the collective reflection about the practices (Ciampa & Gallagher, 2016). It is possible that teachers being required to form TBTs have never been involved in PLCs. Along with involvement in PLCs, teachers need differentiated learning provided, perhaps through coaching, to harness the change which was fostered during the collaboration process (Grierson & Woloshyn, 2013).

There has been a challenge, and also a strong reward, for maintaining groups for longer periods of time. Long-term groups, such as TBT which meet for a full year, are needed to foster transformation in practices (Brancard & Quinnwilliams, 2012). Movement of teachers from grade to grade and subject to the subject can cause frequent variations in groups trying to stay together for more than 1 year. Collaboration within communities of practice can promote a renewing of purpose in the profession (Daniel, Auhl, & Hastings, 2013). The sense of purpose grows over time as the groups meet continually with common goals.

Data-driven Decisions

In a typical teacher's educational background, learning how to collaborate and make data-driven decisions is not a significant part of their preparation for teaching. New

teachers tended towards choosing instructional practices based on beliefs rather than evidence through any data (Daniels, Radil, & Wagner, 2015). In the last 15 years, both collaboration and using data to drive instruction have become a focus of reform. In the standards for professional development in Georgia, the process standards were given the weakest score for implementation, including training for data-driven decisions and collaboration (Chandler & Chan, 2012). That is to say that user data is not just a consideration but is becoming an area of expectation for teachers and there will be measurements associated with how data and collaboration are being used to change instruction.

It was found that there are four conditions which promote the use of data by teachers in making decisions (Wayman & Jimerson, 2014). The four conditions are collaboration, triangulation, common understandings, and time. Teachers do not necessarily have a strong understanding of how each of these four plays a role in using data, and there are skills for each which enables the use of data to drive instruction (Wayman & Jimerson, 2014). It follows to say that implementation needs to include strong professional development for teachers collaborating on student data and instruction. Using evidence to make changes requires asking questions and then finding proof to guide the decision (Valenza, 2015). Learning will need to take place through a change in thinking for teachers to become comfortable with the use of data and make it a standard practice.

Teacher learning

There are suggestions as to how teachers learn from the professional development they are given. Several of the important characteristics of delivered professional learning included that it was timely to teachers' in-class needs, that it provided the resources needed to implement, that credible sources gave it and that there was follow-up to the learning activities (Wayman & Jimerson, 2014).

To meet the in-class needs of teachers' professional development, the content specific piece should be included in the training. Depending on prior knowledge, teacher learning takes place in either content knowledge or pedagogical content knowledge (Popp & Goldman, 2016). With a learning experience content focused on classroom instruction, teachers are more willing to experiment with new teaching practices (Camburn & Han, 2015). When teachers add new ideas to content within a subject, they may find alternate approaches for instruction (Davis & Krajcik, 2016). Learning the whole process of the 5-step cycle then takes time and needs to be within the subject area taught.

Learning is not the same for everyone, and there is value to recognizing the learning that is taking place in schools. Some teachers lead a charge to new methods, who should be acknowledged and empowered to forge ahead with experimental work in their area of interest (Gosselin, Northcote, Reynaud, Kilgore, Anderson, & Boddey, 2016). Some experienced teachers were described to have unlearned some previous methods of teaching to realize the potential of new methods (Gleeson & Davidson, 2016). Until teachers understand the lack of continuity between prior beliefs and new knowledge, it is more difficult for new learning to take place.

Another characteristic of learning was that it is collaborative. Teachers can miss important aspects of student needs expressed directly to them through dialogue when opportunities beyond personal reflection are not given (Beltramo, 2017). Teachers learn more when discussing and sharing, especially within the content area. Teacher learning can take place when information is stored within the collective group, then passed along continuously to benefit all teaching practices (Hiebert & Morris, 2012).

Policy

There are international groups of educators meeting to discuss education. International PLCs have as one of their focus points policy and procedures (Huffman et al., 2015). Policies in the United States come from both the national government and the State governments. The focus of the Standards for Professional Learning continues to be connecting professional learning to changing the way educators teach, addressing their knowledge and skills (Hirsh, 2013). Reforms to change instruction have not met the desired intentions so far in the U.S. (Camburn & Han, 2015). To meet the requirements set before them, local districts seek programs which increase student achievement. While the programs chosen to form policy for professional learning are often justified, the implementation is not always founded on results of research (Blank, 2013).

New teacher education had a focus on the competency of teaching practices which targeted making certain behaviors evident in one's lesson (Forzani, 2014). The shift now is towards learning through collaboration as teachers share what has and has not worked for any given lessons. Discussions are taking place amongst school leaders, policy-makers, and teacher educators about what is essential for teachers to learn, both before

they enter the field and after entering (Schultz & Ravitch, 2013). There are proposals for teacher portfolios, which include instructional practices, to be a part of evaluations methods (Elliot, Roach, & Kurz, 2014).

With so many policies enacted regarding standards for content, it is easy for schools to lose the vision of improving teaching (Richmond, Bartell, & Dunn, 2016). It is not enough to just make sure that the common core standards are being met through the curriculum. Policies, such as the OIP, are including components of collaboration. Results are not indicating that requiring collaboration is all it will take to raise scores. The policy requiring collaboration needs to include a component of professional learning, whether it is content, standards-based, or data-driven instruction (Kennedy, 2014).

The Recommendation

The 3-step implementation proposed began with teacher learning through an examination of student data and ended with the development of the complete 5-step continuous improvement cycle. The implementation procedure was to build on teacher learning while developing the OIP. Often the teachers involved in the OIP did not even know what it was that they need to learn for the 5-step TBT cycle to be effective. While there is a good amount of information included in the OIP resources, these pages alone do not provide the understanding for teachers and administrators to identify their specific needs during the process.

The proposal is that the implementation be separated into three steps building upon each other until the complete OIP is in place. Each step consists of one year for the development of skills and knowledge involved in the continuous improvement cycle.

TBT can change from year to year as members develop skills as individuals. The steps are outlined as follows:

First step – *data-driven decisions* and data analysis during TBT meetings;

Second step – *instructional practices* training and collaboration during TBTs about instructional practices;

Third step – *the 5-step cycle* used in TBT meetings for improvement of teaching and student performance.

Making Data-Driven Decisions - The first year is designed for teachers to gain an understanding of how to make data-driven decisions, along with training needed for facilitators and coaches to lead groups of teachers in data collection and interpretation. Keeping the groups content specific allows for in-class data to be used. An abbreviated version of the protocols now being used by TBTs can emphasize the data collection and data analysis processes with minimal other writing. An overall time to celebrate successes shown through data, including presentations of different data collection methods and results, is set apart towards the end of each semester, possibly during a district professional development day.

Instructional Practices - The second year is designed to be about instructional practices. Learning Labs are an example of a tool for changing instruction that utilizes videotaped instruction. The Learning Labs include observation of lessons, whether in the school or not (Brancard & Quinnwilliams, 2012). Examining student work by content area, such that the job-embedded quality of the training is included, is built into any professional development provided by the district. Coaches can step into the groups to

assist with the learning and lead presentations of successful new strategies. Additional time for lesson observation and discussion must be supplied. Other resources include books such as Hattie's "Visible Learning" (Hattie, 2009) for teachers to choose and examine different instructional strategies. An overall time to celebrate successes shown through data, including presentations of various instructional practices, is set apart towards the end of each semester, possibly during a district professional development day.

The 5-Step Cycle - The third year is designed to be about the 5-step continuous improvement cycle. While there are presently professional development sessions in place to cover the protocol and process of the OIP, these sessions lack some characteristics that make professional development most successful, such as subject content, collaboration, and follow-up. Facilitators and coaches could provide the components needed for full implementation. Protocols can now reflect the teacher learning which took place over the previous two years of development and lead to results in improved student performance. An overall time to celebrate successes shown through data, including presentations of complete 5-step cycles, is set apart towards the end of each semester, possibly during a district professional development day.

Among other states, the state of Ohio has included in its policy on education a requirement for schools to implement an improvement process that includes teacher collaboration and use of data to determine best practices. The policy as enacted by districts would further benefit education if it included aspects of teacher learning along with an implementation plan to gradually incorporate inquiry talk into teacher routines.

The goal was to outline an OIP implementation plan with a focus on teacher learning. By providing scholarly evidence through literature and the research study, the suggestions in this paper are made as a means for meeting teacher needs during the OIP implementation. Improving scores on high-stakes testing has been the overarching goal for more than 20 years, yet it is difficult to make any claims of progress as a state. Overcoming the barrier of teacher isolation and resistance to change are challenges facing teachers as education takes strides forward towards data-driven instruction.

The 3-step implementation process suggested in this paper can help bring schools and teachers gradually into the OIP and keep a focus on teacher learning throughout the process. It will take years for teachers to have collaboration as a major source for lesson planning and daily decision-making, but the 5-step continuous improvement cycle provides a foundation to convince teachers of the value and power held within the process. Once there is an impact on teacher learning, there will be an impact on student achievement as well. Changing the educational culture from isolation to collaboration will open levels of achievement which have long been desired.

Project Evaluation Plan

End of Step 1:

	First semester	Second Semester
Protocol feedback mean scores	_____ _____	_____ _____
Percent improvement (20% min)	_____	_____

Day to celebrate successes – formative assessment description of successes

End of Step 2:

	First semester	Second Semester
Protocol feedback mean scores	_____ _____	_____ _____
Percent improvement (20% min)	_____	_____

Day to celebrate successes – formative assessment description of successes

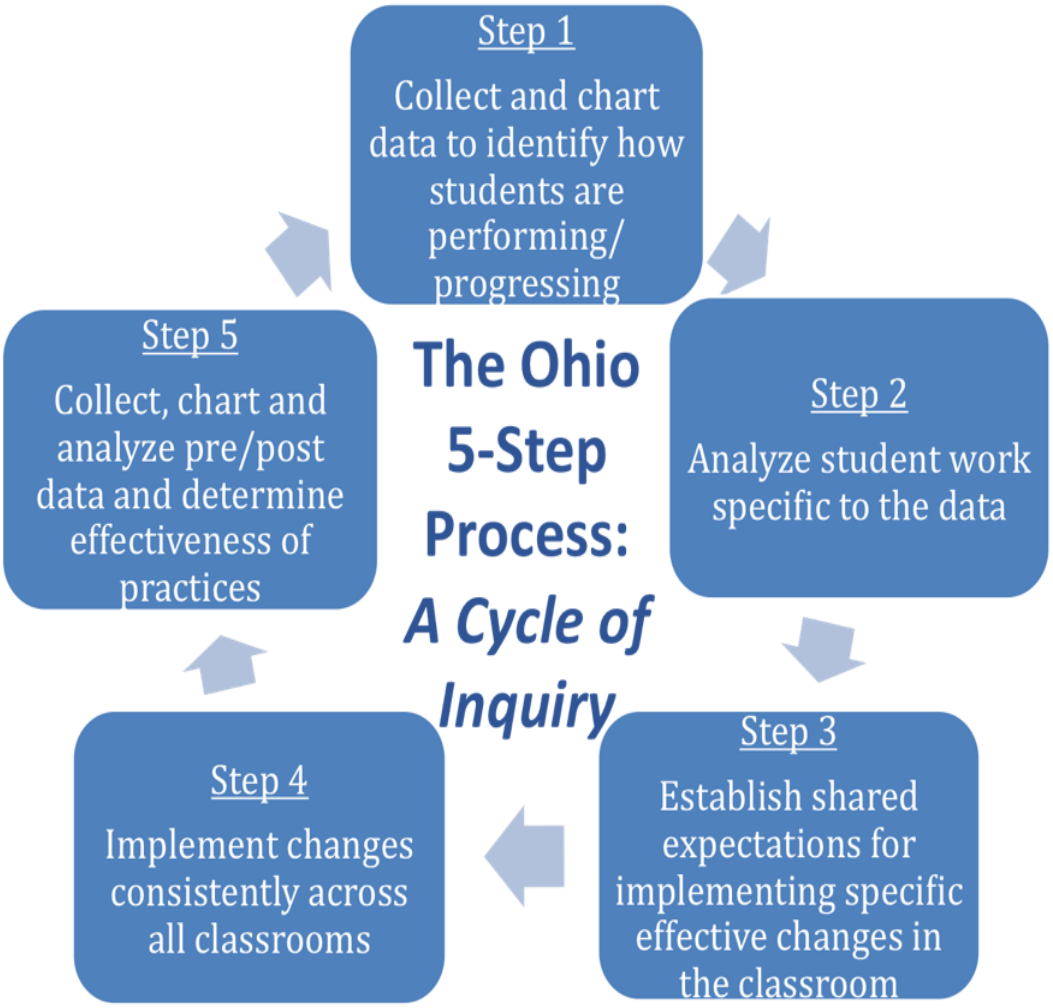
End of Step 3:

	First semester	Second Semester
Protocol feedback mean scores	_____ _____	_____ _____
Percent improvement (20% min)	_____	_____

Day to celebrate successes – formative assessment description of successes

Appendix B: TBT 5-Step Process

Resources 14: TBT 5-Step Process Visual (OIP Resource 13, 2012)



The Ohio Improvement Process (OIP) Resources were co-developed by the Ohio Department of Education, State-Level Design Team and the Great Lakes East Comprehensive Center, funded by the U.S. Department of Education and administered by Learning Point Associates, an affiliate of American Institutes for Research. Co-

development of some resources was also supported through a U.S. Department of Education, Office of Special Education Program grant #H323A070014-11. The content does not necessarily reflect the position or policy of the U.S Department of Education, nor does mention or visual representation of trade names, commercial products, or organizations imply endorsement by the federal government. The content does reflect the position and policies of the Ohio Department of Education, and the Department endorses specific processes, procedures, and programs mentioned.

Appendix C: Interview Protocol

The one-on-one interviews will be conducted in a school setting following school hours. The meeting will last from 30 to 45 minutes. As I have already met and spent time observing the teacher in a TBT meeting, no introduction will be necessary. The following questions will be used as an outline for the meeting.

1. How has this TBT process been going for you so far, such as do you see a benefit in the continuous improvement cycle?

2. I was interested in your group talking about what instructional strategies to use in your teaching of the lessons. How did that conversation motivate you to try some of the strategies mentioned?

3. How do you make changes in your instruction based on your discussion in your TBT?

4. What would be the most convincing to you about an instructional strategy, which you do not use, that you would go right back and make a change?

5. Why is it so hard to make changes in how we teach?

6. What skills do you need to better collect and analyze data in making decisions about instruction?

7. How could you use data to make decisions? What data would be helpful?

8. Do you have one instructional strategy that you use most of the time or do you have several in your bag of tricks to pull out and regularly change what students see and do?

9. What do you think about watching a video of a lesson and having the chance in a group to discuss it?

Appendix D: Observation Protocol

Observations will take place when the TBT groups meet at the end of the school day. There is a facilitator of the group who makes an agenda for the meeting. The meeting follows the 5-step cycle for continuous improvement.

The field notes taken during the meeting will be chronological. Observations will include verbal indicators of attitude or feelings, descriptions of data being examined, and any clues which are given by the participants to help the others understand their point. Question marks are written down the side of the page each time a question is raised during talk of instruction. The chart to be filled out for each group is based upon Table 1: Dialogic Stance towards talk of instructional practices.

Table 1

Dialogic Stance Toward Talk of Instructional Practices

Talk of instructional practices	A	B
Authentic questions evolving from analysis of instruction examine beliefs and assumptions.		
Tentative statements seeking new solutions.		
Talk characterized by grasping the meaning of data and situation involving data.		
Questions are raised, but may not be found on student data or do not have solutions presented.		
Alternative instructional methods identified and considered.		
Talk characterized by a desire to understand and an amount of uncertainty.		
Questions are procedural or clarifying without a full discussion of how to answer them as a group.		

Factual or leading statements to express personal knowledge and procedures.

Talk shows the intent to move work forward.

Basic questions that only examine procedures or are technical references.

Personal stories are shared, or statements made with rigid barriers.

Talk is only declarations and facts of behaviors.

Notes:

Appendix E: Participant Consent Form

Researcher: David DeWitt

Email: David.dewitt@waldenu.edu

Phone: 440-552-4110

Research Supervisor: Dr. Antoinette Myers

Email: antionette.myers@waldenu.edu

You are invited to be a participant in a qualitative research study. Participation is completely voluntary. As a teacher in the district, I am also a doctoral student at Walden University in the School of Education. This letter, which you may keep a copy, is to provide you details of what will be the purpose of this study, why you are being asked, your role as a participant, and an assurance that you will have complete confidentiality. I am only conducting research and am not acting on the part of the school to report on your group. If you have any questions or concerns, please contact the researcher or the supervising instructor above.

The purpose of this qualitative study is to examine how the teachers' collaborate on student achievement and make data-driven changes in instructional practices. You are invited to be a part of this study because you are a teacher at this school and I have received permission to come into your building, though I cannot compensate you for your time with any gifts or cash. If you agree to participate, I would like to observe you at a TBT meeting. I will also ask those who agree to be observed if they would participate in a one-on-one interview of approximately 45 minutes as I will be interested in how they take the talk from this collaborative process into making changes in their class

instruction. Again, participation is voluntary, and confidentiality will apply to each interviewee. After interviews an additional meeting will be needed for approximately 30 minutes to allow you to review my summary of our talk together, ensuring that I have not misrepresented anything said. While I would not want anyone feeling discomfort during this process, it is possible that being observed or interviewed could bring an uneasy or awkward feeling to participants. Though you may be sharing about successes or difficulties in your classroom, you will not be judged at any step during the research process.

A benefit of being in this study is that it brings the focus onto what is being done in the classroom, and how teaching affects student performance. This research may provide information on how teachers can approach a collaborative process, and gain from involvement in a collaborative process for data-driven decisions.

You may choose not to be a part of this study at any time during the process. By choosing to withhold permission, no notes will be taken regarding your role or input to the TBT meeting. There are no repercussions for a decision to remain out of the study, and your decision will remain confidential as well. At any time, even after the observation or the interviews, you may decline from participating in this study. There will not be any information about you or anything that you do include in this study without your consent. Questions about participant rights may be directed to irb@mail.waldenu.edu.

I thank you for your time and for allowing me to learn from this opportunity. Please contact me with any concerns that you may have about the research or the process.

If you agree to the terms as stated above and a word like to participate, please reply to this email with the words, ‘I consent.’

Appendix F: Confidentiality Form

I, the researcher for this study, understand that I will have access to confidential information about the participants and the setting of this study and that any improper release of this confidential information can be damaging to the school or the teachers involved in the study. In this statement, I am agreeing to the following:

I will not share or give access to any confidential information gained during this study.

I will keep all participants' names and other identifying information confidential so that no one can be identified from the information.

I understand that confidential information includes anything seen or heard during the observations or interviews.

I agree to accept the conditions mentioned above by signing this document.

Signature: _____ Date: _____

Appendix G: Recruitment Letter

Dear Teacher,

After observing the TBT meeting, I am interested in holding a one-on-one interview with you. I want to come to a better understanding of how you process the information from your time of collaboration, and how you take that information into your classroom. I value your time, so will keep the interview to 45 minutes or less and can conduct that interview at a time convenient for you. I can also share that you are more than welcome to ask any questions of me that interest you. We made progress in that meeting together and would like this time with you individually to allow us to share thoughts of what we hope to accomplish as well as what we have already accomplished.

By responding with "I consent", you agree to be interviewed by the researcher and to have the interview recorded. A meeting between us to go over the summary of the interview will be scheduled within 1 week of the interview for your review and approval. All information about you will be confidential during this process and in the writing of the results of the study. I appreciate your participation but can offer no compensation for your time. There are no consequences for withholding consent to be interviewed and that information will not be shared with anyone at the school or involved in the study.

Appendix H: Field Notes From TBT Observations

Discussion of curriculum

Procedures for completing protocol

Want to get through it to discuss teaching

Data presented – previously gathered

Teachers turning towards each other for discussion

All participating in developing discussion

Clarifying an indicator being taught

Question on teaching topic

Here is why I have done but don't know if it is best

Others looking to help person who asked question

Inquiry type discussion – trying to make meaning of instruction

Choices presented

Presenting timetable to complete unit

Appendix I: Summaries of Interview Data

Interview 5/23

Like TBT meeting by department to discuss content

Tried meeting more often

Talk about what is working with a group of math teachers

See different perspectives, what is more, pressing material

Sometimes the how part is overlooked

We all have some ways of teaching that we are set on using

Did use suggested instruction as a model and add the types discussed.

Some higher thinking questions from book material were added.

Would be very interested in observing lessons to learn new methods. Best.

Suggest testing at beginning, middle, and end for progress monitoring. Use book test material for the topics.

Learn to use Go Math computer part for data tracking.

Differentiation is a challenging piece. More training would be helpful there.

Interview 5/24

We let the data help us with instruction.

Flexible with instructional strategy.

Many people were able to help with resources, to try different strategies.

See other strategies; then I adjust strategies based on what I can do.

Willing to try materials provided, then modify next page.

Developed data collection for each student, could see results by the student or by the standard. One writing contained all of the standards, used a rubric to grade.

Used data for differentiation. Definitely helped drive instruction.

Rather see a life lesson.

Interview 5/24

Like continuous improvement cycle within the subject.

Good to share a common goal to see student improvement.

Trying new strategies are a risk. Willing to take those chances to see what works.

See some great ideas, the problem is a challenge to cover all material and yet take time for these strategies.

Experienced enough to know how to choose some and not others.

Ones I made time for were valuable. Exit slip example every lesson.

Shared some student work, very motivating for teaching. Like lesson studies.

Did some video lesson studies. Need good questions to show what should be the focus of watching the lesson.