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Middle School Teachers' Experiences Regarding the Influence of Data on Instruction

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COLLEGE OF EDUCATION

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2014

Abstract

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Doctoral Study Submitted in Partial Fulfillment

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Abstract

This research addressed the data-driven process that teachers utilized to increase student scores on state tests, a process brought forth from a national concern with increased accountability. According to the district website, there is no consistent direction for data use and informal teacher interviews demonstrated varying levels of proficiency and understanding in using available data. Constructivism and learning styles from Vygotsky, Bandura, and Gardner informed this qualitative case study's theoretical framework, which centered on data-driven decision making for instruction. The research questions explored the experiences of middle school teachers in collecting and analyzing data, how the school supported the teachers' process of using data, and what support or knowledge teachers thought would help them more effectively use data to inform instructional decision making. This study gathered information through the use of open-ended questionnaires (n = 25) and follow-up interviews (n = 9), and documented the daily actions within the setting to enable a full understanding of the problem through observations of teacher meetings (n = 21). The data were analyzed using the constant comparative method, including descriptive coding and the formulation of characterized themes to summarize the concerns and needed support for teachers to use data more efficiently. Emergent themes revealed that time and collaboration were needed for effective data implementation. This research provided a voice for the teachers. In doing so, it identified goals for a project of increasing student performance by scheduling professional learning opportunities and fostering teacher confidence.

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Dedication

I dedicate my doctoral study to my family. They are the reason why I chose to pursue this degree. I love learning and want to instill this drive in my child to be.

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Many people have helped me on my journey to this point. First off, my husband Daniel was the driving force that helped me through each step of this process. Whether for moral support or for helping me organize the hundred articles I printed, I am indebted to him. He helped me to remember the reasons why I started this program and to keep my eye on the prize. Next are all of my friends and family who never doubted that I could complete this work. Your strong belief in me helped to give me the confidence to struggle and work hard through this process.

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Section 1: The Problem

Definition of the Problem Related to Larger Setting

Middle school is the time in education when content area vocabulary and concepts become increasingly difficult and strategies to assist with the students' lack of familiarity with new ideas and instructional strategies are important (Ward & Rossi, 2012). According to the website of the study district, content areas such as earth science and world cultures contain terms that many students rarely, if ever, have heard of or used in everyday communication. Making effective instructional decisions requires teachers to be knowledgeable concerning student differences (Holcomb, 2013).

Data regarding student performance are important within education today. It is no longer acceptable to trust an instinct when making educational decisions (Mandinach, 2012). Instruction now requires data to make purposeful decisions. The No Child Left Behind Act (NCLB; 2011) described the use of research methods to inform instructional practices to increase achievement for all students. This complex idea made schools accountable for achieving adequate yearly progress and changed how teachers improve learning by teaching based on data (Mandinach, 2012). Additionally, the U.S. Department of Education (2010) funded the creation of a consortium of states to create valid assessments that support and inform instruction. By providing performance indicators against the standards, teachers can design instruction to ensure that all students prepare for the future. This change of assessments requires instruction to change with the new curriculum in order to meet the needs of each student. In order to determine the

weaknesses and strengths of students as well as understand teacher perceptions of the new educational climate, data must be used to guide changes.

The Common Core State Standards Initiative (2010) released new standards, adopted by New Jersey and many other states nationwide, which explain what students should learn (Porter, McMaken, Hwang, & Yang, 2011). The significant differences between the old and new standards include a more focused approach to the curriculum and the implementation of one unique set of standards across states. These new standards affect teachers' instruction and require an understanding of how students are handling them. New standards will result in a new test that students will take. These changes warrant new preparation and instructional techniques. Teachers can better create lessons to support the new criteria by using data based on the common core standards to explore the proficiencies of students. With increased test preparation, students learn that test scores matter more than learning the information and that teachers do not make key instructional decisions (Sadker & Zittleman, 2011). Many of the teachers in this study felt pressure to prepare students for tests, so they planned their lessons carefully around test content. All teachers desired time to focus on the strategies and skills needed to be competitive in the changing economy. Love (2009) described how data teams should be constructed to work together to support student achievement through data-driven decision making.

With the implementation of the NCLB, Common Core standards, and new testing options, the importance of student achievement has increased (New Jersey Department of Education, 2013). Standardized tests provide data that educators use regarding student

performance. Van 't Hooft et al. (2012) examined how scores can be used to determine whether a program is effective or not. Teachers and administrators must choose reliable programs and strategies to instruct students. Collecting data is a way to gather information about the efficiency of the approaches. However, programs and curricula sometimes conflict with standardized tests, and most teachers want to understand ways to use the assigned programs and curricula to increase student performance on standardized tests (McGee, Wang, & Polly, 2013). Depending on the mission of the school, test scores may drive instructional decisions, rather than individualized instruction to help prepare students for the future. Musoleno and White (2010) showed how high-stakes tests lead to more test preparation and remediation time to help students increase their performance. However, more emphasis on test scores does not lead to student achievement. Data-driven decision making allows educators to respond to data and remedy deficits (Slavin et al., 2013).

In correlation to the current federal initiative discussed, the New Jersey Department of Education (2013) established a new statewide teacher evaluation system that started in the 2013-2014 school year. This evaluation system requires the use of student growth objectives based on data to show progress. However, according to this new model, teachers are not accountable for using the data to inform instruction. The only outcome that the state requires is increased scores on the postassessment, so it is likely that teachers use data inconsistently to inform instruction. This relates to the problem of the lack of information on the perceptions of teachers regarding how they use data to inform instruction.

Definition of Local Problem

I conducted the study in a small, suburban middle school of about 700 students from Grades 6-8. In the student population, 87% of students were White, and 4% of the population paid a reduced lunch price. Only 0.2% of the population had limited English proficiency. Within the school district, there is one high school, one middle school, an upper elementary school, and two lower elementary schools. Questionnaires, interviews, and observations allowed the experiences and perceptions of teachers regarding data to be analyzed to gain an understanding of the process teachers encountered to use data to inform instruction.

The problem was that the school lacked information regarding teachers' perceptions of how to use data to inform instruction. This absence of knowledge was a concern because the changes in recent legislation will affect all educators. If concerns or misunderstandings were to be evident to administrators, the need for professional development to support data-driven decision making would be obvious. As a teacher in this district for 6 years, I had participated in many initiatives but had noticed a lack of support on the topic of data-driven decision making. According to the website of the study district, various district-wide professional development opportunities were available, but none had dealt with the subject of how teachers are using data to inform instruction. Without a clear mission and professional support for using data, teachers have varying views on how to use collected data in order to develop better instructional strategies.

As described, the larger setting of New Jersey has implemented a new evaluation system in which teachers are asked to collect data to inform instruction (New Jersey Department of Education, 2013). However, during informal conversations, various teachers commented that they were only giving preassessments and postassessments to fulfill state requirements, rather than for the purpose of making data-driven decisions. In this way, teachers collected data but did not use these data to inform instruction. Specifically, informal discussions with teachers led to comments such as "I guess I can put it away until April" (after gathering data) or "this is pointless" ([redacted], personal communication, September 30, 2013). Without a clear understanding of the knowledge teachers have about collecting data and how they use data to inform instruction, administrators cannot offer necessary support to enhance this process.

According to the New Jersey Department of Education (2013), the only school in the district that did not meet its adequate yearly progress (AYP) requirement was the middle school. As shown in Table 1, all of the other schools met the requirements set by the state in both language arts/literacy and math.

Table 1

School Improvement Status Summary: School Year 2011-2012

School	Made AYP benchmark target in math	Made AYP benchmark target in language arts/literacy
X High School	Yes	Yes
X Middle School	No	No

X Elementary School	Yes	Yes

One effect of the lack of guidance regarding data-driven decision making in the middle school was low test scores. In reaction to the low scores, administrators constructed an action plan to help increase student test scores. The plan was only used in the subject areas and grade levels for which performance was low on the state tests. According to the district's website, the action plan for math—special education at X Middle School involved identifying the areas of weakness for the students and targeted instruction to remediate the difficult areas. As these types of action plans were only put in place after the students demonstrated low performance on the test, it is likely that only these groups are receiving individualized instruction from the teachers of these subjects based on data. No one else has a defined plan, although some teachers may be using data on their own. The aim of this research was to explore the perceptions of teachers regarding how data inform their instruction. Although literature shows the need to use student achievement data to support instructional decision making (Hamilton, Halverson, Jackson, Mandinach, Supovitz, & Wayman, 2009; Love, 2009; Means, Chen, DeBorger, & Padilla, 2011), the middle school has yet to implement a universal strategy to use data to inform instruction. Some teachers use programs that show student performance data, such as Google forms, measuringuplive.com, and achieve3000.com. However, without a clear, consistent plan of implementing strategies to reinforce difficult topics, the data are useless (Wiles & Bondi, 2011). There is currently a professional development plan in place at X Middle School; however, the requirements are sometimes mandated by

supervisors and leave little room for teacher input. Wiles and Bondi (2011) noted how a clearly stated plan and objectives for learning help to create an orderly, comfortable environment conducive to learning. With a revised professional development plan, teachers could direct their collaborative efforts with other colleagues and administrators toward searching for effective strategies to inform their instruction.

The administrators allot time each day (an average of 40 minutes) for teachers to collaborate on various topics. However, the administration has not arranged for the topic of data-driven decisions to be discussed during these times. In addition, administrators set a schedule of topics for different content areas and collaborative groups at the beginning of the year, but the schedule has not been changed or revised at all recently. In previous years, the focus of team time was on planning for class periods including block periods that support activities such as experiments. Currently, this time is no longer used just to plan, but also to distribute procedures and teach new evaluation methods. This presents inconsistency, as teachers have less scheduled planning time to incorporate the new changes of the curriculum and common core assessments. The availability of teachers to attend these daily meetings varies from day to day and from teacher to teacher. The diversity of schedules of teachers from the different grades and content areas makes the collaborative effort inconsistent.

As shown on the website, the district administrators implemented the state teacher evaluation system to increase accountability, each teacher needs to note data for a class. Teachers now use student growth objectives to show that students are making progress with the curriculum. Data are a huge part of the system and use numbers to quantify

student and teacher achievement (New Jersey Department of Education, 2013). The school year 2013-2014 was the first year in which student data were used as part of teacher evaluation, and administrators were inconsistent about disseminating the instructions and protocols regarding the new evaluation system ([redacted], personal communication, September 30, 2013). In addition, there was little follow through about how or if teachers use the data to inform instruction. This shows a lack of information regarding the perceptions that teachers have of the role of data to inform instruction and the influence data procedures have on teachers' experiences. It is possible that some teachers use the student growth objectives to pinpoint student difficulties, but with the lack of professional development in this area (Ramsey School District, 2013), it is unlikely that teachers have a consistent method to use data to inform instruction. A lack of information about what teachers do with the data available is problematic because without proper use, teachers could make uninformed decisions (Holcomb, 2012). Teachers can construct effective differentiation when they gather data and use these data to create individualized instruction (Holcomb, 2013). In addition, knowledge of any effective strategies that teachers currently use would allow collaborative professional learning activities within the school to instruct other teachers on how to use data effectively.

As they appear on the District homepage, the mission statement and belief statements have no mention of data. Although the belief statements state that instruction provided in the district addressed the intrinsic differences of all learners, the educational programs brochure and general information packet about the district do not provide any

strategies or programs that outline how teachers should be using data to inform instruction. This general information packet also describes different levels of math and reading classes but does not address the data that inform the decision for students to be placed in certain classes. X Middle School offers five levels of classes in math and language arts to homogeneously group students. Without specific guidelines and programs to help teachers collect and analyze data efficiently, how can administrators know that teachers are making data-driven decisions?

Rationale

As a teacher in the study district's middle school and a member of several educational committees that oversee the initiatives of the district and school, I have the opportunity to observe teachers and participate in meetings about professional learning. As a part of the educational advisory committee, I researched important topics in current education and used the collaborative time to pilot various strategies and plan with teachers. This involvement allowed me time to discuss important issues such as data, assessments, evaluations, and instructional strategies with teachers and administrators. Many discussions began with the notion that state testing was an important focus because of the increased accountability of the teacher. Additionally, the only data available about students on the district website regarding curriculum, instruction, and assessment are the state testing results. Following the initial thought, many teachers commented that they disagreed with the test and only used it for class recommendations. Recommendations occur every year to determine whether students should stay at the same level of difficulty or change levels based on set criteria. Standardized test score ranges represent part of the

criteria that teachers use once a year to homogeneously group students in certain classes for math and language arts. Test scores are only one type of assessment data that can help inform educational decisions (Killion & Roy, 2009). As data from informal and formal assessments can be used to tailor instruction toward each student, I wanted to investigate this topic to support teachers who might be able to take advantage of student data.

The differing views of teachers from the educational committee made me question how much middle school teachers know about data and how they use data to inform instruction. Informally, I brought up the topic of using data to improve different instructional strategies and received varying responses. Some teachers did not think they had any data to use, and others used this information only at the beginning and end of the semester. These dissimilar remarks prompted me talk to the principal about data informing instruction, after informing her of my research inquiries. The principal indicated that data give us important information such as strengths and weaknesses, but she stated that she did not like to see teachers teaching to the data and not to the child ([redacted], personal communication, March 13, 2013). This balanced opinion notes how data is useful but not the only factor that should determine instructional strategies. On the other hand, data can include more than just test results and can allow teachers to develop a profile of each student in order to teach each student individually.

Data can lead to effective decisions to differentiate instruction, as well as to increased student performance (Love, 2009). For example, responsive teaching can lead to teachers finding ways to link the student's strengths and interests to the subject matter (Strahan, Kronenberg, Burgner, Doherty, & Hedt, 2012). What is important is the

connection between student data and how teachers formulate instruction to differentiate learning experiences. The newly formed professional development committee of the district explored the question of which initiatives the staff needed help in implementing. As a result, the professional development team created a RealTime class named "Using Microsoft Excel to Organize and Analyze Student Achievement Data." An elementary principal conducted this program with more than 10 participants to find ways to use data in the classroom. Middle school personnel did not have the opportunity to attend this workshop, and each content area has a different outlook or program that supports instruction.

In addition, opportunities for webinars and workshops for various online assessment websites (www.MeasuringUpLive.com and www.Achieve3000.com) guided teachers through using data software. After speaking briefly with the attendees, I discovered that they were all using the program but in different ways. Differences of data use in the middle school represent an important topic because these differences affect the decisions made in the classroom. The goals of the online programs are to track student progress and improve instruction. If the teachers are not using the information to inform instructional decisions, then teachers do not use the data efficiently. Professional learning opportunities can help educators interpret and respond appropriately to the assessments (Slavin et al., 2013). Without support, teachers will not understand the use of data to plan explicit instructional activities.

The newly adopted evaluation system requires the use of data to hold teachers accountable for student learning, but again, there is no link to instruction. The *New Jersey*

Education Association (NJEA) Reporter is a monthly teacher association newspaper that teachers of New Jersey use to express opinions on governmental legislation and other educational topics. In a recent issue, NJEA President Wendell Steinhauer conveyed the idea that administrators are unprepared and untrained for the major evaluation and assessment initiatives ("NJEA Calls for a Timeout," 2014). The new system requires a baseline where the vast majority of students fail the pretest and the results do not provide useful diagnostic information ("NJEA Calls for a Timeout," 2014). Teachers receive this newspaper in their mailboxes at school and often discuss the main articles. Recently, teachers discussed this article and noted that they agreed that there seemed to be no point to the baseline preassessment. The preassessment was hard for students in the beginning as students did not know the material; scores could be expected to increase on the posttest, after they had learned the material. This makes it clear that teachers collected data to fulfill the evaluation protocol, but the data did not inform the teachers' instruction.

The Partnership for Assessment of Readiness for College and Careers (PARCC) assessment is a new online test that aims to identify whether students are on track for success in college (PARCC, 2014). Every time administrators described examples of PARCC assessments to prepare for the 2014-2015 start date, teachers commented on how their students were not ready. Applicable data use can help to locate struggling areas for students and allocate appropriate services and professional development. Therefore, teachers can use data to differentiate instruction for the students. Administrators need to know the perceptions of teachers because their comfort and ability direct the instruction and delivery of the curriculum. By understanding teachers' perceptions and experiences,

administrators can plan professional learning opportunities that will help support data-driven decision making. Overall, there is a significant need to understand the perceptions teachers have about data to ensure that they have the needed support to make data-driven decisions.

Questionnaires and interviews allowed me to collect information from the classroom teachers regarding experiences of data-driven decision making. Through the use of an observation, I began to understand the effectiveness of team collaboration time already being used to support teachers in the middle school and to determine whether concerns were present. After I gathered and summarized this information and communicated the findings to the stakeholders, district leaders will be able to offer professional learning opportunities to support any lack of consistency and teacher concerns. Within a collaborative approach of using data to inform instruction, professional learning experiences will create new ways of delivering instruction and emphasize the importance of using data effectively (Pella, 2012).

For staff members, collaboration is the key to success. Teachers must feel valued and supported to find ways to use data to lead to good instructional decisions. Administrators who encourage teachers and other staff members to participate in discussion groups, professional development, and other opportunities to help drive the district's policies help to build a school-wide bond involving data (Slavit, Kennedy, Lean, Nelson, & Deuel, 2011). However, Misco, Patterson, and Doppen (2011) noted that the emphasis on data and change in teaching time frustrated teachers. Given that teachers may be frustrated by spending time on the test topics and may feel a loss of autonomy,

teachers' perceptions must be taken into account in order to provide any needed support (Misco, Patterson, & Doppen, 2011). This study was designed to allow an understanding of how teachers use data and support ways to incorporate it more efficiently into instruction. As there are a variety of evidence-based strategies to use data to inform instruction (Holcomb, 2012), a correlation between the practices revealed in the research and current research can be made. Data are available through standardized tests, online programs, and informal assessments, but the problem is a lack of information about how teachers use the data. The action plan used in only a certain group of the student population reveals the need to use data-based decision making; however, this strategy is not consistent through all grade levels and content areas. With the data from assessments, teachers can assess student progress and achievement to make instructional decisions (Holcomb, 2013). Proper professional learning opportunities and support can help teachers know when to reteach and when to move on based on the individual needs of the students seen through data analysis (Doubet, 2012). Therefore, it is important for administrators to have an understanding of teachers' perceptions and experiences of how data inform instruction to fully support the learning environment (Holcomb, 2012).

Problem Statement

The problem at the study district is the lack of teacher understanding of how to use collected data to inform instruction. Without a clear philosophy of how teachers should use data to inform instruction, each teacher implements the strategies that he or she feels are effective. There is a multitude of data available without any support for how to implement these data in instruction. As the standardized test results show, student

achievement is low in the middle school, and with the new curriculum demands (Common Core State Standards Initiative, 2010) and evaluation procedures (New Jersey Department of Education, 2013), teacher experiences differ, as there is no universal data strategy for the school according to the district's website. There is time each day scheduled for collaboration, but the attendance inconsistencies and lack of direction for the productive use of time based on data perpetuate the problem of not understanding what teachers need to be more effective in the classroom.

Purpose Statement

The purpose of this study was to understand the perceptions and experiences that middle school teachers have when working with data, and whether data are incorporated in the instructional decision-making process. Data-driven decision making has been shown to improve the learning environment and lead to improving student achievement (Killion & Roy, 2009). This model of data use could lead to positive social change within the school and community by increasing student achievement and a sense of collaboration between all stakeholders. With added knowledge of teacher perceptions, administrators can support teachers by providing appropriate professional development and resources to the teachers.

Data Definitions

In order to address the problem as described through this qualitative study, I have used certain terms, for which common definitions are provided below. I discuss the following terms throughout the literature review and study to describe the use of data and instruction.

Data: Any information that can inform instructional decisions. Informal and formal assessments provide descriptive information about student characteristics. The effective use of data can offer a process to help teachers connect the results they have to the performance that they want for their students (Love, 2009).

Adequate yearly progress (AYP): A set percentage of growth, determined by the government, that displays the improvement or lack thereof of student achievement (New Jersey Department of Education, 2013).

Professional development (PD): In the context of this study, PD includes the professional learning experiences of teachers that provide support and guidance to create and implement effective, data-driven teaching strategies. High-quality professional development uses evidence-based strategies that can affect many teachers and students to address the schools' needs and development goals (Killion & Roy, 2009).

Data-driven decision making (DDDM): The analysis of data used to make instructional decisions is critical. Data analysis can help teachers to understand difficulties that students have and identify reasons and ways to facilitate instructional support (Killion & Roy, 2009).

Significance

The matter of being able to use data to inform instructional decisions affects more than just student achievement. Student motivation and college readiness develop with the addition of data-driven decision making (Pennebaker, Gosling, & Ferrell, 2013). Informed decisions help learning experiences to be tailored to student strengths and difficulties, which enhances the learning experience (Holcomb, 2013). This study was

designed to allow teachers to stay motivated by seeing progress in their students' performances. This depicts the Walden vision of positive social change by creating and applying my thoughts in actions that promote the improvement of human and social conditions (Walden University, 2014). After reflection on my research, I will share my recommendations with administrators in order to offer research-based strategies that will help teachers use data to inform instruction. This may help teachers feel confident in their instruction by knowing that they provide evidence-based research that has increased performance (Wiles & Bondi, 2011).

As internal and external forces affect teachers and create contemplation of changing careers or uncertainty in teaching as a career (Olsen &Anderson, 2007), this study can help support teachers to address any education needs they have. With the new evaluation, assessment, and accountability systems, teachers have more to do, and administrators must make provisions so that teachers do not lose motivation. The quote "I love teaching, but" (Olsen, & Anderson, 2007, p. 22) puts into perspective the torment that some teachers feel and the support that they need to keep them from leaving the profession. Students benefit from experienced teachers, not continuous turnover of teachers who leave the profession. With this in mind, identifying the perceptions of classroom teachers can help lead to planning specific aid to support teachers. Sometimes, teachers who feel unable to complete their job may consider changing professions (Olsen & Anderson, 2007). A teacher mentioned feeling overwhelmed and not being given enough time to complete work ([redacted], personal communication, September 30, 2013). With the recent evaluation and assessment changes, little research is available that

addresses the perceptions of teachers regarding how data can be used to help these reforms. In this way, any information from teachers can help administrators pinpoint ways to help the teachers grow and learn about evidence-based strategies to improve their teaching. This study can help teachers feel valued and satisfied with the work they accomplish at school by showing them ways to improve their instruction to meet the demanding education systems. The guiding questions of this study addressed developing an understanding of teacher perceptions and experiences regarding data, as well as the school supports that are needed to support teachers to use data to inform instruction.

Review of the Literature

Search Criteria

The literature search included research on learning theories, definitions of data, types of data sources, and the perceptions of teachers regarding data and professional learning opportunities of teachers. Research resources such as ERIC, Academic Search Premier, ProQuest Educational Journals, and EBSCO Education Research Complete allowed peer-reviewed primary sources to be discovered. Additionally, secondary sources published by well-known educational associations such as Learning Forward and Technical Education Research Centers (TERC) and related dissertations were included to gather a broad range of knowledge about the topic. To find studies related to the problem of this study, the search included the following keywords: *constructivism*, *data, data team, data-driven decision making, formative assessment, standardized testing, instruction, teacher perceptions*, and *professional development*. The literature review included research on learning theories to show the importance of individual learning

styles and the need for data to inform instruction. Following theories, I found literature describing the current status of data use in education with a narrower search of more recent articles within the last 5 years. These articles made the importance of data-driven decision making apparent and the understanding of teacher perceptions critical to creating effective professional development to support teacher needs. Through the process of answering the research questions, an understanding of teacher experiences of using data to inform instruction and the school supports available may develop, which can help administrators to create a suitable environment for all students to learn.

Theoretical and Conceptual Framework

The foundation of this study lay within the use of data to inform instruction. Various theories support this idea by describing how individuals learn. Theories related to constructivism, social learning, learning styles, and levels of cognition support the use of data to inform instruction. The problem of X Middle School rested in the lack of information regarding how teachers use data to inform instruction. When teachers collect data and analyze it to make informed decisions, they can tailor their instruction to meet the needs of each student (Holcomb, 2013). Without knowledge of how students learn, teachers create lessons that help some students but not all. This research explored how teachers are using data to inform instruction in ways that will best support student learning.

Constructivism. Vygotsky (1986) based the theory of constructivism on the building of knowledge by the learner and not the teacher. This requires the teacher to be a facilitator in planning and creating an environment that supports individual learning. This

environment cannot be constructed without the use of data to determine the needs and characteristics of the student. Lodico, Spaulding, and Voegtle (2006) noted how social constructivists understand how personal experience and the perspective of the learner influence the learning experience. In this way, different learners have different frameworks of knowledge that, if used to design instruction, can help them to learn more efficiently.

Similar to constructivist thought, Gardner's (1999) theory of multiple intelligences uses the idea of constructing education to meet the individual needs of the learner. The various intelligence classifications are approaches to differentiate learning for each student to support the way he or she learns best. Collecting student data allows teachers to create goals and objectives to describe how students learn best and guide instruction (Wiles, 2009). These individual characteristics help teachers tailor their instruction to meet each student's needs (Holcomb, 2013). Teachers must be effective at analyzing and constructing targeted learning experiences for data-driven decision making to be effective (Killion & Roy, 2009).

Social learning. Bandura (1977) described social learning theory as including the importance of the environmental experiences for the learner. Bandura (1977) commented on how learners operate cognitively regarding their social experiences, and how these events influence their behavior and development. Therefore, teachers who model lessons or use guided instruction to support student learning are creating effective learning experiences that will help students develop the correct strategies (Wiles & Bondi, 2011). By understanding the type of learning environment and the areas in which students find

difficulty, teachers can create supportive and motivating environments that are ready for students to engage in learning (Wiles & Bondi, 2011).

Levels of cognition. In addition to environment, student cognition levels help teachers to differentiate learning experiences (Anderson & Krathwohl, 2001). The revised Bloom's taxonomy supports the idea that there are progressive levels of cognition (Anderson & Krathwohl, 2001). By understanding the lowest and highest levels of thinking, a teacher can aim to reach for higher expectations. Teachers can use student data to determine where students are within the levels. Students with special needs might need more time practicing a topic at a lower level, while others progress more quickly through all levels. By understanding the thinking of the students, teachers can determine appropriate work and expectations for each student (Anderson & Krathwohl, 2001). This helps teachers to support students' development at their pace, which provides the ideal environment for learning (Wiles & Bondi, 2011).

As each student might be at a different level intellectually, he or she might need scaffolding in order to reach his or her own goals. Vygotsky (1986) called this the *zone of proximal development*, where students can reach their goals with some support. It is unknown whether teachers use this knowledge in X Middle School. Without knowledge of how teachers are using data, proper supports may not be in place for professional growth. Scaffolding can be helpful for making instructional decisions and facilitating instruction that supports higher level thinking (Vygotsky, 1986). Teachers can use student data to heterogeneously group students in order to support this process of collaboration. When students have individual challenges, each student can engage in his

or her learning to reach the highest level of performance. If teachers incorporate this strategy into instruction, collaborative opportunities should be used to create continuity between teachers using this proven strategy. This study revealed ways that some teachers already scaffold students to facilitate learning and more school supports which are needed to foster this skill.

Current Research Relating to the Problem

There is a variety of ways to gather data; what is important is that teachers use data efficiently to inform instruction (Holcomb, 2012). In addition, by understanding teachers' perceptions of what data are and how they use data, administrators can take actions to create a data culture and support teacher use of data to inform instruction (Killion & Roy, 2009). By defining data, describing how data can inform instruction, addressing the perceptions of teachers, and exploring possible professional development needs, the study was designed to reveal an understanding of the current perceptions of teachers regarding these aspects of X Middle School.

Data defined. In different areas of education, education is defined differently; administrators use performance results as the major influence, while teachers use student progress, interests, or styles to inform instruction (Holcomb, 2012). Love (2009) defined *data use* as "feedback for continuous improvement and to serve students; frequent and in-depth use by entire school community" (p. 10). Continuous improvement can only be completed if the entire community is data driven (Killion & Roy, 2009). All stakeholders must be invested in the importance of data and knowledgeable about how to implement data (Love, 2009).

Formative data. Data use in education can take many forms. Teachers, administrators, and governmental agencies use different forms of data to determine the achievement of student learning. Formative learning describes how there can be an alignment between meeting curriculum standards by designing specific instruction to meet the needs of the standards and individual students (Doubet, 2012). Young and Kin (2010) found that by using data in the classroom, teachers can create formative assessments to measure student knowledge of curriculum standards. With proper support, teachers can use data to improve learning activities to benefit each student and increase student achievement. The lack of understanding of teachers' perceptions regarding ways to use data to inform instruction can prevent administrators from providing professional opportunities for teachers to learn how formative learning can help student achievement.

Researchers have used interviews, observations, and work samples to show how tapping into student strengths and interests improves student work by using case study research (Strahan, Kronenberg, Burgner, Doherty, & Hedt, 2012). Strahan, Kronenberg, Burgner, Doherty, and Hedt (2012) showed how personalized instruction based on formative assessments created higher student achievement because of the higher motivation of the students (Strahan et al., 2012). Strahan et al. found that interviews, observations, and work samples showed how differentiation helped students make connections and use their interests to motivate their schoolwork. Strahan et al. studied team teachers and selected five students for follow-up individual case studies to document the level of understanding and connections made to the curriculum. Responsive teaching in this study led to teachers identifying ways to link the student's strengths and

interests to the subject matter. By increasing student engagement, teachers can increase student achievement.

Administrative use of data. Teachers are not the only group of people who use data and influence student performance. Shen et al. (2012) developed an instrument that assessed how the principals make data-informed decisions. Shen et al. discussed the importance of a principal monitoring data use and ensuring that teachers use a wide range of data sources. The researchers gathered the sample population of 256 principals from various principal organizations. Shen et al. looked at an item analysis to examine the factorial validity and responses from the online principal survey. Overall, the philosophy of the school district as well as the role of the principal can affect the way teachers use data (Shen et al., 2012). This is why it is important to know the perceptions and experiences of the teachers in the school. Understanding this information can lead to better leadership that supports data-driven decision making by creating needed supports for teachers (Holcomb, 2012).

In a previous qualitative study, Shen et al. (2010) explored what data principals use and how they use data to inform their decisions. Shen et al. described three types of data sources: student and community data, school process data, and student achievement data. Coded data from interviews of 16 principals, analyzed using a constant comparative method, showed that the most frequent data stream was student achievement. Fifteen out of 16 principals used student achievement data for school accountability regarding AYP. This meant that the predominant focus is the use of assessment “of” learning instead of assessment “for” learning (Doubet, 2012). Assessments of learning represent tests that

gauge the knowledge that students have about a specific topic. Teachers use assessments "for" learning to inform their instruction and guide the learning of the students (Doubet, 2012). None of the principals mentioned the use of data to monitor the development, implementation, and evaluation of programs in the school (Shen et al., 2012). Additionally, even when the principals used data sources other than student achievement, they noted that the data did not lead to any substantive decisions to improve instruction (Shen et al., 2012). Although some principals noted that they used data to make decisions directly related to the curriculum and instruction, these determinations consisted mostly of funding and remediation programs. As these judgments affect teachers' instructional strategies, it is important to understand how teachers use data and what support they need to accomplish these tasks (Shen et al., 2012). The problem addressed in this research was the lack of understanding about teacher perceptions of using data to inform instruction and how the school supports this process. Using the strategies discussed by Shen et al., administrators in X Middle School can help lead effective professional opportunities to support student learning and teacher growth.

Test data. A common method of using data involves examining increased test scores to show the effectiveness of strategies. Van 't Hooft et al. (2012) reported quantitative data from two middle schools using 462 students in experimental and comparison groups regarding a cross-curricular approach to data literacy. The researchers used multiple analysis of variance (MANOVA) of pre and post data literacy assessment to determine gain scores for each question (Van 't Hooft et al., 2012). Overall, the approach of using test data operated better, because the comparison group had higher

learning gains than the control group. Upon reflection on student achievement, teachers can modify their instruction to help support student learning. Teachers at X Middle School already have student data available but according to the website of the study district, it is unclear how teachers use these data to inform instruction. If it is found that teachers in the middle school already use effective strategies to link data and instruction, administrators can develop professional learning opportunities for the staff to exchange ideas. If no current strategies are made apparent, professional learning can be constructed to increase teachers' knowledge of evidence-based strategies of using data to inform instruction.

Data from test scores can also be gained through computer assessments that can assess the same skills as paper tests but require significantly less time to administer and analyze (Stevenson, Touw, & Resing, 2011). The Stevenson et al. experimental study involved 69 students in two groups: computerized testing and paper-based testing. Both ANOVA and MANOVA results were able to show that there were few differences in accuracy between the groups. Thus, computer testing can allow teachers to collect data to inform instruction quicker than testing by hand while recording scores to show progression over time.

Program evaluation data. Many school leaders look into the programs they offer and hope that they made the right choice in order to enhance student achievement. Tienkel and Maher (2008) conducted quantitative research that involved computer-assisted instruction in mathematics at a middle school in New Jersey. Tienken and Maher used a quasi-experimental study to establish whether computer-assisted instruction (CAI)

would yield higher scores on a standardized test. Nonequivalent groups were essential because of the setting and the already constructed groups within the schools. In the end, the numerical data gathered through the pretests and posttest did not show a significant improvement of student achievement with computer-assisted instruction. In two categories, the students in the CAI group performed significantly lower than their peers in the control group. The pretest was part of a "nationally normed, commercially prepared, standardized test with high test reliability," and the posttest was part of the New Jersey State Assessment, which is the same test taken at X Middle School (Tienken & Maher, 2008, p. 6). When schools try new strategies or programs, data from tests can help to determine whether these are effective. As an action plan is in place for special education mathematics in the middle school already, the teachers involved in the plan may already be implementing evidence-based strategies to help improve student achievement. The creation of a plan with data-based strategies and its implementation can differ depending on school supports and the perceptions of the learning community (Love, 2009). Research on the perceptions of teachers in X Middle School can help to illustrate the experiences of all teachers, whether they are using data-driven decision making or not.

In a similar study, Bartosh, Fergunson, and Taylor (2009) examined the impact of environmental-based teaching on student achievement. Their nonequivalent group design aimed to show how environmental education (EE) programs have higher achievement scores than traditional curricula. There were many precautions taken to assure that any correlation the researchers observed would be reliable and valid. One quantitative element that supported this research was the pilot test of the two forms used to assess

achievement, which helped to validate the results. The two measures used were an EE assessment and the state standardized test scores from Washington State. In tables, Bartosh, Fergunson, and Taylor (2009) calculated effect sizes to show the magnitude of the treatment. Although not every category showed a significant difference, the teachers introduced the students to topics that affect the world today and taught responsibility toward the environment (Bartosh, Fergunson, & Taylor, 2009). The effect sizes were mostly positive, with one category having a 0.8 effect size. As the students performed at same level or higher than the control group, the advantages of gaining EE knowledge and making connections can ensure that schools can meet standards and help students become prepared for the future. Program evaluation is an educational decision that teachers and administrators can make more critically with data regarding the effect of the program. For example, it is unclear whether teachers at X Middle School use data on the programs available to inform their instruction. By understanding the programs and teachers better, administrators can help support data-driven instruction (Holcomb, 2012). This study includes descriptions of the types and uses of data, as administrators have little information regarding how teachers incorporate data into instruction. By then analyzing this information, administrators can create professional development opportunities to support data integration.

Bottge, Grant, Stephens, and Rueda (2010) used a randomized pretest-posttest comparison group design to use classroom-based research in order to examine the effects of two technology programs on middle school math skills. Math skills of middle school students in 18 intact technology education classrooms contributed to higher computation

and problem-solving scores. As shown by chi-square tests, the groups were comparable in gender, grade, ethnicity, and ESL. The data used in this study were two researcher-developed criterion-references tests and two standardized norm-referenced achievement measures to judge the math skills of the students. Bottge et al. used the means and standard deviations of the assessments to describe the effect sizes and increased scores on all of the tests. The two technology classes, other than the Business As Usual (BAU) class, increased significantly in comparison. These scores allowed the researchers to conclude that students would be able to improve their math skills when teachers organized instruction in a predetermined way. As data from student progress allowed this information to contribute to instruction, it is important to understand how to create and use classroom data to inform instruction.

Alternative assessment data. There are many types of assessments that teachers could use to influence instruction. Depending on the type of assessment, each evaluation can measure knowledge, understanding, or proficiency of various skills. Yildirim and Orsdemir (2013) illustrated how teachers can use performance tasks as an alternative assessment. Forty-three teachers that Yildirim and Orsdemir chose as part of a cluster random sampling participated in interviews and completed questionnaires. The triangulation of interviews, questionnaires, and document analysis checklists showed that students met most of the goals of using performance tasks, while others did not. It is important to understand the role of the assessment and collected data in order to make educational decisions. For example, percentages from teacher questionnaires showed that the tasks were suitable for each student's level, but did not address affective skills

(Yildirim & Orsdemir, 2013). Therefore, by looking at the goals of the school or class, teachers can make an educated choice about the type of assessment to distribute.

Alternative assessment for the special education population of students is a way to use data to track progress and determine the topics of the curriculum that are inherently difficult for this population. Goldstein and Behuniak (2012) researched the use of alternative assessments across three grade levels to find themes showing how special education students perform and what topics the teachers actually teach. Goldstein and Behuniak used a descriptive analysis of a survey to analyze the proportion of teachers that instructed based on the skills checklist from the schools' administration. Overall, the research showed data regarding what lower level skills the students were proficient in as well as the lack of higher level content that was sometimes not even introduced. Formative assessments like this can compare different populations of students and help to formulate a plan to support strategies that will help teachers to coach challenging topics.

Standardized testing data. There are different types of assessments that help change the way teachers carry out their lessons. Musoleno (2010) portrayed the differences of instruction before and after the government implemented the high stakes testing of NCLB. The results of an online survey of middle school teachers and administrators from members of a Pennsylvania teachers association and Middle Level Conference portrayed many differences in the data sets. Administrators evaluated the staff members from the schools based on standardized test scores. The effects were that preparation and remediation time for the tests took up a considerable part of the school year, and teachers changed many strategies to meet the test requirements. These changes

include more direct, content driven instruction, and less discovery learning and enrichment activities. Musoleno showed these results through tables containing the percentage of teachers who agree or disagree with the statements regarding changes in instruction and philosophy. The issues of standardized testing does not only affect the content, but the approach to which teachers present lessons. By using data to inform instruction, teachers can pinpoint strengths and weaknesses, and implement strategies to both increase performance on tests and prepare students for the future. Since X Middle School complies with the same regulations regarding accountability and evaluation systems, it will be helpful to determine the perceptions of teachers concerning data and assessment.

Social-emotional student data. In addition to student data that can lead to higher scores for academic success, individual student data regarding personal attitudes can also play an effective roll in achievement. Musoleno (2012) used qualitative analysis with four middle school classrooms to show the impact of caring mathematics instruction. The researchers described what the teachers and students deem caring, and used it to help teachers understand what strategies help students succeed. Jansen and Bartell (2013) used both interviews and classroom observations by clustering similar concepts into groups and analyzing them through a constant comparative method. Two or three analysts read the transcribed interviews and came to a consensus regarding the components of caring instruction. After teachers increased efforts related to providing caring mathematics instruction, Jansen and Bartell showed that teachers who found ways to relate to the students and understand the students' strengths and weaknesses helped the student

achieve more. This study portrayed the emotional aspect of data collection. Instead, on test scores and other quantitative results, data can be collected regarding the relationship between a teacher and student. Middle school is a place where students often struggle socially (Jansen & Bartell, 2013), so I will use my research to determine if teachers collect data regarding caring instruction.

In a similar study, Mishna, Muskat, Farnia, and Wiener (2011) showed how student achievement goes beyond the curriculum and reaches to the social-emotional well being of each learner. Middle school presents new hardships for students and their outlook on the importance of education, and self-advocacy skills can effect their overall achievement (Mishna, Muskat, Farnia, & Wiener, 2011). Mishna et al., used pretests, posttests and follow-up tests to determine effects of increasing the self-advocacy skills of middle school students, while statistical techniques like distribution, skewness, and kurtosis described the results. Middle school students with learning disabilities "are vulnerable to experiencing psychosocial and academic problems" (Mishna et al., 2011, p. 185). Since students have difficulties beyond academics, it is important to understand student perceptions and use this informal data to make instructional decisions.

Student skill data. Data does not have to be constructed for whole classes. One case study involved one fourth-grade student that the researcher determined could benefit from self-management training. King-Sears (2008) used data in three stages from collecting baseline information, training the student in self-management strategies and independent use of the training. The findings demonstrated that the percentage of time on-task increased dramatically from 47% to 86% before and after the self-management

training. This individual work with a student shows that research can be used in many ways to help students achieve their individual goals. King-Sears also suggested that when teachers implement interventions, they must have a monitoring system to track whether the intervention is working or not. In this way, data becomes increasingly important to making instructional decisions.

Data from informal assessments can provide teachers the tools to easily assess student progress and achievement (Doubet, 2012). Berkeley, Marshak, Mastropieri and Scruggs (2010) designed a pre-post experimental design with 57 seventh graders to determine if self-questioning improved student comprehension in the inclusive general education setting. The researchers randomly assigned both students and teachers to the classes to analyze student results to make instructional decisions. Tables describing the results and strategy surveys show that students who received strategy instruction outperformed the typical instruction group. Teachers can use this kind of informal assessment to help students develop specific content area skills that will help them learn more efficiently. When teachers utilize assessments to collect data, a description of the student develops that help teachers tailor instruction to meet the needs of each student.

Data Use to Inform Instruction

The idea of differentiation based on data is critical to the achievement of every student. In various ways, informal data can help teachers make immediate decisions that will help students learn. A common term for integrating data with making instructional decisions is *Data-Driven Decision Making* (DDDM) (Mandinach, 2012). This term applies to all of the stakeholders in education, and can help use evidence to support

educational decisions. The effectiveness of using data to inform instruction depends greatly on the teachers' fluency of using data to inform instruction (Slavit, Kennedy, Lean, Nelson, & Duel, 2011).

Siegel and Wissehr (2011) examined the assessment literacy of 11 pre-service teachers to determine the level of inclusion of data informed decision-making and appropriate use of assessments to foster learning. Data from participant journals, teaching philosophy essays and lesson plans helped to clarify the plans these teachers had for implementing their knowledge. One major conclusion Siegel and Wissehr constructed, after using analytic induction, was the difference between the theoretical framework and practical use of assessment in the classroom. Quotations from the teachers showed how they had knowledge of various types and uses of assessment, but the teachers planned typical end of the unit tasks with little formative assessment uses built in. In this way, I will provide teachers with practical uses and preparation for using assessments to increase student performance. Based on the needs of the students, teachers, and curriculum, there are various strategies to intertwine data and instruction.

However, teacher perceptions can be different based on a variety of characteristics. For example, Musselman (2012) described how middle school teachers are using student response systems. Both quantitative and qualitative data from preexisting questionnaires and follow up open-ended questions explain how the teachers used the data for various purposes. Musselman used frequency and percentage tables to report the descriptive data that showed the goals and benefits for using student response systems. If test scores could be examined to see if the uses of the system increased

student achievement, professional development support could be used to help all teachers use the system more efficiently. The first step is to understand what teachers know about the data they have and how they are using it in their classrooms.

Differentiated learning based on data. Gottheiner and Siegel (2012) discussed the assessment literacy of five experienced middle school teachers. Through the use of questionnaires and focus groups information regarding how teachers used formative assessments to teach their students, Gottheiner and Siegel showed how teachers used data to make effective instructional decisions. Investigator triangulation and transcriptions of the focus groups allowed the researchers to inductively code the information to find patterns. This research showed how the assessments used by the teachers could support student learning by helping to plan differentiated strategies of instruction (Gottheiner & Siegel, 2012).

Cook and Calkins (2013) used clickers to guide instruction and provide support for difficult topics. The researchers described Likert scale ratings from 1-9 of classroom observations and focus groups to show the use of clickers in identifying which questions were the hardest for the class. By using data from 30 students, the teacher probed the class and guided the students to realize their misunderstandings for any incorrect answers that occurred by the majority of the class (Cook & Calkins, 2013). A comparison of aggregate grades allowed the teachers to probe incorrect responses and determine where students' strengths and weaknesses were. This information can lead to directly informing the instruction for students in order to be most effective. During my research, I looked for examples of how teachers use informal data to make instructional decisions.

On the other hand, new strategies that aim to differentiate learning, like ability grouping, might help some students, but hurt others (Kim, 2012). Kim uses piloted questionnaires from 55 teachers and 754 students of a middle school to examine the effects of using ability grouping. The researcher used qualitative analysis to assess the responses using a Likert scale and descriptive statistics to determine any themes from the coding scales. Although some students noted that instruction at the appropriate pace with others who are in the same position was beneficial, other students noted that the stigma and behaviors changed in the different ability groups. In this way, while data can have benefits when planning instruction, teachers must be knowledgeable of the problems that might occur to plan accordingly.

Goal-oriented instruction. Instead of looking for difficult topics, Carter (2012) assessed the time limitations on the National Assessment Program Literacy and Numeracy (NAPLAN) numeracy tests of 947 students. By looking at the percentages of students who did not complete the test or of the follow-up interviews where students commented on how they solved the problem, Carter discovered that this quantitative data could be used to inform instruction. If students did not answer all of the questions, or took too long for one question, teachers instructed students of different strategies that allowed the students sufficient time to finish the test. As a teacher who prepares students for standardized tests, I often teach test-taking strategies, but have not used individual student data to inform this instruction. By researching data use in X Middle School, I now understand teacher approaches to using data to help students succeed on tests.

Administrators' role in supporting data-driven instruction. Administrators have influential roles within the school setting. New programs and professional learning created by administrators can help teachers to foster data driven techniques. School leaders who commit to use summative standardized reading assessments in order to identify student strengths and weaknesses help increase student achievement (Fletcher, Greenwood, Grimley, & Parkhill, 2011). All five schools used for a case study by Fletcher, Greenwood, Grimley, and Parkhill achieved high levels of performance on standardized literacy assessments. Through interviews of teachers from all five schools, the researchers showed how school leaders who build positive school climate can raise the achievement of its students and how all the stakeholders in the school community can help (Fletcher et al., 2011). Through axial coding and a secondary analysis of the interview data, Fletcher et al. described the similarities and differences across the case study schools. The themes that rose include assessments to track student achievement, collaboration, and shared expectations.

Perceptions of Teachers

Teachers create lesson plans and instruct students based on the strategies that they know. In order to create the highest quality education that differentiates instruction for each student, teachers and administrators must work together to use data to inform instructional decisions. Collaboration is crucial, and ownership can help to engage all parties in the pursuit toward a culture and structure for data use (Holcomb, 2012). Without data to assess a new program or strategy, a teacher or school might be forcing an approach that is ineffective. This makes understanding perceptions of teachers' use of

data critical. By establishing a data team, the goals of the school and ways to use data effectively can be clarified so everyone works together toward a similar vision (Hamilton et al., 2009).

Teacher differences. Based on a wide range of characteristics, teachers have different perceptions of the data they use and how it should be used to inform instruction. If teachers feel the need for additional support to effectively use data to inform instruction, administrators can help create professional learning opportunities to support data driven decision-making. Harris, Barnes, and Saulawa (2012) conducted quantitative, non-experimental research using a questionnaire to describe the perceptions of 303 teachers regarding support. The researchers summarized the results from the univariate ANOVA in a table describing the teachers, while the MANOVA assessed whether the years of experience affected teachers' perceptions of support for literacy programs. Overall, the teachers rated medium to high levels of support that meant their principals helped to lead instructional decisions and provided resources needed for success. After I located information about how teachers use data and the support teachers need to make instructional decisions, I will make recommendations to follow the supports shown by Harris, Barnes, and Saulawa

It is important that I deciphered the knowledge that teachers have regarding data use in order to plan professional development opportunities to fit the weaknesses. One exploratory study of teachers' abilities to use data to inform instruction noted that teachers' comprehension of various types of data was incomplete (Means, Chen, DeBorger, & Padilla, 2011). Interviews and focus groups of purposefully selected

teachers (52) and small groups (70), based on their active use of student data to inform instruction, allowed the researchers to analyze their perceptions for various data scenarios of how teachers integrated data into instruction and interpreted differences (Means, Chen, DeBorger, & Padilla, 2011). This inconsistency was apparent through a standard coding scheme, and was important data in being able to support the teachers more effectively. By understanding the difficulties or misconceptions that teachers have, professional development opportunities can be developed to meet these needs.

Data use can present challenges for teachers, but in general, teacher retention differs without added stress of the data and accountability. Olsen and Anderson (2007) investigated teacher retention with a case study approach, which allowed them to take time to explore the issue from each perspective of the participants. A longitudinal survey allowed the authors to analyze the retention rates of 1,000 program graduates by first purposefully selecting fifteen elementary teachers with stratified random selection. Olsen and Anderson (2007) used multiple interviews and classroom observations to describe the individuals, and sorted them into groups. Three groups emerged after coding the information and analyzing the details. The three classifications of the 15 sorted participants were *stayers*, *uncertain*, or *shifters*. The issue of keeping good teachers and supporting all teachers is an aspect that I examined. Some of the teachers thought the current accountability measures and new assessments made work too overwhelming from their professional perspectives. The quote “I love teaching, but” (Olsen, & Anderson, 2007, p.22), put the torment some teachers feel and the support they need to keep them from leaving the profession into perspective. By providing support and motivation to

teachers through professional learning, schools will be able to keep good teachers in the classrooms to help students succeed.

Perceptions of professional learning. In addition to understanding how teachers use data, information regarding how teachers will use professional development is critical to understand. Sometimes teachers integrate new strategies that they learn more effectively than others. Dingle et al. (2011) discussed this inconsistency and showed the effects of professional development from interviews, observations, field notes, ratings, and meeting transcripts. A cross case analysis of purposefully selected participants portrayed answers to why teachers use professional development in different ways. Dingle et al. coded the data collected into themes including knowledge of pedagogical skills, motivation to participate and change instruction, and the curriculum. By understanding the reasons behind why teachers change their instruction and make effective use of professional learning opportunities allows leaders to support any hindrances to change.

After understanding how teachers define data and how they currently use the information to inform instruction, support can be provided in needy areas. Pella (2012) described how "all five participating teachers were frustrated with their districts' notions of what counts as data for data-driven instruction" (p. 64). The data collection process only included students' scores from standardized tests, and teachers wanted to learn ways to make more of an impact and not dwell on just one test score. Pella transcribed interviews, took field notes from observations, and taped over 100 hours from the meetings and collaborative work. Pella confirmed his hypothesis that the collection and

analysis of data fostered new ways of teaching. After content analysis, analytic induction, and constant comparison method, Pella demonstrated that professional learning communities helped to build a support system where the teachers worked together in order to learn and create effective instructional strategies. Pella described how five middle school language arts teachers entered into a collaborative approach to using data to inform their instruction, and how the professional development and support received allowed them to create new ways for delivering instruction and prove that data needs to be a part of the process.

Knowledgeable teachers do not help support education unless their understanding informs effective instruction for all students. A qualitative case study used observations, interviews, and student artifacts to explain how professional development developed teachers' pedagogy and ensured that the teachers followed the mission of the school (Klein & Riordan, 2009). Klein and Riordan noted how the link between student learning and professional development is the key to a successful school. Ongoing and recursive analysis of data allowed Klein and Riordan to describe the way professional development can influence teacher decisions and help the staff to understand how effective professional learning can help to increase student achievement and increase motivation to continue the great work.

Teachers' perceptions of data systems. Data can be collected in various ways, but the perceptions of teachers can influence the way they use it. Hebert and Hinson (2009) examined the differing perceptions of faculty regarding Electronic Assessment Systems (EAS) by using a case study approach. Through clustered random sampling, the

researchers chose three schools that used EAS, and interviewed teachers regarding their positions on the use of EASs. Constant comparative analysis showed that some teachers preferred to develop their own EAS while others used a commercially developed system. In addition, the teachers expressed concerns regarding the technology aspect and the impact it had on their instruction. Overall, Hebert and Hinson recommended involving everyone in the decision making process so the staff will show greater support and interest. By understanding the perceptions of teachers, administrators can make informed decisions that will help lead to effective educational environments.

There are many fears that make teachers reluctant to use data to inform their instruction (Killion & Roy, 2009). Through collaboration and support from professional development opportunities, teachers can become confident and use their time to focus on the needs of each student (Killion & Roy, 2009; Love, 2009). Leech and Fulton (2008) explained the perceptions of middle and high school teachers regarding leadership behaviors with the goal of identifying behaviors that create a culture of shared decision-making. The 646 participants with principals who had served their schools for two years or more completed two surveys (Leech & Fulton, 2008). The researchers used Pearson product moment correlations and multiple regression and t-tests to show how the behaviors of the principal in supporting teachers' opinions directly affected how teachers valued the decision making process. When teachers felt that there was a culture of respect through the principal's actions, the collaboration that resulted allowed strategies and initiatives to succeed (Leech & Fulton, 2008). Overall, by using research I demonstrated how data is the tool to influence instructional decisions to increase student achievement.

Professional Development

Professional development (PD) can be a useful learning experience, but continuous support for teachers helps to foster instructional changes to increase student achievement. A specific plan must be carried out that encompasses a goal–oriented focus, professional learning standards, and the creation of a learning community. Teachers have various levels of experience and knowledge that administrators must take into account when planning professional development. In addition, administrators must acknowledge the effects of professional learning in order to carefully construct an efficient learning experience for all involved.

Reasons for professional development. Center for Data-Driven Reform in Education (CDDRE) sent consultants to examine the use of data in 59 districts within seven states that their respective state departments nominated because of their low student achievement. Slavin et al. (2013) randomly assigned classes to experimental and control conditions, and used a hierarchical linear modeling (HLM) and exploratory analysis to determine the outcomes of the CDDRE consultants that worked with the designated schools. The first step of the consultants and school personnel was to look at all of the data sources already collected by the district. These sources included standardized test scores, attendance, disciplinary records, retentions, special education placements, and dropouts. Along with the data sources, the consultants discussed the programs, supports, and mandates already in place within the districts. All of these components played a role in how the teachers made instructional decisions. Benchmark assessments and walkthroughs also served as ways to assess current student achievement,

quality of instruction, classroom management, motivation, organization, and help plan a reform plan. Through this collection process, the district leaders saw that although they thought the teachers were using effective strategies, they saw more teachers using traditional teaching methods than research based ones. Although the results showed that changes needed to be made, implementation took time and funding that some of the schools could not provide. Due to these drawbacks, only 33% of the middle schools implemented reading programs. Overall, the importance of change is apparent but the implementation of simply collecting data is insufficient. Schools need to use data to identify needs for intervention, and carefully plan professional learning activities in order to make lasting reforms.

Collaboration helps to spread change and motivate teachers to try new strategies because of the sense of community. Slavit, Kennedy, Lean, Nelson, & Duel (2011) conducted a case study using grounded theory approach that described how collaboration and professional learning could help lead to effective instruction. Through descriptive notes from meetings and collecting artifacts from the collaborative work completed, Slavit et al. displayed how collective planning can increase teacher efficacy and change the power structure in the school. For change to occur, Slavit et al. noted that a complex group of people must share their ideas and resources. Professional learning needs to be planned, and administrators and teachers should work together to develop new strategies. Just collecting data is not enough, teachers need time to explore the results and apply the findings to instruction. When investigating a new strategy, it is essential to collaboratively plan in order to have lasting change. Nelson, Young, Young, and Cox

(2010) used descriptive research to discover a significant negative relationship between discipline referrals and praise notes. By tracking both variables using an online database, Nelson et al. showed how being proactive and reinforcing appropriate behaviors helped students to contribute to a positive environment. The two years of implementation and study of the case allowed Nelson et al. to use a correlation coefficient and Fischer's z-test to analyze the results. They found that the most important part was motivating the teachers and reinforcing the purpose for the praise notes. After teachers saw the positive effects of the praise notes, they were more willing to implement the intervention. Therefore, a shared purpose and common planning of all professional learning is critical to the effectiveness of changes.

Effects of professional development. McGee, Wang, and Polly (2013) interviewed and observed 22 teachers to gather information about the effects of professional development on teachers' perceptions and instructional practices. In the end, McGee, Wang, and Polly demonstrated how teachers' needs should direct professional development. Through the use of the constant comparison method, the lack of continued support after the PD hindered the goal to increase teachers' mathematical knowledge and improve student performance. In addition to carefully planning the actual PD activities, in class support after the PD is necessary. These subsequent supports are more important than the initial PD (McGee, Wang, & Polly, 2013). As X Middle School showed the need for professional development, my project ensures that follow-up support provides teachers with ways to have immediate feedback to lead instructional decisions.

When planning professional development activities, it is important to look at how coaches lead data-driven practices to increase student achievement. A mixed methods study by Marsh, McCombs and Martorell (2010) portrayed Florida schools' data leaders using data driven decision-making. Data driven decision-making (DDDM) is the process of collecting and analyzing various types of data in order to make decisions to improve schools and student performance (Marsh, McCombs & Martorell, 2010). Marsh, McCombs and Martorell purposefully sampled eight districts, then randomly sampled 113 middle schools in order to administer an online survey to principals, reading coaches, reading teachers, and social studies teachers. The descriptive analysis and use of Pearson's chi-squared test identified cross-district findings and patterns that showed how the coaches put emphasis on data informing instruction. Two interesting aspects described were that experienced coaches and coaches in low-performing schools were more likely to spend time supporting DDDM, and student achievement increased as the frequency of assessing the assessment data increased (Marsh, McCombs & Martorell, 2010).

The study completed by Monatague, Enders and Dietz (2011), constructed a plan to help teachers understand good strategies, why students encounter difficulties, and what administrators can do to help. Monatague, Enders and Dietz examined 40 schools that they matched based on performance level to determine the effects of cognitive strategy instruction on problem solving of middle school students. This study included professional development to prepare teachers to implement strategies and understand why some students have difficulty with problem solving. Monatague, Enders and Dietz

provided the demographic data in a table as well as figures describing the results after using item response theory and other statistical analysis tools. Although both instructional groups made similar gains, this research showed that the strategy instruction program is helpful and provided strategies for professional learning (Monatague, Enders & Dietz, 2011). By understanding the effects of their teaching, teachers can modify their own instructional strategies to help increase student performance (Love, 2009).

Administrators who strategically plan professional learning opportunities allow teachers who participate to make informed decisions to help students succeed (Wiles & Bondi, 2011). Creating high-quality learning opportunities and ensuring that teachers stay involved are important ways to use data to reinforce collective responsibility (Killion & Roy, 2009). Sun et al. (2013) gathered longitudinal data from randomized controlled trials from 39 middle schools. The two hypotheses were to describe the effects of high quality professional development and the likelihood that teachers would help other teachers after participating in good professional learning activities. A separate analysis of the partnership group that had intensive professional development and delayed partnership showed the effects of professional development and described the characteristics of the high quality professional development. The results showed that teachers were more likely to provide help to other teachers if they intensively participated in professional development of a long duration (Sun et al., 2013). The spillover effects were almost equal to the direct effects of teachers' participation in professional development. This means that teachers can help to bring about effective strategies if administrators provide professional development and collaborative opportunities. This

aspect was used to plan the professional development plan which X Middle School required.

Professional learning standards. Professional development standards from national sources, such as Learning Forward (n.d.) and the National Policy Board of Educational Administration (2002), noted effective strategies and goals that facilitate adult learning. The ELCC's standards focused solely on preparing the most effective leader to manage the changes in the world that influence education in school (National Policy Board for Educational Administration, 2002). By naming skills and roles a good leader needs to have and do, the ELCC directed teacher educational programs to follow the standards to better prepare future leaders. Learning Forward (n.d.) described using data to plan, assess, and evaluate professional learning. This is an important part of making sure that schools do not waste professional development opportunities. With the proper professional development and support, teachers realized when to re-teach and when to move on (Doubet, 2012). Teachers will be able to meet more of the individual needs of the students through the use of data.

The lack of understanding of teacher perceptions of how to use data to inform instruction is a problem since the study district website does not mention current professional development opportunities do not address data driven strategies. Goals of professional development activities must be purposeful and meaningful to the teachers (Wiles & Bondi, 2009). Wiles (2009) commented that often there is "little or no connection between the scheduled staff development experiences and what they do in the classroom each day" (p. 88). When my observations and questionnaire showed that

certain teachers use effective strategies of using data to inform their instruction, I created a professional development plan. Similar to assessment courses, professional development can help teachers learn the uses of measurement as well as how to construct their own classroom tests (Mandinach, 2012). In addition, teachers can use technology as a continual, automatic tool to record and keep track of student data. This will "demand major shifts in education policies and practices in the designs of assessments, the models for testing, and the use of assessment data for various purposes including student, teacher, and system level accountability" (Pellegrino & Quellmalz, 2011). Pellegrino (2006) described the future with extensive technology-based systems that will create the link between curriculum, instruction, and assessment.

Professional learning plan. In order to help teachers perfect their craft, administrators, as data leaders, must schedule well-organized professional learning opportunities to support teachers (Hamilton et al., 2009). Shanks, Miller, and Rosendale (2012) used action research to help teacher-candidates focus on a chosen topic and collect data that can help to guide instruction. Using the stages of planning, teaching, and assessing, this project portrayed the importance of having multiple sources of data. Multiple observations by the supervisor allowed the teachers to analyze the data collected to find patterns to differentiate their instructions patterns (Shanks, Miller & Rosendale, 2012). Since X Middle School has a new evaluation system that includes more observations than ever before, these times can be used to promote effective data use by using post-observation conferences as a time for reflection (Killion & Roy, 2009).

An integral part of my plan is the use of other teachers to collaborate to create authentic instruction based on the standards. “A better use of resources, especially human talent and initiative, is required” (National Policy Board for Educational Administration, 2002, p. 2). Since various teachers may have different levels of understanding of the standards, I used collaborative work to create a group effort for the professional development plan. By working together, teachers achieve collective accountability, which helps to make lasting changes (Holcomb, 2012).

During the professional development project, I will support the presenters and make sure that all of the needed materials are ready and available. Afterwards, it is essential to obtain feedback from the teachers about any continued support that they need and how effective the time was. Wiles and Bondi (2011) noted how continued reflection helps ensure that teachers are using the skills they learned continuously and continue to build their understanding of the new content standards (Wiles & Bondi, 2011). By describing the goals and outcomes in a specific time line, the plan shows how the activities exemplify the national standards discussed earlier (Common Core State Standards Initiative, 2010).

Learning Forward (n.d.) emphasized the reflective aspect of professional learning. The open discussion of reviewing the data to the questionnaires and follow-up interviews allowed me to gather detailed feedback to best support the teachers. In addition, the National Policy Board for Educational Administration (2002) mentioned the importance of collaborative work centered on specific goals. All of these aspects show that

professional learning experiences are more than one single day, but teachers can bring the expanded knowledge into the classroom every day of the year.

Implications. As I reflected on the local problem in X Middle School, I realized that there is significance to understanding how teachers feel about data and how they use it to inform their instruction. Educational theories and current research suggest that carefully planned instruction that meets the individual needs of the students help to increase student performance and motivation. Understanding how each student learns best and his or her level of cognition will help teachers create differentiated instruction. The learning environment for students is essential and data can help teachers modify their instruction to meet the student's individual needs.

Current literature shows the vast amount of ways to use all types of data, that I looked for during my data collection. Testing, social-emotional, and specific skill data all create information to pinpoint what the students need to succeed. The importance is to use this information for instructional uses. Overall, data is any kind of information that can help to individualize the learning of students, teachers use data differently, and professional development can be used to foster effective learning strategies that will help all students. The lack of research regarding teachers' perceptions of using data to inform instruction shows a gap in the literature that was explored through this study. The next sections discuss the study of X Middle School with the purpose of discovering the opinions and strategies that teachers already use and the support that they need to use data effectively to inform their instruction. I used a case study design to investigate the problem in X Middle School. Then, I described the data collected through questionnaires,

interviews, and observations of team meetings that helped me learn about data use in the middle school.

By understanding how teachers currently use data and the feelings they have about data use, I created a specific plan for professional learning that will foster the skills needed to utilize data driven decision making. This project direction was led by the current research regarding effective professional development strategies involving data driven decision-making. Overall, there is a clear local problem involving the lack of consistency in the use of data to inform instruction. X Middle School introduced many new elements into the normal procedures of the curriculum and instruction, including new standards and new assessments. Since the school already is lacking the student performance targeted by the government it is important to understand the teachers experiences of how to use data to drive instruction. The remaining sections will consist of a description of the methodology chosen and a description of the collection tools that were used for this study. This helped to foster the path for when data was collected and analyzed to understand the experiences of teachers in X Middle School with data informed instruction.

Section 2: The Methodology

Qualitative Design

After the statement of the purpose and questions have been determined, the selection of an appropriate design to connect to the problem and purpose is critical. Quantitative designs are based on numerical data to show the effectiveness or lack thereof based on test scores but this type of analysis is not needed to accomplish the purpose of this study (Lodico, Spaulding, & Voegtle, 2006). This study did not involve an increase in test scores or a ranking of data use in the school that would have required quantitative data. In contrast, Merriam (2009) described qualitative research as involving a focus on meaning and understanding of a topic. The local problem of X Middle School involved a lack of understanding of how to use data to inform instruction. The research questions all involved the experiences and perceptions of teachers. The purpose of qualitative studies is to be naturalistic, descriptive, inductive, and meaningful (Bogdan & Biklen, 2007). Each of the characteristics mentioned by Bogdan and Biklen matched the setting. The problem involved an actual setting where the data would be substantive and interconnected regarding the ability to capture the experiences of the teachers accurately.

Through a questionnaire, follow-up interviews, and observations, I explored the overall perceptions of middle school teachers on using data to inform their instruction. Questionnaires and interviews offered specific insights into how teachers felt and used data to inform instruction. Observations illustrated the ways in which the school scheduled time for collaborative work each week that could support the process of data use for teachers. Additionally, I reflected on the statements of the participants to answer

the research questions and revealed the themes that developed through careful data analysis.

There are various types of qualitative designs; however, they do not provide the methods that this study required to answer the research questions. Bogdan and Biklen (2007) defined grounded theory as a specific procedure whereby the researcher collects and analyzes data at the same time. This research did not require simultaneous analysis; rather, I used a process of collecting data that informed the subsequent steps. After the participants submitted questionnaires, I analyzed the results in order to create clarification probes for the interviews. A case study approach allows for various steps of the data collection process to foster responses and actions for the next steps; grounded theory does not. A case study design allowed me to focus on how the teachers in the middle school used data to inform their decisions and how they felt about the process in general. Case studies portray a detailed summary of a subject or event (Bogdan & Biklen, 2007). The goal was to understand the complete experience of the teachers at X Middle School through direct questioning and observations. There was a limit to the number of people involved, unlike other qualitative designs (Merriam, 2009). Ethnography and phenomenology are other types of qualitative studies that focus on the culture of a group or intense human experiences that did not fit the criteria for this study. These designs are not concentrated on one group of people or system; rather, they involve a culture or theory that surrounds an idea (Merriam, 2009). My focus was only on the perceptions that teachers had regarding how data can inform instruction.

Rationale

I examined teachers' experiences of data use in X Middle School and created a detailed description of their practices and perceptions using data from three sources. My goal of understanding teachers' experiences and observing them in the natural setting coincided with the definition of a case study that describes it as "an in-depth description and analysis of a bounded system" (Merriam, 2009, p. 40). In qualitative studies, the researcher is the primary instrument for collecting and analyzing data, which is simpler for novice researchers, as the researcher conducts an examination of one bounded system (Lodico, Spaulding, & Voegtle, 2006). Through observations of team meetings, I examined the process teachers used to collaborate and investigated the methods used to incorporate data into instruction. These observations answered the research question involving how the school supported the data process by illustrating how teachers used the collaborative time provided by administrators. Observations, questionnaires, and interviews allowed me to "capture the full complexity and uniqueness of the case information (Lodico, Spaulding, & Voegtle, 2006). The interviews and questionnaires aligned to each research question by being designed to discover the experiences and perceptions of teachers regarding data informing instruction. By using these three data collection methods, I used triangulation to validate my results by linking common themes from across all of the sources. By triangulating data from questionnaires, observations, and interviews, I increased the validity of the data, findings, and conclusions (Lodico, Spaulding, & Voegtle, 2006).

Research Questions

Qualitative research requires defined research questions in order to have a central focus for data collection (Creswell, 2012). Although I created initial research questions for my research, I had the opportunity to modify them to create follow-up questions during the study to match new knowledge that I obtained. The following research questions allowed me to determine the perceptions and experiences of teachers regarding the use of data to inform instruction:

- What was the experience of middle school teachers in collecting and analyzing data to inform instruction?
- How did the school support the teachers' process of using data to inform instruction?
- What support or knowledge do teachers think would help to more effectively use data to inform instructional decision making?

These questions supported the goal of qualitative research, in that they enabled me to search for more knowledge about the process of providing education rather than the end results of the practices (Lodico, Spaulding, & Voegtle, 2006). The first question addressed the steps, if any, teachers took to gather and analyze student data. Following an understanding of teachers' use of data, observations explored the school supports to see how the administration offered learning opportunities for teachers. This related to the second research question of how the school supported the data process by illustrating how teachers used the collaborative time provided. Finally, the third question addressed what supports the teachers wanted in order to use data effectively to inform instruction.

This review of how teachers felt regarding how data informed instruction and any needed support can help increase student achievement by making it possible to encourage teachers' data process effectively.

Population and Sample

The population of this study included the teachers in X Middle School. The district used in this study is a small, suburban school district of about 3,000 students from Grades K-12. According to the study district's website, X Middle School's student population contains 87% White students, and 4% of the population pays reduced lunch prices. The information on the district's homepage describe only 0.2% of the population has limited English proficiency. The target group was composed of 76 teachers in Grades 6-8. This small sample was consistent with qualitative research, as an adequate number of participants needed to answer the research questions, but fewer participants meant deeper analysis for each individual (Merriam, 2009). Nonprobability sampling is purposeful and is most commonly used in qualitative studies (Bogdan & Biklen, 2007). I used this strategy to gather a sample of teachers from the staff of classroom teachers. After selecting X Middle School as the research setting through knowledge of the local problem, I used a voluntary sample from all teachers for the questionnaire and interviews. Criteria for the observations included at least one observation for each grade level. My observations included three team meetings: one team meeting from Grades 6, 7, and 8. Diversity among the three grade levels was helpful for the study, as I used the information gathered to design professional development for all of the teachers at the middle school.

I introduced the study and the opportunity to participate at a faculty meeting with the entire staff. Subsequent emails to the entire staff including the questionnaire allowed voluntary participation. I gathered questionnaires from 35% of 67 teachers in Grades 6-8 of the school. All of the self-selected volunteers provided valuable information regarding the role of data in making instructional decisions. All responses were used that were sent through the online system; no random selection was needed. The questionnaire included 10 open-ended questions that I analyzed to gather a description of the experiences of all of the self-selected teachers in collecting and analyzing data to inform instruction. In addition, the questionnaire asked teachers to record any challenges and support that they believed were necessary. In this qualitative study, this questionnaire served as a way for teachers to express their experiences with data without interruption or influence.

An option to participate in follow-up interviews served as another level of sampling, as some teachers might not have wanted to contribute additional time. At the end of the questionnaire, the participant marked whether he or she was willing to participate in an interview. From the self-selected volunteers, purposeful selection was used to randomly choose three teachers from each grade level. This variety helped to ensure that a diverse understanding of data use across the three grade levels was obtained. The follow-up interview questions addressed specific uses of data and types of supports that teachers thought were necessary to use data effectively.

Another step of the data collection process involved my observations at team meetings. I distributed a consent letter to each teacher from Grades 6-8 to determine whether he or she would like to participate. If at least 75% of the team members agreed, I

requested an available time from the team leader to observe their meeting. Next, I selected one team from each grade (6-8) to observe. Only one sixth grade team fit the criteria of 75% participation, so that team was chosen. As two seventh grade and two eighth grade teams met the criteria, I randomly selected one of the teams to visit. By purposefully choosing one observation per grade level, I ensured a consistent approach to understanding each grade level's perceptions while not emphasizing one grade. These participants provided useful information to answer my research question regarding any supports in place that helped teachers use data to inform instruction. Additionally, the observational data added evidence concerning how the school supports teachers' use of data by illustrating how the time used for collaborative work did or did not involve data-driven decision making. Because there is a real life component to qualitative research, observations provided data on how teachers really interacted with each other regarding data and instruction (Merriam, 2009).

Protection of Participants

I obtained a human research protections training certificate from the National Institute of Health (NIH) and submitted an IRB application through Walden University to ensure that my data collection process did not involve mistreating any of the research participants. Although I am a teacher at this school, I do not hold any supervisory role within the school and received approval from the district to conduct this research. I am already a participant in many educational advisory groups that help to build my professional relationships with the participants. I introduced this study to teachers during a faculty meeting where teachers had previously heard me speak on various topics.

Overall, the teachers who participated were fully aware of what I asked of them and the purpose of the study through the use of a signed informed consent form before data collection. To ensure the confidentiality of each participant, I used a letter code for identification of each teacher. During interviews and observation, I was in direct contact with the participants, but by assigning a letter to each teacher, I ensured that even my notes were coded so that the identity of each participant was not revealed. In addition, I am keeping all documents and materials offsite in a secure location in my home in a locked filing cabinet, and I am the sole person who is able to access the information. This research provided a deeper understanding of teachers' perceptions of using data to inform instruction and led to defining the support teachers need to ensure the effectiveness of data use.

Collection Tools

I used an observation form and open-ended questionnaire to collect data about the teachers' perceptions of data in the middle school. As part of a toolkit for professional learning, Killion and Roy (2009) developed an observation form for team meetings and a questionnaire for teachers. Previously called the National Staff Development Council (NSDC), Learning Forward is an association that aims to advance professional learning for student success that provided permission for me to use these tools. Becoming a Learning School (Killion & Roy, 2009) contains revised tools that were significantly changed after a pilot of nine schools used the resources and offered feedback for revision. As shown in Appendix B, the questionnaire offers a guide to reflect on how teachers are using data and any concerns that they have. As a questionnaire would only provide a brief

overview of the teachers' experiences, I scheduled follow-up interviews to obtain clarification or deeper description regarding teachers' answers to the questionnaires. To further explore the topics and reflect on my findings, the interviews served as a way to determine if I reached adequate engagement or saturation of the data (Merriam, 2009). I first categorized each question of the questionnaire by using the research questions. This allowed groups of answers to be revealed. Then coding described the types of perceptions and data uses specifically. Once I noticed patterns emerging from the questionnaires and observation, the interviews served as another check. Appendix C is the team meeting form that served as a guide for me to take notes about how the school supported data use to inform instruction in X Middle School. I used the questionnaires, interviews, and observations to follow the process of triangulation that helped me to validate any themes or patterns that I observed. Triangulation ensured the accuracy of my study by applying multiple sources to confirm my conclusions (Creswell, 2012).

Questionnaire. I used the questionnaire shown in Appendix B as a guide to reflect on how teachers were using data and any concerns that they had. These data allowed an understanding of knowledge and strategies related to data currently used by teachers. Through questions regarding different types of data and the experiences of teachers in collecting, analyzing, and using data, the experiences of teachers were collected. Questionnaires are quick to administer and code the results, as well as allow more teachers to be part of the data collection process (Wiles & Bondi, 2011). In addition, I discussed the questionnaires during a faculty meeting after I made a presentation of the purpose of the study and the optional participation opportunity.

Instead of paper forms, I used GoogleForms to electronically distribute my questionnaire. This allowed teachers to respond to the questions at their own pace and at different times. I believe this delivery method maximized the potential for responses as the school members regularly use various Google documents to complete work. I then sent subsequent reminder emails asking for further participation until I received the necessary response rate of at least 35%, as required by Walden University.

The carefully constructed form by Killion and Roy (2009) contains open-ended questions, so I was able to gather detailed information from the participants. Merriam (2009) noted that open-ended questions allow teachers the flexibility to share any feelings or opinions regarding the topic of the research. The open-ended questions of the questionnaire allowed me to gather data regarding how teachers felt about the data process influencing their instruction. The questionnaire did not include nominal questions that teachers could rate; it only included more detailed questions asking teachers to describe their experiences. The carefully constructed questions permitted me to probe deeper into the teachers' perceptions and how teachers used data to make instructional decisions. By initiating the study with questionnaires, I gathered data that led me to elements to look for during interviews and observations.

Follow-up interviews. At the end of each questionnaire, I provided a space for teachers to indicate whether they would like to participate in follow-up interviews regarding any exploratory questions regarding their experiences or clarification of the questionnaire. I kept this identifying information separate from the questionnaire answers. This allowed only volunteers to be contacted to set up interview times. More

volunteers were not needed, so no subsequent emails were needed to request more participants. On the other hand, out of the 17 volunteers, I purposely selected 10 interviewees. I chose three teachers from each grade level and one teacher who taught all three grades. I also ensured that the areas of math, language arts, science, social studies and special education were represented by at least two teachers.

Interviews are one of the main instruments used in qualitative research (Merriam, 2009). In order to get a complete understanding of middle school teachers' perceptions of data informing instruction, I conducted follow-up interviews to clarify the ideas from the questionnaires. I practiced my interview protocol (Lodico, Spaulding, & Voegtle, 2006), starting with the purpose of the study, gathering background, and referring to the gateway questions from the questionnaire. The interview questions acted as probes to gather further data regarding the answers the participant made in the questionnaire (Merriam, 2009). By recording during the interview and transcribing the interviews as soon as possible after the meeting, this allowed an added reflection and analysis stage by immersing myself into each interview. This allowed me to refine my interpretations with the participants' help, so I minimized bias and record facts accurately. After reflecting on the data from the interviews, I conducted member checks with the interviewees in order to determine if my interpretations were accurate. This strategy allowed for stronger internal validity of my findings and served to help me to stay objective and precise in my conclusions (Merriam, 2009).

Observations. I used observations to gather direct information of how the school supports provided for data use. This helped me understand the current supports that

helped teachers instruct and led to a reflection of how school supports can be used more effectively. Merriam (2009) described the importance of direct observation in the natural setting for case studies in order to gather detailed information to describe the experience. Wiles and Bondi (2011) noted that the observation technique is a good way to assess instructional patterns and strategies. I observed teachers at their weekly team meetings to determine any methods that teachers used to gather, analyze, and use data to inform instruction. Team leaders typically had an agenda that was provided by administrators that often centers on student work, school policy, and instructional planning. By recording during the observation and completing the team-planning template after the meeting, this allowed an added reflection and analysis stage for each observation. In contrast to the prescribed form, I needed to add an "Other" section to the form during the observation as some procedural work being done did not fit into the data categories (See Appendix K for Observation Notes). Through observations, I noted the specific ways that teachers collaborated using data to inform instruction. No artifacts, such as team meeting notes or other paperwork, were collected since the team members did not use any to discuss data. Teaches simply had an open discussion of student work and behaviors. My recommendations for needed professional development and a change in meeting protocol will be mentioned in the following section.

Table 2 shows the various times that teachers collaborate in teams in the middle school.

Table 2

Teacher Meeting Observation Schedule

Grade	Date	Time
6	Wednesday	10:10 -10:58
7	Tuesday	11:15- 12:05
8	Thursday	8:40 – 9:25

Before observing each grade at the usual meeting time, I collected a letter of consent from each team member. I recorded the observation and wrote descriptive field notes with an observation checklist in order to make sure that I looked for similar focuses during each observation. Additionally I took a nonparticipating role during observations to minimize any observer impact to any of the regular patterns and roles of the meetings. Administrators used these meetings for a variety of reasons, which differ depending on a range of issues. These meetings had goals of discussing student progress, logistical issues, and other middle school programs or concerns. The observations allowed a true understanding of how the school supports the teachers' process of data use.

Data Analysis

Independent studying of the data from each data collection tool preceded the interpretation of the information to determine categories by comparing the perceptions of the participants. This self-reflection and studying helped me to draw conclusions in a narrative analysis. Each questionnaire, interview, and observation question was

categorized to its relationship to the research questions. By using the research questions as a starting point for coding, this helped to initially limit the number of categories.

I used a reflective journal to reproduce the steps of the data collection process and remember key details that I needed to help analyze the data. Using the qualitative data, I began to build themes from the coded data. A constant comparative process uses multiple data sources to look for patterns and diversity of the data (Bogdan & Biklen, 2007). If any results showed a discrepancy with the emerging themes, the follow-up interviews served as a tool to gain deeper insight of the opinions. Themes arise when researchers explore and analyze the issues represented in the data (Lodico, Spaulding, & Voegtle, 2006). Coding and developing themes facilitated me reaching a hypothesis of the perceptions of teachers and possible support that may help to assist educators with their instruction. Additionally, as soon as the data were collected and recordings were transcribed, analysis began to ensure accuracy and validity. After completing the data collection process, I noted the variety of responses and number of consistent responses. Overall themes regarding desired time to complete the data process as well as collaborate with other colleagues emerged. Acknowledgement of any discrepancies after all data tools is necessary for a complete analysis of the research data. Although this type of data may not fit into the themes or patterns, discrepant cases will be noted in the findings section.

Creswell (2012) described a narrative discussion where the summarized findings are clear for the reader. Both discussions describing the questionnaire and observations include quotes from the participants in order to explain or give details of the main ideas.

Merriam (2009) portrayed case studies as dense descriptions of an experience that can capture the perceptions of the participants. Researchers use qualitative methods when referencing specific details from the sample population and discuss the information in a narrative form to state the gathered particulars and common themes (Lodico, Spaulding & Voegtle, 2006). The set of summarized information helped me to determine needed steps to help support effective use of data to inform instruction.

Validity and Reliability

As a researcher, I took precautions in order to ensure that my study is valid and reliable. Validity is the development of interpretations that match the evidence collected (Creswell, 2012). Since case studies do have limitations because the researcher is the main person who collects and analyzes data for the study, my provisions ensured that the research portrays the true perceptions of the teachers (Merriam, 2009). I used member checking by bringing my interpretations back to the participants so they could verify that I summarized the events and their opinions accurately. This was done after coding was completed from the interviews and observations in order to show that I interpreted the data accurately. However member checking could not be used with the questionnaires since the participants are not required to input their name in order to keep their participation anonymous.

Reliability describes how consistent and clear the data collection tools are that result in dependable data (Creswell, 2012). Researchers piloted and reviewed the data collection tools I used so that they contain strong and reflective sections. Since I am the only one collecting data, I was able to categorize the responses and find themes in the

same way. As I reflected and analyzed the collected data multiple times, the research was sufficiently understood and categorized accurately (Merriam, 2009). In addition, adequate engagement in data collection provided sufficient time for me to understand the data I collected. Lastly my chairperson acted as a peer debriefer who assessed my work and made suggestions that helped me to think critically about my summarized research. This mentor reviewed my notes and asked questions to help me reexamine the data in a different way (Lodico, Spaulding, & Voegtle, 2006). Each source of data from the questionnaires, follow-up interviews, and observations served to suggest themes that arise from the data analysis. Retrospective accounts by the participants can lead to teachers not remembering their experiences clearly, but the observations helped to support the claims made. Triangulation of the three sources of data helped to support the plans of creating effective professional development for teachers to use data efficiently to make instructional decisions.

Findings

Questionnaires. The questionnaires allowed teachers to express their ideas and feelings toward data. The total number of volunteers who answered the questionnaire included twenty-five teachers from various grade levels. Table 3 shows the break down of the different grade level participation. Since some teachers taught more than one grade, teachers had the opportunity to show up in more than one category, which accounts for the total percentage being greater than 100. The first few questions dealt with the types of data the teachers typically used or did not use. Following a brief description of what changes were made using data types, the questions referred to

specific ways they used data regarding student performance. The final questions help to indicate the individual process each teacher used regarding data and probed to find possible supports that would be helpful for the teacher in this process.

Table 3

Grade-Level Participation for Questionnaires

Grade	Number of teachers	Percent of sample
6	10	40
7	16	64
8	9	36

There was an overwhelming mention of informal assessments used by teachers to collect data. Although formal standardized testing results were mentioned, informal teacher-made assessments were used most often to gather student data. New data available within the last year or two mostly included technology. Various online programs for math and reading were used to gather data, although direct mentions of these to inform instruction were seldom mentioned. In addition, the introduction of technology resulted in more data being able to be gathered over the iPad in the form of online projects and other informal assessments. One teacher responded that there were "no new data, just different methods of data collection". On the other hand, five teachers mentioned their lack of use of typical standardized testing results and other testing scenarios to inform instruction. This data is available yearly but not used by these

teachers anymore. As is the procedure for making recommendations for the following year, teachers use standardized test results however teachers use other types of informal data more.

When describing specific types of data regarding student performance, teachers' responses varied. Table 4 depicts the number of responses for the different types of data used to inform instruction, plan units, and differentiate assignments. This diversity is attributed to the various grade levels and content areas that were taught, however there were some overall similarities. In order to plan daily lessons, teachers identified observations, conversations, and questioning as the main type of data used. Both the curriculum guidelines and test scores helped to organize each unit. In order to put students in cooperative teams, teachers based their decisions on the individual characteristics of the students. Leveling within the content areas helped teachers to select their instructional materials. However it was unclear how teachers decided on the leveling. Some mention the use of conversations or assessments to decide on the student's level while others did not mention a way to gather this specific information for each student. Differentiation of assignments led teachers to mention their use of the classwork a student does to manage and individualize work for each student. Others indicate that their classes were already leveled and there was no need to differentiate assignments.

Table 4

Types of Data Used by Teachers

Type of data	Informing daily instruction	Planning units	Differentiating assignments
Classwork activities	7	2	8
Observation/questioning	9	2	5
IEP and other special education	2	4	2
Homework	4	0	4
Teacher tests and quizzes	6	5	5
Standardized test results	0	4	0

When describing the data process for the teachers, a wide range of responses occurred. Some teachers collected data more frequently and at different times than others, and the analysis stage was broken up differently for each teacher. The assortment of techniques showed the inconsistency of the data culture in the middle school. One common thread expressed was the way teachers used the data they gathered. Planning instruction was the main result of the data analysis. Teachers made decisions of whether to reteach, move on, or adjust their instruction to meet the needs of the students.

The biggest challenge expressed for teachers was the amount of time needed to complete the data process completely. As two respondents stated “finding time to analyze effectively” and “not always enough time to provide immediate feedback/analyze data.” Even when asked what type of data the teachers wished they had, teachers noted time as a

factor that would deter it from happening. One teacher commented “I wish I could collect data in more categories, but I just don’t have the contact time with students.” This was a major concern since the teachers have the tools and knowledge to use data effectively but cannot complete the data process because of a lack of time.

Interviews. Interviews served as a tool to gather personal stories and feelings of a topic in an open discussion. The interview probes were used to start discussions but each interview went in a different direction depending on the participant. The main ideas of the interviews explained the specific strategies that teachers use regarding data, the supports teachers felt would help them to use data more effectively, and the role of team meetings in the data process.

First, each teacher had his or her way of using data. However most commented on the primary role of informal data gathering such as questioning, observations, and work samples. Although some teachers mentioned standardized test results and other formal testing data, these were not the primary data collection tools used by the teachers. After gathering data, the uses of the data differed for each teacher. Although most used the student data to directly change or direct their instruction, some teachers mentioned certain data collection methods, like standardized tests, were less accurate and were not used to differentiate instruction only to provide a baseline for curriculum mastery and teacher accountability ratings.

Although each teacher seemed to have his or her own system regarding the data process most showed emphatic responses to the question: what kind of supports would be helpful for your data process? Time was a major aid that teachers needed in order to use

data more frequently and more effectively. One participant commented, “the time thing for me would be the best. Because it is very time-consuming to go through and do those journals every single day” (Interview B). Others noted the various ways they would use the time which sometimes required collaboration with other teachers and continued professional development regarding the data process.

Team meetings served as a time that all the teachers in one grade-level team get together to discuss various topics. However Teacher G mentioned that “With parent meetings, and people on two different teams or two different grades, those can be very hard, and to try to get everybody together can be a difficult thing.” Along with the fact that some teachers were not able to attend the meetings, most teachers responded that student data is rarely discussed. The only type of data discussed was student behaviors and the comments did not always lead to a plan to facilitate appropriate behaviors or academic progress. In a similar opinion, Teacher A noted “I should have to tell you that I find the team meetings mostly a waste of time.” The interviewees felt that the team meetings were not always relevant to them or their classes. Overall, the interview process provided more detailed examples of the ideas from the questionnaires. Clarification of specific strategies and supports that would be helpful to the teachers helped to bring ideas that supported the redesigning of professional learning at the middle school.

Observations. Team meeting observations allowed for a real setting to be examined to determine how teachers used and collaborated using data in a collaborative setting. I observed one meeting from each grade level and used the team-planning template (See Appendix K for full observation notes) to take notes regarding the business

at the team meetings. Since some time of the meeting consisted of non-data discussions, I added another category to the form to make note of the miscellaneous occurrences. The form involved the data analyzed, major findings, and goals for both students and teachers. Many common threads became evident while reflecting on each of the observations.

Overall there were various student concerns brought to the discussion of the teams, which focused mainly on behavior. An inappropriate behavior sparked the conversation about the student, which sometimes led to the dialogue about the home life or achievement of the student. The discussion of behavioral issues with students resulted in some student or teacher plans being created, while others had no plan being put in place.

The addition of an "Other" category was added after I realized the amount of time spent by each of the teams on announcements and procedural notices. At an average of 10.7 minutes, the team leader communicated aspects of the schedule, supply lists, and other announcements to the team before discussing any student issues. This along with the fact that some teachers were unable to attend the meeting at all or had to come and leave at different points of the collaborative time shows the inconsistency of the team meetings. Meeting and scheduling conflicts affected the attendance and in turn the depth of the conversation that took place at the meetings. This will be further discussed in the summary of findings, conclusion, and will be addressed in the subsequent project to show a way to collaborate more effectively.

Overall observations showed how teachers shared various anecdotal stories of various students to gain suggestions and feedback from their colleagues. However, it did

not seem that a formal plan of action was put into place for any student. Only suggestions were made to call home or try a new strategy. Most goals involved the teacher doing something rather than student goals to increase achievement and progress.

Summary of Outcomes

I used the data from these three sources to look for similar themes and patterns. Triangulating the data allowed me to support my conclusions by showing the presence of the themes across more than one data collection tool. Overall, the professional learning community at the middle school seemed inconsistent and could offer more opportunities for professional collaboration and development. Both structured time and availability to collaborate with teachers was a need that developed. By using this information, modifications to the design of professional learning can better support the data process at X Middle School.

The first pattern was the consistence that many teachers teach various grades and work at different schedules of time. This affected each data collection tool by having teachers mention that timing was different for each team, grade, content, or other category. During observations, teachers were late and left early because of other responsibilities. Comments during interviews showed the lack of time to collaborate with other teachers of similar content areas or grade levels. Questionnaires revealed that 11 teachers taught more than one grade level. Without an opportunity to collaborate with other teachers because of differing schedules, professional learning opportunities were lost.

This led to some teachers not having a set collaboration time with people who are "like-minded teachers" (Teacher F). This was a problem regarding the learning community since the middle school did not seem to have any defined goals regarding data at all for the entire staff. Data were clearly used by teachers across grade levels but there was no consistent structure to gather, analyze, or use data to inform instruction. Having a set of school goals can establish a firm foundation of how teachers structure their lessons and make instructional decisions. The diversity of what data teachers used and how they used it may lead to some teachers not using it at all. One teacher noted "I'm not a real big data person" (Interview A). Without supports for teachers to foster data use, many teachers may be like this participant who felt overwhelmed and unsure about data use.

Another clear commonality was the need for time and support in order to use data effectively. Figure 1 shows how the questionnaires and interviews clearly noted the need for time as well as other challenges to the data process such as finding easy ways to collect and analyze data. On the other hand, the observations portrayed teachers coming and leaving the team meetings because of different schedules and other responsibilities. If each teacher is not given the same time to collaborate as others, this teacher was missing important strategies and data that could help him or her to make better instructional decisions. This assistance of time was a major factor that will be discussed in the project of Section 3.

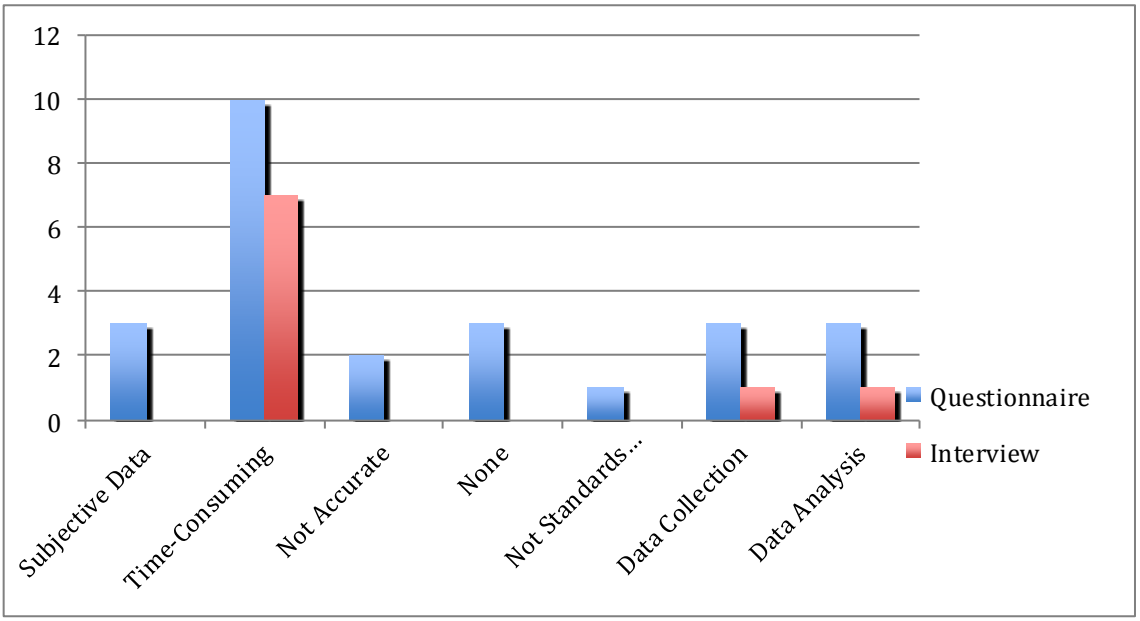

Figure 1. Challenges to the data process.

Along with time, professional development discussing the many uses of data and strategies to make data more effective were important. Each data collection method revealed the variation of how often teachers used data, the types of data used, and the instructional implications of student data. Data should be used regularly and inform instructional decisions. If teachers are not reflecting on the data they have continually, they are not using it most efficiently. The addition of data teams can help to foster collaboration and lead to increased data use.

Results for research questions. The three research questions addressed concerns regarding how teachers used data, the school supports available to the teachers to help in the data process and what support teachers believed would be helpful to make informed decisions. Each question was answered through the data collection process and was

addressed in the use of the project in section three. The following details the data relating to each of the research questions.

1. *What was the experience of middle school teachers in collecting and analyzing data to inform instruction?* Data collection revealed various different methods that teachers used to collect, analyze, and use data to inform instruction. Strategies such as questioning techniques, informal assessments, and various programs such as MeasuringUp, Achieve 3000 and IXL all facilitated the data process for teachers to differentiate their instruction. Although some teachers were unsure of the strategies they used or noted they do not use them regularly, many teachers used data driven strategies to inform their instruction.
2. *How did the school support the teacher's process of using data to inform instruction?* Through the observations of team meetings, time seemed to be available for some teachers to meet on a regular basis to discuss a variety of topics. Although this time was scheduled, it was often not used for data discourse. In addition, teachers mentioned the lack of relevance of the team meetings and the inconsistency of whether all the teachers in a grade or content area were able to meet at one time.
3. *What support or knowledge do teachers think would help to more effectively use data to inform instructional decision making?* The interviews and questionnaires revealed the necessity of additional time for teachers to complete the data process effectively. Many used data driven strategies but

lacked the time to complete this work on a regular basis. Few teachers felt the need for professional development regarding data, however collaboration with teachers in the same content area or level was mentioned frequently.

Outlying data. Although clear themes emerged through the data collection process, some responses did not fit into the patterns regarding an increased desire for more time and collaboration. For example few questionnaires noted reasons not to use data in certain circumstances. These include leveled class expectations where work and assessments were uniform depending on the set level of the class at the beginning of the year. In these cases, two participants noted not using data about student performance. Additionally, during interviews one teacher mentioned the need for professional development regarding data. All of other participants only described strategies that worked for them and commented only on needing more time to work and collaborate with others. In regards to the observations, few teachers noted the benefits of the team meetings as currently structured. Most acknowledged the shortcomings of the meetings while some participants noted the strengths of having that time to speak with other teachers. Each of these ideas did not represent the majority of participants but is worth noting to gather a complete understanding of the perceptions of teachers regarding data and the supports needed to complete the data process.

Conclusion

There is a clear problem in X Middle School regarding data. There was no clear procedure or program that all teachers used throughout the school. In addition, the latest initiatives served to provide more use for data without support for connecting data to

instruction. Current research of data informing instruction shows the multiple ways that teachers use data to differentiate instruction and serve as a tool to increase student performance. Looking ahead, it was important to look at the study and create a project that helps teachers at X Middle School create more effective instruction. Additional school supports are pinpointed to help teachers use data to inform instruction. Professional development and collaboration is be the key to providing the needed provisions teachers need to create individualized instruction based on data.

Section 3: The Project

Introduction

School districts around the country seek to increase student achievement through school improvement in various areas. New initiatives such as No Child Left Behind, Common Core State Standards, and the Partnership for Assessment of Readiness for College and Careers Assessments have been put into place to show progress or lack thereof. All of these proposals aim at helping students succeed but have led to various effects. As discussed in Section 1, there are positive and negative effects of the many changes and procedures, and X Middle School has tried ways to increase achievement after not meeting adequate yearly progress (AYP). This project seeks to address the concerns of student achievement by using effective, research-based strategies to inform instruction.

After thorough reflection on the questionnaires, interviews, and observations, I decided on the various goals that would help support teachers and lead to increased student achievement. Based on the information gathered through the data collection process and recent literature regarding the use of data and professional learning, a project that helps to support teachers through the data process developed. By adding data teams and scheduled times for collaboration, the project portrays the significance of using time effectively to plan instruction (Killion & Roy, 2009). The project involves various steps and requires a diversity of people within the school district to participate in order for it to be successful (McConnell, Parker, Eberhardt, Koehler, & Lundeberg, 2013). This section outlines the goals and literature that provide a firm foundation for creating a specific plan

to help best meet the needs of the teachers at X Middle School and increase student achievement.

Project Goals

The project outlines ways to help teachers become part of a data team that uses collaboration to complete the data process. The collaborative process by which data are collected, analyzed, and used to inform instructional decisions is a crucial element of this project. This type of professional learning community serves to develop collective responsibility and increased accountability of the teachers (Killion & Roy, 2009). In addition, a revised professional development plan will be put in place to make sure each teacher has a goal and the support needed to succeed. The findings of the data collected suggest that the plan be more focused on data and support the teachers' individual needs to implement effective strategies into their specific content areas. The teachers will carefully plan their own professional learning opportunities, which will serve to provide ongoing learning to inform their instruction. This project will help to offer a firm foundation based on learning standards and research-based strategies.

Data Teams Will Serve as Professional Learning Communities

This first goal of creating data teams will allow teachers to work together with other teachers around a common purpose. Data teams are teams of teachers, other school staff, and administrators who work together to increase student achievement through the use of data (Love, 2009). Professional learning communities help to improve instruction and lead to student achievement through collaboration (McConnell et al., 2012).

Teacher-Chosen Professional Development Plans Will Be Added

Choice is an aspect of education that can increase motivation and achievement. The professional development plan template allows teachers to pick a topic to invest their time in during the year. (See Appendix A for complete template.) This form includes sections for discussing the importance of the issue, supports that are needed, and benchmarks, as well as an area to ensure that ongoing review occurs between administrators and teachers.

Increase Collaboration Among All Stakeholders

Teachers, paraprofessionals, supervisors, and administrators will be involved in the process of professional learning at the middle school. Routine meetings will be scheduled to discuss the progress of teachers toward their goals. The time intervals required to complete the updated professional development plan will serve as a tool for each member of the school community to collaborate on the common goals set forth within the plan.

Restructured Professional Learning Opportunities

Professional learning opportunities will have a purpose and be constructed with professional learning standards and effective research-based strategies in mind. Learning Forward (n.d.) wrote standards that contain topics such as data, collaboration, and other aspects that ensure lasting change. Times to work together will be scheduled into the school day, professional days, and other periods in order for teachers to be able to collaborate on a regular basis with each other and with administrators.

Rationale

Professional learning communities, like data teams, are essential for successful teacher development. When teams meet over a long period of time with specific goals in mind and a relevant purpose for the teachers, they can help to increase student achievement (Killion & Roy, 2009). The data teams will serve as paths to help teachers learn what strategies work for their area or grade level. Choice of the professional development plan is an essential part of the project. Mizell (2012) noted that advocates are needed in schools who will take initiative to bring important issues to the attention of people in influential positions. Allowing teachers the opportunity to pick their goals for their individual professional development plans will encourage them to invest more in the issue. They will advocate for strategies they believe will best serve the development of their students. This may lead to increased learning and changes in instruction to increase student achievement.

An Iowa school district saw the benefits of using teacher-learning teams (Crow, 2009). District literacy scores increased from 50-60% to 80-90% over several years with the use of collaborative teams. Each week, grade-level learning teams discussed data, examined lessons, and planned their instruction to help increase student scores. The collective responsibility that was created from teachers collaborating on similar interests developed the teachers' knowledge and subsequently increased student achievement (Crow, 2009). Additionally, periodic student-centered instructional decision-making teams created individualized instruction to help students. Teachers saw the results, and with the supports provided by administrators, collaboration in this school continues to set

common high expectations for the teachers and students (Crow, 2009).

Collaboration among all stakeholders helps to create a firm foundation on which teachers can receive the support and materials needed to succeed. Killion and Roy (2009) stated that working together and sharing the load of the process helps each individual to contribute to the success of students within the school. Even though "collaborative work environments are becoming much more commonplace in districts, they are still far from the norm, in spite of their success both within and outside of education" (Crow, 2009, p. 5). Because collaboration is key, administrators must be involved to support the data process and teacher inquiries in X Middle School.

In order to complete the process of making lasting change, administrators must look at the current schedules of teachers to facilitate collaboration. Currently, team meetings cannot be used effectively as the observations proved how teachers have scheduling conflicts that prohibit them from attending this collaborative time. In addition, the various time differences between the grade and team levels stops teachers from meeting together. Part of this project will be to develop ways to ensure that the data teams have a sufficient amount of time to meet on a regular basis to discuss and work on their goals.

Killion and Roy (2009) described ways to create comprehensive, sustained, and intensive professional learning. Professional learning must be intentional with a focus on increasing student achievement by improving teacher instruction. Wiles (2009) commented on how teachers are the critical component of curriculum improvement and that without a purpose and meaningful connection to their work, teachers will not

succeed. This project will make direct connections between the goals of the teachers, research-based strategies for professional learning, and ongoing collaboration of all members of the school community.

Literature Review

The research related to the project includes standards for professional learning, effective professional learning designs, the importance of collaboration time, and ways to facilitate professional learning communities. Research resources such as ERIC, Academic Search Premier, ProQuest Educational Journals, and EBSCO Education Research Complete allowed peer-reviewed primary sources to be discovered. Additionally, secondary sources published by well-known educational associations such as Learning Forward and related dissertations were included to gather a broad range of knowledge about the topic. Secondary resources seem indispensable as the project focuses on strategies that work and these types of sources provide real-world experiences of using data teams and collaboration of professional learning communities to increase student achievement. To find studies and articles based on project goals, the search included the following keywords: *data teams*, *collaboration*, *learning team*, *professional learning*, *professional development*, and *professional learning community*. By referring back to the data acquired in Section 2, connections to the researched strategies made the project develop with a firm foundation of evidence based strategies.

Standards for Successful Professional Learning

In reflection on the goals of this middle school project, certain high-quality standards come to mind in order to focus any professional learning. Learning Forward is

a well-known educational foundation advancing professional learning for success. Learning Forward (n.d.) created standards for professional learning that "guide the learning, facilitation, implementation, and evaluation of professional learning" (para. 1). These steps will be followed in creating the project design to ensure that teachers come away with lasting effects. Teachers will be guided each step of the way to create their own professional development plan, implement the strategies examined with their data teams, and evaluate the process through ongoing review meetings with their administrator.

The learning design for this project integrates current researched theories and strategies that pertain to the goals to support data in the middle school. Without relating research and effective models to professional learning, lasting change of the desired outcomes is difficult (Learning Forward, n.d). Standards-based professional learning has a greater potential to increase student achievement by giving teachers the tools and strategies needed to create better instruction for students. When teachers see the results of their endeavors, they are more inclined to buy into the research and strategies of a school plan (Crow, 2009). This empowerment allows district goals to move forward and have lasting effects. The professional learning opportunities of the teachers become intentional and allow the entire school community to join in the success of the project.

Part of the process of preparation is the planning of resources and time to meet the collaboration needs of the teachers. Administrators have the responsibility to support the improvement goals in the school with the resources and time teachers need to plan and implement effective instruction (Crow, 2009). Resources must be prioritized, reviewed,

and coordinated for effective teacher learning and use (Learning Forward, n.d). This means that the programs and strategies that teachers currently use to gather, analyze, and interpret data must be overseen regularly for effectiveness. Data collection has revealed various tools that teachers use, but teachers also comment on inconsistency and lack of time to use the programs effectively. This exposes the need for more support for implementation of professional learning for long-term change (Learning Forward, n.d). While some teachers are currently implementing effective data-driven strategies to inform their instruction, others are unsure of the steps or have not found the time to spend on the data process to make it the most effective. The project alleviates both the need for teachers to share ideas and the time to implement the new strategies into their instruction.

The National Policy Board of Educational Administration (2002) commented on the need of school leaders to use resources better and be ready to manage ongoing changes to programs. This means that school leaders must play an active role in the implementation of any new initiative. Administrators must support teachers in ways that allow teachers to have time and resources to complete their work. The project requires administrators to meet with the data teams regularly and provide encouragement to help support the teams with their goals. Dede, Ketelhut, Whitehouse, Breit, and McCloskey (2009) mentioned the purposes for professional development, which include educational improvement and program evaluation. By setting a purpose for a cycle of improvement within the schools, teachers can be confident in the tools and strategies they implement. By following research-based strategies regarding professional learning, initiatives can succeed because of the overall culture of support and collaboration.

Effective Professional Learning Designs

Research suggests that professional learning needs to be planned carefully. Standards alone do not provide the entire foundation of how professional learning should be designed. Desimone (2009) outlined five critical components of professional development to help change teacher behaviors and directly impact instruction: content-driven work, active learning, coherence, detailed timeframes, and collective participation. With these aspects of professional development, teachers can learn new strategies in a strategic manner in order to implement data-driven strategies into their instruction. The project includes specific connections to the teachers' instruction and a timeline for review meetings and benchmarks, as well as the need for participation of all school stakeholders.

After it has been established how professional learning will occur, the details of who and what will be discussed and the activities must be planned. Hough (2011) discussed effective techniques teachers mentioned that helped them gather the most out of their professional learning opportunities. First, teachers noted that the topic must be aligned to the school goals and involve a method for collaboration between teachers and administrators. Again, relevance to each teacher's classroom and experiences is the most effective component of professional development (Hough, 2011). These ideas were used to design the professional learning experiences for the teachers at X Middle School. Teachers will have the choice to create their own plans for professional learning in conjunction with administrators and will have a common vision to use data to inform instruction.

There are many positive effects of suitable professional learning experiences. An

increased level of comfort in one's instruction and familiarity with the appropriate resources can be an advantage of carefully planned professional learning (Gibson & Brooks, 2012). When teachers work together to develop new instructional strategies or perfect old ones, they practice and examine the strategy to make the best possible decisions for their students. Gibson and Brooks reflected on how teachers even after 5 years still were trying to find appropriate resources to meet the curriculum. Using ongoing professional learning opportunities within the school year as times for teachers to collaborate and research effective strategies may cut down on the time it takes to find the best tools to teach students. In addition, teachers feel that follow-up on professional development is critical, that implementation of new ideas takes time, and that more support is needed during the implementation of professional development (Gibson & Brooks, 2012). This is the reason that continuous communication among all stakeholders in the project implementation stage is essential. Ideas are not enough; effective data-driven strategies must be examined and assessed to determine their effectiveness in increasing the achievement of students.

Collaboration Time

Time for teachers and staff to communicate strategies and go through the data process together can be rewarding. One district in Iowa increased its literacy scores with the addition of learning teams (Crow, 2009). The teachers worked together to examine lessons and evidence to determine how they could help each other to find the best writing strategies to help their students for each grade level. This Iowa district supported "collaborative opportunities beyond the weekly grade-level meetings" (Crow, 2009, p. 7).

In this way, the project for X Middle School uses weekly meetings in conjunction with professional development days and other scheduled times to provide teachers the most support to succeed in reaching their goals. In addition to schools, businesses have seen the benefits of using a team-based approach to learning and working that produces the desired results (Crow, 2009).

Routine times over a long period of time are necessary for the collaboration of data teams to succeed. Hough (2011) described the need for sustained professional work over years, since teachers' confidence will diminish if professional learning and work is not continued. Therefore this project does not contain a one-year plan, but should be considered an ongoing goal for the school to keep developing new ways to help students succeed over many years.

Along with teacher collaboration is the need for leaders within the schools to play an active role in setting up the right environment to ensure the success of the school's goals. Learning Forward (n.d.) described the leadership of schools to include skillful advocates that will create support systems for professional learning. This includes the formation of scheduled collaborative times for teachers to meet. With a culture emphasizing professional learning and collaboration, teachers will feel the encouragement of school leaders to be responsible in working hard to provide the best instruction to help students achieve success.

Professional Learning Communities

The data teams in the project serve to be the professional learning communities in X Middle School. Professional learning communities offer an opportunity for teachers to

work together to improve instruction and student achievement (McConnell, Parker, Eberhardt, Koehler, & Lundeberg, 2013). The implementation of learning communities as a part of professional learning has support from educational associations like Learning Forward. Learning Forward (n.d.) defined learning communities as "professional learning that increases educator effectiveness and results for all students occurs within learning communities committed to continuous improvement, collective responsibility, and goal alignment" (para. 4). This is the foundation that this project is built on by making sure teachers have a support system based on the common goals outlined in their professional development plan.

Professional learning communities cannot exist without strong leaders who have the skills to generate a school culture of common goals and accountability (National Policy for Education Administration, 2002). Leaders, who show the process of professional learning through working together, develop teachers who can work together to solve any problems and create strategies to help students learn and succeed. As a lack of shared meeting time or shortage of teachers who share the same content area or level were concerns, virtual professional learning communities can help (McConnell, et al., 2012). Videoconferencing can help teachers from similar schools to collaborate in a way that mirrors the real meetings within the schools, without needed additional funding or time. Participants in virtual communities tended to be more engaged and on-task when compared to the members at the face-to-face meetings (McConnell, et al., 2012). Additionally, even businesses were using videoconferencing to cut travel costs while leaving room for real time teamwork. McConnell et al. (2012) noted that the virtual

communities allowed for comfortable discussion, minus minor technology glitches, and members commented on the same valuable characteristics from the virtual meetings as the face-to-face meetings:

1. Sharing articles or information found by others
2. Group members giving new perspective on evidence.
3. Hearing practical solutions other have tried
4. Accountability to the group
5. Focus on professional discourse
6. Developing professional friendships

These ideas encompass the professional learning culture that is needed for collaboration to be successful. Although McConnell et al. (2012) mentioned the technical considerations of virtual learning communities; X Middle School already has the capabilities in place and the experience in communicating over the Internet to various countries and schools as part of the technology initiatives of the school. Consequently, the data teams created because of the project can include members outside of X Middle School to ensure that all teachers have collaborative partners that are working on the same goals as they are. The most important aspect is that teams of teachers will be communicating about one topic, sharing effective strategies, and looking at evidence to plan instruction that will increase student achievement.

Project Implementation

Potential Resources and Existing Supports

The processes of implementing the changes involved with this project require

various resources that support teacher collaboration and professional learning. Time is the most important resource that will need to be scheduled in order for teachers and all stakeholders to work together to achieve the benchmarks on the professional development plans. The three grades in the middle school as well as the different teams within the grades function on different schedules. This does not leave much common planning time for teachers who teach multiple grade levels and for those who would like to collaborate with other teachers on a differing schedule. By restructuring the time schedules of the day to be more conducive for teacher collaboration, an increase in available meeting times will be created. In addition, the structure of afterschool meetings and professional development days must be coordinated to leave time for data teams to meet regarding their professional development plans. The resource of time for use of teacher and administrative collaboration is the essential tool needed to help this initiative succeed.

Currently professional development days are available, as well as set meeting times during and after school. Since team meetings seem to offer minimal relevance to teachers on a continuous basis and procedural announcements can be done through a memo or only one day a week meeting, changing the purpose of this planning time could be constructive. The time is there, but prioritizing the schools' goals will allow data and teacher collaboration to take the lead. Therefore, team meeting times will be structured as to leave at least one day a week for data teams to collaborate as well as the use of professional days and afterschool meetings to engage in work for the team's professional development plan.

In the middle school there are already supervisors that are available for meetings with entire departments and provide feedback throughout the year. By using this time to meet with the data teams individually, administrators can support the teachers and provide valuable insights to help this initiative. X Middle School already has a professional plan in place, however this new form and project helps to create more communication between all stakeholders and provide the supports teachers need to create more effective instruction.

Potential Barriers

With new standards, a new evaluation system, and changes in standardized testing, teachers have a lot of modifications they need to put in place to comply. This may result in teachers' lack of motivation to invest in their professional development plan as much as is needed to succeed. In addition, other initiatives in the district, such as iPads and 21st century skills, also provide less time for data objectives. Ensuring that the data teams' goals align with the new procedures so that the work of the team serves the purposes of more than one area can alleviate this potential obstacle.

Scheduling is often a difficult task in the middle school with teachers needing to teach various grade levels and content areas. In addition, the schedule provides a rotating basis for cycle classes like technology and life skills. A careful look at what can be modified regarding the schedule must be done and perhaps not every grade level can be on the same schedule. If this is the case, modification to include more professional development time and modifications to team meetings will be mandatory.

Timetable for Implementation

As shown in Table 4, the timetable for this project study comes in various steps. Overall the first year of implementation will be used as a baseline to then modify the project if needed. First, I will introduce the plan to administrators and supervisors in order to show the research and foundation from where my propositions are coming. After the adoption of this project, the professional development plan will be modified to reflect data teams, the process of increased collaboration, and professional learning. Next, administrators must introduce the staff to this initiative and explain the purpose of creating data teams to inform instruction.

Table 5

Implementation Timetable

Step	Responsible party	Approximate implementation date
Introduce plan to administrators	Anne Marie Gwizdak	Spring 2015
Change in professional development plan and scheduling	Anne Marie Gwizdak and Administrators	Summer 2015
Introduction of plan to staff	Administrators	September 2015
Creation of data teams	Staff and administrators	September 2015
Initial review meetings	Staff and administrators	October 2015
Ongoing review meetings	Staff and administrators	December/January

Ongoing review meetings	Staff and administrators	March/April 2016
Summary review meetings	Staff and administrators	May/June 2016
Evaluation survey	Anne Marie Gwizdak and administrators	June 2016

After the plans data teams are in place, teachers will need common planning time. Administrators and I will aim to create a new time schedule for professional learning and collaborative time. This will allow teachers to plan with their teams a schedule for collaborating. In previous educational advisory meetings, the lack of common meeting times has been discussed and the principal seems receptive to any changes that will help to produce high-level instruction. The introduction of a collaborative, team-teaching model will be adopted next year that will support teacher collaboration. With the new collaborative model, teachers will be working together more than ever before in the same classroom. This offers an opportunity that has not been available before that will support continuous collaboration between teachers of similar subjects.

Initial meetings with data team members will follow, along with the review meetings with supervisors and/or administrators. Throughout the year, ongoing review meetings and work times will continue to support the data teams' goals. At the end of the year a summary meeting will be conducted for each data team in order to reveal the outcomes of the plans and any continued work that needs to be done. Lastly, an evaluation survey to staff will allow the stakeholders to reflect on the professional development plans, make modifications to the form if needed and schedule professional

learning for the following year. Based on this feedback any needed revisions will be made so the following year can be even more effective.

Roles and Responsibilities of Stakeholders

Both teachers and administrators have certain tasks that must be completed to have this project succeed. Teachers must take careful thought into creating their professional development plan. This planning will help to pinpoint any specific supports that are needed at the beginning of the year to help administrators plan the budget and other procedural needs. Teachers must also fulfill their obligations to the professional development plan and use the time given to collaborate on how to use data to inform instruction. If any workshops, or specific professional development is needed teachers must convey this to administrators.

In return administrators must fully support the implementation of the goals teachers choose for their professional development plan. Since there will be a discussion for the initial meeting regarding the professional development plan, both parties must be up front with any supports and goals that will be worked on for the year. By providing both suggestions and supplies for the implementation of the data teams, administrators will serve to show their dedication to this implementation process.

Project Evaluation

The process to complete this project contains three stages: development, implementation, and evaluation. The evaluation process will consist of gathering data in order to determine the effectiveness of the process that was used to accomplish the goals of the project (Killion & Roy, 2009). The process includes planning and implementing

the new schedule for collaboration and role of the new Professional Development Plan. Based on the goals of creating more time for the newly made data teams to meet and collaborate with all stakeholders, teachers must complete their professional development plan and implement the developing strategies into their instruction. Extensive work during this year must be evaluated in order to make any needed changes for the following year. Teacher leaders must be confident in the project in order to invest the needed time for its success as well as realize the great opportunity to instruct others in order to provide additional support within each team. Killion and Roy (2009) suggested a reflection of the team meetings to assess how well the meetings are being conducted. Similar sample questions include:

1. Do the meetings start on time?
2. Are their time limits set for the meeting?
3. Is there a recorder identified to take notes at the meeting regarding the data process?
4. Is everyone collaborating in the data process?
5. Does the work get summarized at the conclusion of the meeting?
6. Is a plan for any independent work or continued plan of action discussed at the conclusion of the meeting?
7. Is everyone aware of his or her role before, during, and after the meeting?
8. What types of data was discussed?
9. What steps of analysis were taken regarding the data gathered?
10. What instructional decisions were made based on the findings?

In addition to a team meeting reflection, an online survey will be conducted to ensure the effective management, accountability, and progress of the project. Reflecting on this data can help administrators add more supports or change any scheduling issues that might have risen for a data team. Although this reflection process occurs at each review meeting, an anonymous end of the year survey will help teachers to be honest and voice both the positives and negatives regarding this project. This may even lead to new goals for the middle school. Finally, a rating of the success of the design and perhaps initiative to repeat the process to include new strategies that might be discovered will occur through this evaluation process. Overall this project is an ongoing cycle which, when thoughtfully designed and implemented can better prepare students for their futures.

Social Change Implications

This project is significant to X Middle School since data is being used in various ways but the infusion into instruction seems to be lacking consistently with each teacher. By providing the supports that teachers need, the aim is that the strategies that teachers use will be perfected and shared with their colleagues. Additionally, teachers who may be unsure of how to implement data into their instruction will have the support of their peers and administrators to help them learn more. This increased knowledge and choice will help to motivate teachers into using data more regularly to inform instruction.

With the school struggling with meeting the AYP, data teams will help to make specific, data-driven decisions that will help students succeed. Differentiated instruction to meet the students' needs will help to pinpoint weaknesses and remediate them. This

will lead to increased student achievement and awareness of the high quality instruction within the middle school. Better performing schools means that the entire school community is working together to help the school prosper. As teachers, students, and administrators grow more proud of the accomplishments of the school, social changes occur to influence the meaning of education. When more students succeed, the success is translated to all of the stakeholders. All collaborators will feel satisfied in completing the hard work of learning new things and working together toward a common goal.

Conclusion

Section 3 included a detailed description of how data teams and a restructured process of professional learning can help to lead to student achievement. From the data I collected and current research, I created this project to meet the needs of the teachers in X Middle School. The collected themes of teachers using their own data driven strategies but finding it hard to fulfill their goals because of lack of time for teacher collaboration led me to create a plan to support teachers through the use of data teams. These professional learning communities in conjunction with restructured times to meet more regularly will allow teachers to make more data driven decisions. This alleviates the problem of knowing what teachers are doing in regards to data since each teacher will have a detailed plan for action that is supported and collaborated with by the administrators and supervisors.

Section 4: Reflections and Conclusions

Introduction

Teachers continue to have new procedures and initiatives enforced in the teaching craft. Along with new curricula, evaluations, and assessments, teachers try to provide the best instruction for each student. By using data-driven decision making, teachers can make informed decisions to improve their instruction and in effect increase student achievement. This project study has addressed the problem of lacking information regarding how teachers use data to inform instruction by creating a system where teachers work together with administrators to develop effective data-based strategies. This system of redesigning professional learning at the middle school enhances the strategies already being used by the teachers at the school and provides supports for collaboration. The plans include a new professional development form that facilitates a specific teacher-initiated goal, sets benchmarks for success, and outlines each step of the process of collaboration between teachers and administrators. My decision to implement this plan was based on the data collected from questionnaires, interviews, observations, and literature on the topics of data and professional learning. This section includes reflections on the project study and my personal growth through the process of completing the project study.

Project Strengths

The project goals include gathering an understanding of how teachers are using data to inform instruction and discovering the supports that the school has in place to support this process. This will result in many positive social and academic experiences

for both teachers and students. First, teachers will be able to work collaboratively and teach to help others. By using proven strategies that work with similar students, teachers will share effective instructional techniques that will help them to be proactive in preparing their lessons. Additionally, motivation and accountability for success are built into the project, as specific modes of collaboration are planned and there is a goal of using data to inform instruction.

The professional development plan serves as a way for professional learning communities in the form of data teams to emerge. This is a proven strategy that has the potential to increase student achievement. One of the main concerns in the middle school was not passing state progress requirements. Higher adequate yearly progress (AYP) will show the effectiveness of data-driven instruction and help teachers to feel a sense of accomplishment. Along with the development of data teams, scheduled meeting times to support full implementation of the project will allow teachers the time needed to complete the data process entirely. This was a main concern in data collection that has been modified so that teachers have aimed professional learning experiences to help all teachers based on learning standards.

Weaknesses and Limitations

Data-driven instruction is a proven strategy to increase student achievement. By connecting student information to instructional decisions, teachers can pinpoint specific strategies to help differentiate their lessons. Although this is an important goal, the project does have some limitations. The personal aspect of teachers working on a new initiative is always unknown. If teachers do not buy into the goal of using data to inform

instruction, there is a chance that they will not spend the needed time to reflect on their instruction. Although the proposed professional development form combats this through the need of teachers to show accountability by stating their progress to administration routinely throughout the year, lack of motivation is always a possibility.

Another personal limitation might be the scheduled review sessions between the data teams and administration. Based on scheduling and meetings, it is possible that meetings will become a requirement that is quickly carried out without fully accomplishing the goals of reflecting on the state of the teachers' work. In this scenario, a quick comment on how work is going can start and end the review, as the participants may be in a hurry or not ready to have an in-depth discussion on their work. Another meeting limitation may involve the same problems observed during data collection. If teachers are off task with their discussions, this may affect the success of the initiative. However, the support of administrator communication and team meeting reflection forms may help to allow teachers the opportunity to evaluate how they could be using the time more effectively. A dedicated staff that believes in the goals of this project is needed in order for it to succeed in increasing student achievement.

Recommendations for Remediation of Limitations

In order to combat these limitations, various strategies can be implemented. First, the only way to make sure that people buy into a new initiative is to show successes and an advocate who understands the teachers' needs. The best way to do that is to have a group of teachers serve as leaders to reflect and advocate for teachers' development. The idea of data-driven instruction is rooted in current literature, and many of the teachers are

already using effective strategies. If teacher leaders show that most teachers are already implementing good approaches to helping students, the trepidation to start something new may diminish.

In addition, administrators need to be encouraged to reflect on how they are approaching the review meetings. Perhaps filling out a survey on how their meetings are functioning would be helpful to make sure that the time is used effectively to help teachers accomplish their goals. Furthermore, every teacher in the middle school would be part of a data team that is working toward a similar goal. In this way, faculty meetings could serve as a time for teachers to express their concerns and, more importantly, their successes in order to keep the emphasis on the school goals of implementing data-driven instruction.

Similar goals, all based on data, make up the common strand for all of the professional development plans. However, teachers who are unsure of their data process or materials may find it helpful for the beginning of the year meetings to be filled with experienced teachers sharing their ideas. In this way, teachers would choose data teams that they feel a connection with and in which they find their team members' ways of using data to be beneficial. Scheduling difficulties because of teachers choosing their own teams may occur, but with sufficient planning time before or after school, and the use of technology to connect with team members, finding time should not be an issue. This would be another example of how to create a data culture by showing the successes of teachers in the classroom through data-driven decisions.

Recommendation to Address Problem Differently

Although the project encompasses ways to support teachers in implementing data-driven strategies, other professional learning experiences may also be helpful. Workshops from experienced teachers to interested teachers might help to foster collaboration around one strategy. In this way, teachers could attend various workshops to get a well-rounded view of the ways in which they can incorporate data into their instruction and then decide on the best course of action for their students. Implementing this idea would require a complex schedule for presenters to plan their presentation and to allow them time to participate in an area of interest for them.

Workshops are ways to get ideas across in a general manner. Using the staff already in the building would provide a personal feeling to the learning experience. On the other hand, professional speakers presenting on online programs or other strategies might offer new insights that support the project goals. Outside consultants do not have the history of the staff available to them, but they offer a subjective view of the school at a glance. This unbiased view can help to stress the importance of data informing instruction while showing the teachers ways to make the use of data purposeful for each student.

Scholarship

This project study has been a process of constant learning and reflection. Through the process of identifying a problem, researching the problem, and determining the right method to investigate, I began to build a personal philosophy of the importance of data-driven instruction. Gathering resources from a variety of sources and collecting data from

my colleagues at X Middle School helped to show the importance of understanding how teachers feel regarding educational topics. This information helped me to create a project that I am looking forward to implementing and thereby helping to increase student successes.

Using a scholarly process to approaching research, I learned ways to gather information and analyze it to make a difference. Within the educational setting, research serves to fix problems and provide insights to the experiences of the learner and teachers. In this way the project transformed the way I approach teaching. Every instructional decision should be originated by proven strategies. There is no reason to guess and disregard data; data can be a very important tool that can help to help differentiate a lesson to help students succeed.

Project Development and Evaluation

The initial thoughts regarding the type of project that I would create began with the constant comments of "I need more time" by the participants in the data collection process. I also felt that I could use more time to collaborate with other teachers and better understand the strategies that worked for others in the school. In addition, observing team meetings took on a more procedural role, rather than discussing plans to help students succeed made my priorities clear. By reflecting on these comments I started to match the research I read on professional learning with the needs that teachers expressed. I think that this process helped me to solidify the purpose and type of project that I constructed. With more confidence regarding the project I developed, I believe that I will be able to ensure the major benefits of the data initiatives to the staff and prove its importance. By

proving the critical aspects of the project to the stakeholders involved, I think collaboration will be supported to foster collective responsibility of this initiative.

By providing the necessary time and supports for teachers to collaborate in data teams allows the entire staff to work toward accomplishing a task together. A big part of the process is the integral role that administrators play. By having someone there who has an understanding of any monetary concerns, a working knowledge of data, and the influence to make important decisions helps to keep the professional development plans on track. The support and communication with administrators can help in the evaluation process by providing another person to try and help revise any concerns that arise. Ongoing modification and changes may be needed but by using an evaluation form to decipher the strengths and weaknesses within implementing the project will help to make informed decisions. I think the evaluation step is paramount to the success of any initiative. I have seen many tools that allow administrators to gather information from their staff to help bring forth changes to help all of the stakeholders succeed with the district goals. By providing the supports for successful professional learning communities, teachers will finally have the opportunity to be proactive and intentional in the instruction they provide. Both the project and project evaluation steps serve an important purpose to foster the professional learning of teachers in order to help students succeed.

Leadership and Change

The entire doctoral program provided the path for scholarly work in conjunction with real life connections. I always participated in teacher leader groups but the program

allowed me to reflect in a more scholarly approach to many topics. By listening to other doctoral candidates expose their concerns and experiences within their own setting; I was driven to take more of a lead at my own school.

Specifically this project study required the careful consideration of the problems at X Middle School and ways to become a respected leader who would conduct research within the school. By communicating the purpose of my research to the staff, I began to open up the discussion of data use at the middle school. Teachers would start to discuss numbers and student data when I would enter a room and ask me questions or advice. This communication will culminate in the introduction of my project to the administrators and staff. By having a firm belief in the potential that data can cause I feel the desire to take charge in order to advocate for changes in the middle school.

Change is a hard objective to tackle and preparations need to be taken in to account. By understanding the foundation of theory and current literature regarding data and professional learning I am confident in being able to lead changes in the school. By being a data team leader in the school, I can show by example the success of using data to inform instruction so that other teachers are inspired to join the charge.

Analysis of Self as Scholar

As a doctoral candidate, I believe that I have used my time at Walden to develop as a scholar. I will always be a lifelong learner but this program has taught me ways to approach my learning differently. The online community began as overwhelming and intimidating, but now is an asset to my studies. Virtual communities have many strengths and the biggest was how it allowed me to choose my own time to reflect and discuss my

work with others. I am always enthusiastic to read comments on discussions that I write and receive feedback from professors and peers about my efforts in this program.

Along with the online community of people and supports, the access to resources was undeniable. Walden's library had countless articles and reports that helped me to gather information on my topic. Even being able to see other student's work, rubrics, and examples for each of the steps to my journey helped me to create a plan for my future. In addition, I never felt like I was on my own searching for articles or stuck when I didn't find something that I wanted. The support personnel accepted any questions that I had and often helped to point me in the right direction. In this way, I aim to be the learner who asks for help when I am stuck or frustrated and help others if I can.

Throughout the program, I communicated with an online group of students who have ongoing discussions regarding papers and the program in general. We share ideas and make suggestions to each other. This allowed me to reflect on what I was doing and provide encouragement to other scholars. The most important learning was not in one course or one project but the overall collaboration between peers, professors, and myself. By pushing myself to put forth the best work that I can and always making sure to reflect and revise when needed to clearly voice my ideas.

Analysis of Self as Practitioner

Both in my content area and toward my teaching craft, I learn new things everyday,. In the beginning I thought tenure was the end for my professional journey but as I got to that point, I realized I still had a lot to learn. This has been the most important reflection of my career because it made me enroll at Walden University. By realizing that

learning will help me to become a better teacher, I was eager to learn as much as I could.

There were many ways that this program and project study influenced my teaching. As I read various articles and books, I reflected on if I did the things discussed by the authors. Could it work for them if it worked for me? If it is something that will benefit students, I am always willing to try it and pass it on to others if it works out. By being open to new things, I have stayed positive and find myself always thinking about the future. I think this helps to keep my instruction focused on the continuous changes in the field of education.

It is important for teachers to have a scholarly background to bring to their instruction since being a leader means being skillful in your job. As a teacher, I try to lead changes in my school and my colleagues have mentioned the influence that my opinions have had since beginning my doctoral program. They understand the work involved and how it has affected my teaching. I continue to grow everyday and will continue to learn about new strategies and research regarding education to keep ahead and create the best educational experiences for my students.

Analysis of Self as Project Developer

The development of my project has taught me specific strategies to help make change easier and long lasting. The main plan as a project developer is to make sure any initiative contains three important stages: planning, implementation, and evaluation. Each one of these steps help to support the community by being proactive, supportive, and reflective.

Firstly, the planning stage consists of trying to design strategies to make the

project successful. Whether it is a PowerPoint showing the importance of the initiative or ordering the necessary supplies, the planning stage cannot be overlooked. Careful, purposeful use of this stage will help teachers develop a sense of commitment to the project by showing all the preparation that is involved that directly relates to their work. Without specific plans to incorporate a goal that involves the whole community and makes provisions to help teachers along the way.

This leads to the implementation stage. Every project begins as an idea but must be implemented in order to succeed. I think that as a teacher at X Middle School, I often feel that this step is sometimes overlooked. As a project developer I aim to make sure that teachers have the right supports in place so that while they are trying out new strategies and collaborating in data teams, that any help I can provide is available. Questions are a part of any new undertaking and having a forum to ask them is essential. The implementation stage may require even more supports than originally planned. Sometimes it means extra professional development, more time, or resources.

After implementing the project, the project is not over. Careful reflection and evaluation of the project must be completed. As a project developer this is a critical step that helps everyone involved to voice concerns and plan collaboratively for the future. Either surveys, focus groups, or any other evaluation technique, a team must evaluate the success of the project. With most initiatives, projects do not last one week or one year but continue to grow and develop over the years. Evaluation of the design and implementation of the project allows effective strategies to be emphasized and less effective ones to be discarded. By evaluating and modifying the project, I, as a project

developer start the cycle over and plan more supports and resources. This cyclical process is beneficial to use for any initiative and has helped me to understand the foundation for truly affecting change at the middle school.

Project's Potential Impact on Social Change

Social change is a major factor that helps projects to think of the big picture. My project outlines ways for teachers' voices to be heard and allows for specific ways to improve their instruction. With the addition of the increased awareness of the power of data driven instruction and the time to collaborate about effective strategies, teachers will have increased motivation and confidence in their instruction. Enthusiasm for the work one does can change the environment that one is in. Teachers affect their students and colleagues around them. By helping teachers to feel more assurance in their work, this will affect all of the other parts of the community.

This project is targeted only at one school in the district. With the success of this project more time and resources may be spent on helping the entire district to join the same project. The goal of data driven instruction leads to increased student achievement and informed decisions. In the age where teacher accountability is increasing, this is a huge benchmark that will be noticed. By being the pioneers who take charge to advance this project the middle school teachers will then be able to mentor other teachers to share their successes. Even further than data instruction, this project will serve to show the importance of research and may lead to teachers reading articles and doing individual research to find ways to develop their teaching. Once evidence of the power of collaboration is shown, the bond between all stakeholders will be stronger and be used to

help students achieve. Overall, this project has the potential to change the entire community by starting with research-based ideas supported by time and collaboration.

Implications, Applications, and Directions for Future Research

The ultimate goal of this project is to increase student achievement. Hopefully the philosophy of using data driven instruction in the middle school will lead to district wide initiatives. Future research in how to adapt this project to other grade levels would help since other schools may have different supports in place already. Considering the other schools passed their adequate yearly progress, it is possible that they are already employing some of the strategies that will be used at the middle school. By giving the teachers who have found successful techniques a method to share their work with others, this will help the entire staff to form consistent methods to increase student achievement. These types of proven strategies can then be applied to other similar schools. Although differences in grade levels may bring a need to alter the strategies to meet the individual students, once strategies and tools are developed, they should be shared.

Some of the data collected at X Middle School showed additional directions that could be further investigated. Program evaluations regarding the online programs like Achieve3000, MeasuringUp, and IXL would be helpful to determine if they are helpful in supporting data driven instruction. With the introduction of the PARCC assessment, reflection on whether these programs relate to the new standards and assessments need to be investigated. Perhaps other programs will best prepare students to take an online assessment around the new standards. In addition, some teachers mentioned the use of technology and more specifically iPads to conduct their instruction and or data collection.

Technology is a major influence in education today and its implications are endless. Various online programs and applications may help teachers collect and analyze data to inform their instruction. Further inquiry relating to the use of these resources to support curriculum-based goals based on data would be helpful. By pinpointing specific strategies and tools, the entire district can create a cohesive plan to educate students in all grades. Overall, the ideas of the project study encompass a wide range of ideas that use data to develop the best education for students. By realizing the importance of data in education, no matter the program or strategy, teachers can make a difference in the success of students.

Conclusion

Overall I designed this project to enhance the work already being done at the middle school. By using data to inform instruction, teachers' actions become more deliberate and can help to foster student achievement. Differentiation of lessons can lead to students receiving the best, individual instruction that helps increase achievement. The best way to support teachers in this goal was to offer a plan and time to complete this work. The professional development plan portrays an outline of the steps needed to complete the process and the collaboration of supervisors and administrators helps to continue the success of the project.

In reflection on my doctoral journey at Walden University, I see this as the ultimate culmination of everything that I have learned. Each methodology discussed and paper written offered insights as to the ways to conduct research and create worthwhile change in schools. I aim to continue and pass on my learning through various leadership

positions in schools and colleges. This will help developing teachers like myself to discover the purpose of research and applications of research in real life.

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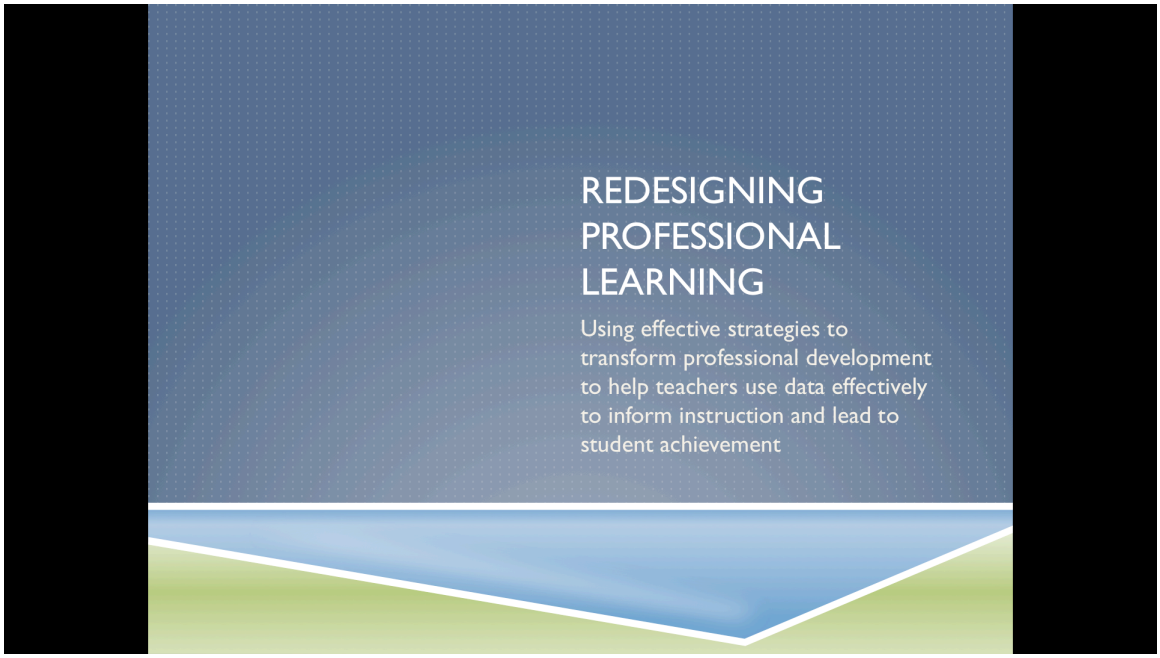
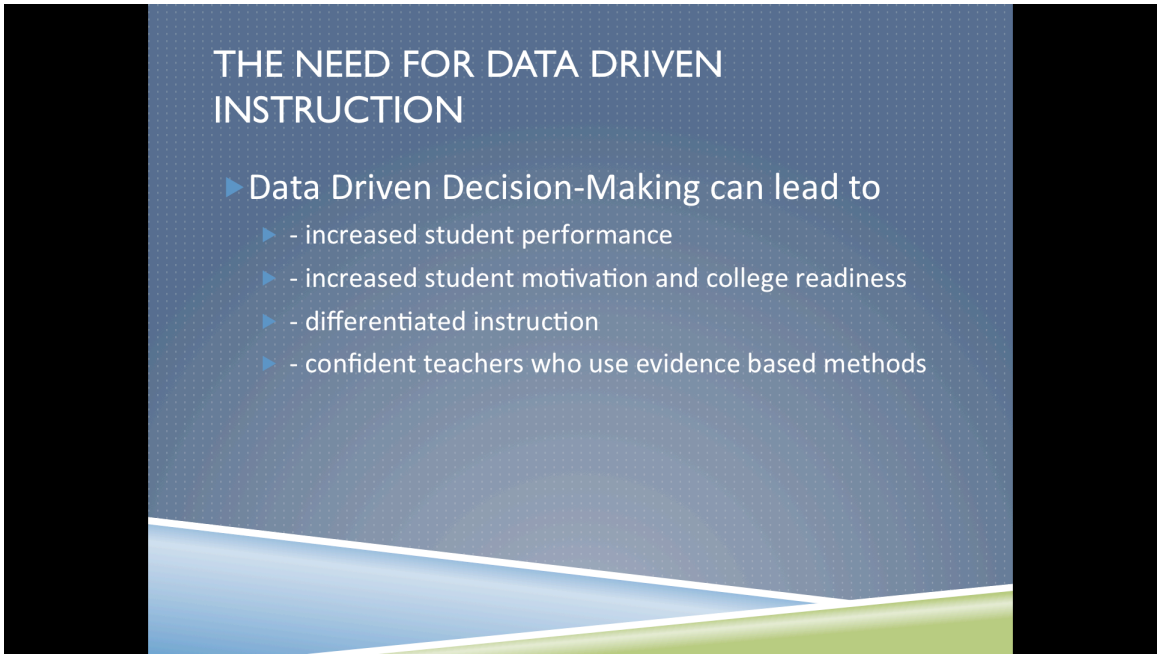
Appendix A: Project

Stakeholder Presentation

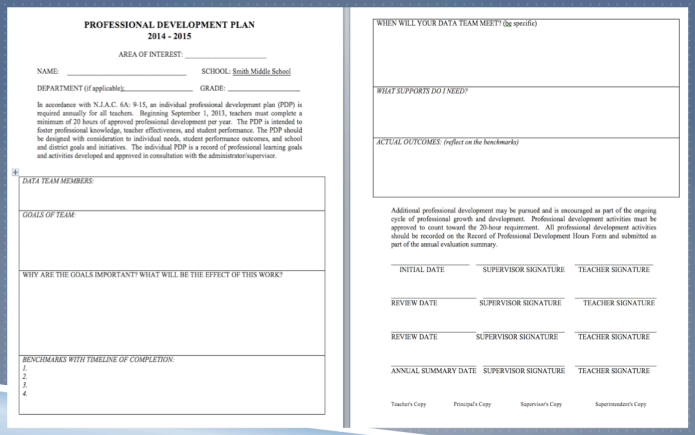




MORE TIME, MORE OPTIONS

- Team Time Restructured for Maximum Effectiveness
- Professional Development Plan (PDP) modified
  - Lead to increased accountability and motivation
- Ongoing availability for feedback and support from supervisors and administrators
- Teacher Designed Professional Development Days
- Coverages available to meet or observe team members

PROFESSIONAL DEVELOPMENT PLAN



PROFESSIONAL DEVELOPMENT PLAN
2014 - 2015

AREA OF INTEREST: _____

NAME: _____ SCHOOL: Smith Middle School

DEPARTMENT (if applicable): _____ GRADE: _____

In accordance with N.J.A.C. 6A: 9-15, an individual professional development plan (PDP) is required annually for all teachers. Beginning September 1, 2013, teachers must complete a minimum of 20 hours of approved professional development per year. The PDP is intended to foster professional knowledge, teacher effectiveness, and student performance. The PDP should be designed with consideration to individual needs, student performance outcomes, and school and district goals and initiatives. The individual PDP is a record of professional learning goals and activities developed and approved in consultation with the administrator/supervisor.

DATA TEAM MEMBERS:

GOALS OF TEAM:

WHY ARE THE GOALS IMPORTANT? WHAT WILL BE THE EFFECT OF THIS WORK?

BENCHMARKS WITH TIMELINE OF COMPLETION:
1.
2.
3.
4.

WHEN WILL YOUR DATA TEAM MEET? (be specific)

WHAT SUPPORTS DO I NEED?

ACTUAL OUTCOMES: (reflect on the benchmarks)

Additional professional development may be pursued and is encouraged as part of the ongoing cycle of professional growth and development. Professional development activities must be approved to count toward the 20-hour requirement. All professional development activities should be recorded on the Record of Professional Development Hours Form and submitted as part of the annual evaluation summary.

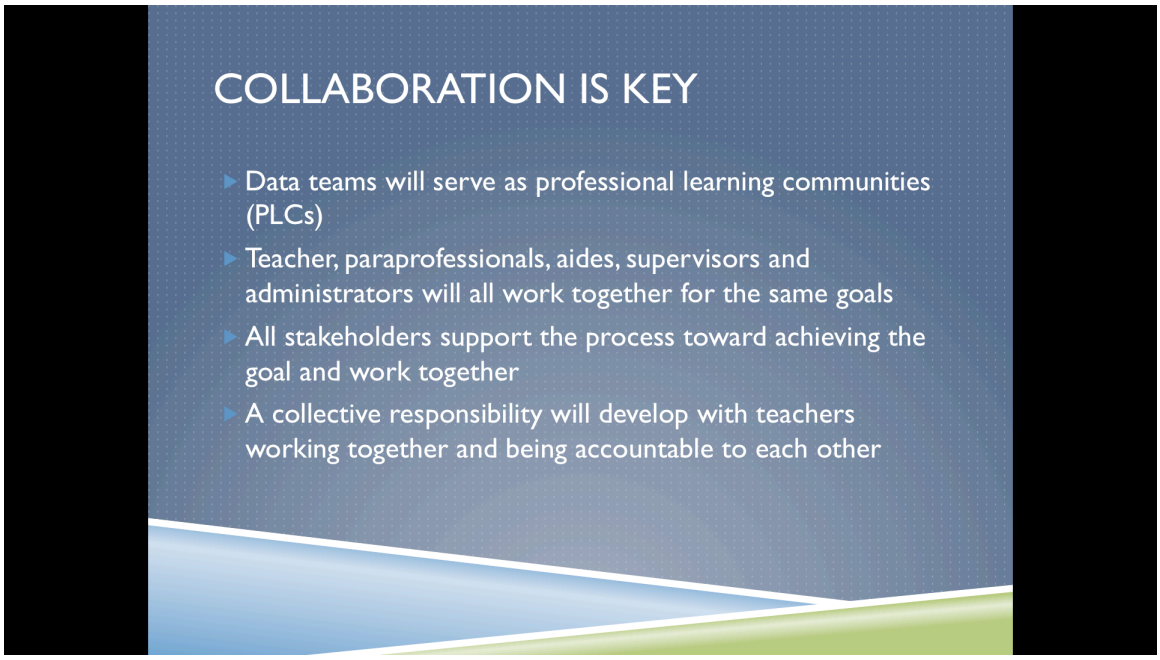
INITIAL DATE SUPERVISOR SIGNATURE TEACHER SIGNATURE

REVIEW DATE SUPERVISOR SIGNATURE TEACHER SIGNATURE

REVIEW DATE SUPERVISOR SIGNATURE TEACHER SIGNATURE

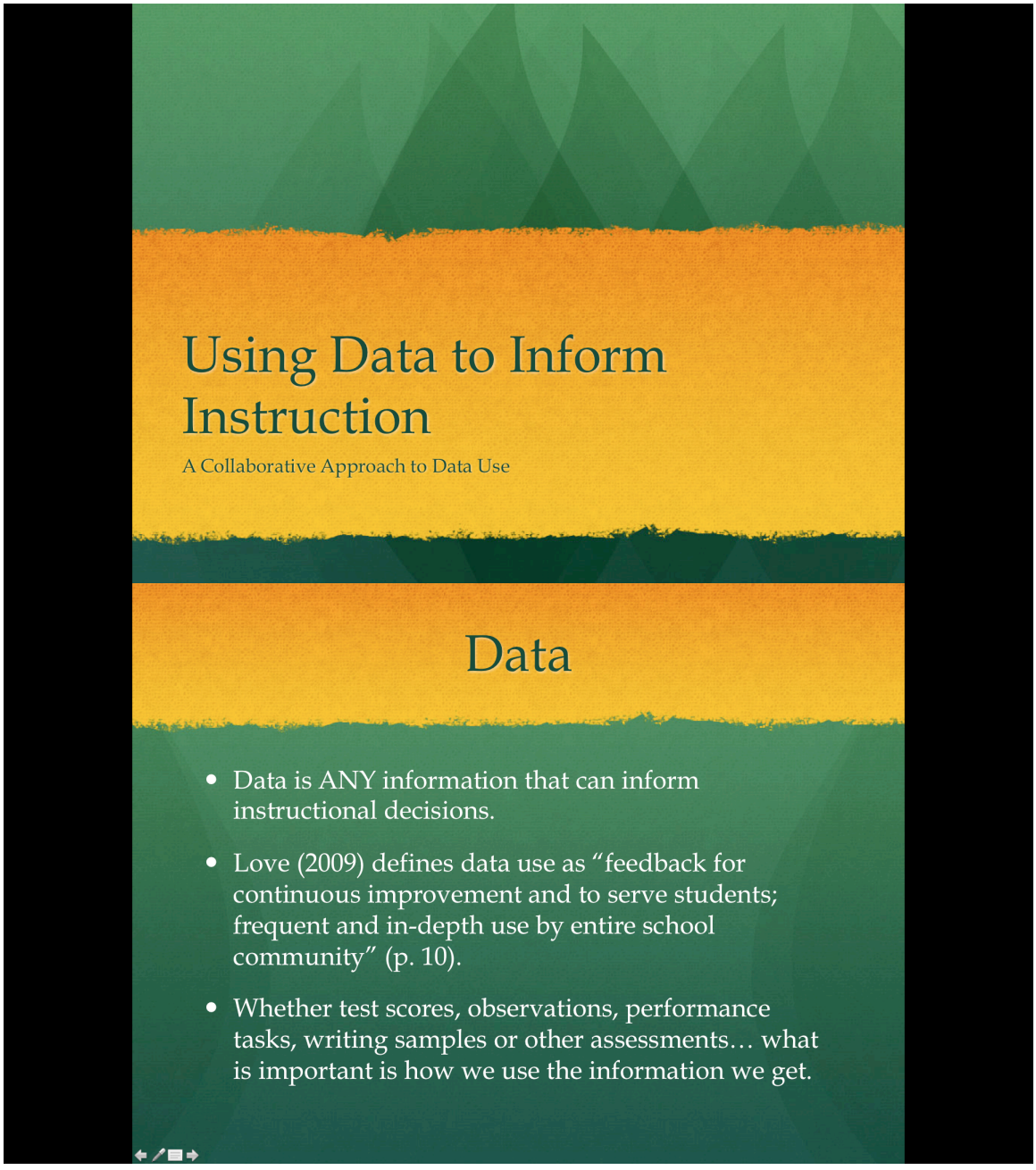
ANNUAL SUMMARY DATE SUPERVISOR SIGNATURE TEACHER SIGNATURE

Teacher's Copy Principal's Copy Supervisor's Copy Superintendent's Copy


COLLABORATION IS KEY
Data teams will serve as professional learning communities (PLCs)
Teacher, paraprofessionals, aides, supervisors and administrators will all work together for the same goals
All stakeholders support the process toward achieving the goal and work together
A collective responsibility will develop with teachers working together and being accountable to each other


IMPLEMENTATION TIMETABLE
Introduce Plan to Administrators
Change in Professional Development Plan and Scheduling
Introduction of Plan to Staff
Creation of Data Teams
Initial Review Meetings
Ongoing Review Meetings
Ongoing Review Meetings
Summary Review Meetings
Evaluation Survey

Teacher Introduction PowerPoint




Data Use
• Effective use of data can offer a process to help teachers connect the results they have to the performance that they want for their students (Love, 2009).
• Data analysis can help teachers to understand difficulties that students have and identify reasons and ways to facilitate instructional support (Killion & Roy, 2009).
• We already use data to --- differentiate, reteach, assess progress and MORE!
We need your help!
• Continuous improvement can only be completed if the entire community is data driven (Killion & Roy, 2009).
• All stakeholders must be invested in the importance of data and knowledgeable about how to implement it (Love, 2009).
• By starting this process, we are showing the importance of data and are ready to support the development of this initiative.


Data Teams
Pick a team (in and out of district)
Decide on goals, support needed and a plan of action
A new Professional Development Form will allow you the choice to pick your goal for the year and beyond
You and your team members will work together to find ways to help students achieve!
Support
Collaborative Meeting Times
Coverages for collaboration and observations
Funding for workshops or other professional learning opportunities
Availability of administrators and supervisors to support your professional growth


First Steps
Take charge of your teaching craft (personalize your Professional Development Plan- PDP)
Reflect on what you know and what you want to know
Take responsibility for your role in making instruction better for your students
If you need something ask, if you are overwhelmed or confused talk with a colleague or administrator

PROFESSIONAL DEVELOPMENT PLAN

2014 - 2015

AREA OF INTEREST: _____

NAME: _____ SCHOOL: Smith Middle School

DEPARTMENT (if applicable): _____ GRADE: _____

In accordance with N.J.A.C. 6A: 9-15, an individual professional development plan (PDP) is required annually for all teachers. Beginning September 1, 2013, teachers must complete a minimum of 20 hours of approved professional development per year. The PDP is intended to foster professional knowledge, teacher effectiveness, and student performance. The PDP should be designed with consideration to individual needs, student performance outcomes, and school and district goals and initiatives. The individual PDP is a record of professional learning goals and activities developed and approved in consultation with the administrator/supervisor.

DATA TEAM MEMBERS:

GOALS OF TEAM:
WHY ARE THE GOALS IMPORTANT? WHAT WILL BE THE EFFECT OF THIS WORK?
BENCHMARKS WITH TIMELINE OF COMPLETION: *1.* *2.* *3.*

4.
WHEN WILL YOUR DATA TEAM MEET? (be specific)
WHAT SUPPORTS DO I NEED?
ACTUAL OUTCOMES: (reflect on the benchmarks)

Additional professional development may be pursued and is encouraged as part of the ongoing cycle of professional growth and development. Professional development activities must be approved to count toward the 20-hour requirement. All professional development activities should be recorded on the Record of Professional Development Hours Form and submitted as part of the annual evaluation summary.

_____	_____	_____
INITIAL DATE	SUPERVISOR SIGNATURE	TEACHER SIGNATURE
_____	_____	_____
REVIEW DATE	SUPERVISOR SIGNATURE	TEACHER SIGNATURE
_____	_____	_____
REVIEW DATE	SUPERVISOR SIGNATURE	TEACHER SIGNATURE
_____	_____	_____
SUMMARY DATE	SUPERVISOR SIGNATURE	TEACHER SIGNATURE

Teacher's Copy Principal's Copy Supervisor's Copy Superintendent's Copy

Appendix B: Online Questionnaire

Data informing Instruction Questionnaire

* Required

What grade/grades do you teach? *

- [ ] Grade 6
- [ ] Grade 7
- [ ] Grade 8

What data about student learning do you use most often?

What new types of data have you used in the last year or two?

What types of data do you no longer use?

Continue »

25% completed

Page 3

How often do you refer to or review data about student performance?

How often do you collect data?

How do you analyze data?

What do you do with the data once the data are analyzed?

What challenges do you have with data?

What data do you wish you had?

Are you willing to participate in a follow-up interview?*

Appendix C: Sample of Team Observation Form

Team planning template

TEAM MEMBERS

DATA ANALYZED

Student achievement data:

Process data:

Demographics data:

Perception data:

MAJOR FINDINGS FROM DATA

GOALS

Team's goals for students (specify timeline, results, and evidence, e.g. by the end of the grading period, students scoring at the not-proficient level in problem solving will move to basic or above on the grade-level common assessments).

Team's goals for teachers (specify timeline, results, evidence, etc., e.g. teachers will provide daily practice in using multiple problem-solving strategies).

Appendix D: Interview Protocol

1. What types of data do you think is the most helpful in informing instruction? Explain.
2. Describe your process of collecting, analyzing and implementing your data.
3. How do team meetings help you to discuss student data?
4. What kinds of supports do you feel would be helpful for collecting, analyzing and using data to inform instructional decisions?
5. Do you have any strategies that you currently use to make the data process easier or more manageable?

Appendix E: Team Consent for Observation

Middle School Teachers' Perceptions Regarding the influence of Data on Instruction

June 2014

Classroom Teachers:

You are invited to participate in a research study on Middle School Teachers' Perceptions Regarding the influence of Data on Instruction. You were selected as a possible participant due to the study focusing on using student achievement data that is a huge focus in this school district. Please read this form and ask any questions you may have before acting on this invitation to be in the study.

My name is Anne Marie Gwizdak, and I am a doctoral candidate at Walden University in the Curriculum, Instruction and Assessment program. I am currently a Special Education Teacher in the [redacted] School District, but this study is completely separate from my role as a teacher.

Background Information:

The purpose of this study is to look at how teachers currently use student data to inform instructional practices and to determine what skills and tools are needed to enhance teachers' knowledge of how to use student achievement data effectively.

Procedures:

If you agree to be in this study, you will be asked to participate in an observation during one of your team meetings. The observation will be audio-taped for transcription at a later date. I realize that you are busy, and I appreciate your time.

I will observe at least one collaborative planning or a grade-level planning

meeting in each grade level. The purpose of the observation is to record teachers' dialogue about how and when data is used to inform instructional practices. The observation will take place in the spring at one of the weekly scheduled meetings for one period (45-60 minutes). Notes taken will be coded and categorized to identify recurring themes and patterns.

Voluntary Nature of the Study:

Your participation in this study is voluntary. Your decision whether or not to participate in this study will not affect your current or future affiliations with anyone in the school. If you initially decide to participate, you may withdraw at any time without affecting those relationships.

Risks and Benefits of Being in the Study:

There are minimal risks associated with participating in this study. The topic of using student achievement data can be sensitive and threatening to some teachers whose data may not be as remarkable as another teacher on their same grade level. Due to the researcher's experiences in working in the school district, the researcher will make every effort to ensure objectivity and refrain from biases shaping the view of the study. In the event you experience stress or anxiety during your participation in the study, you may withdraw at any time. A coding system will be used to identify participants. You may refuse to answer any questions you consider stressful or invasive and without fear of retaliation or retribution.

Benefits associated with participating in this study include identifying what teachers lack in using student achievement data effectively; recognize the need for

increased collaborative teaching practices; help teachers begin to use the data to inform their instruction regularly; and help teachers identify professional development strategies they need to enhance their knowledge and understanding of using data effectively.

Compensation:

You will receive no compensation for your participation in this study.

Contacts and Questions:

The researcher conducting this study is Anne Marie Gwizdak. The researcher may be contacted at anne.gwizdak@waldenu.edu. The researcher's faculty advisor is Dr. Patrick O'Shea, and you may contact her at Patrick.oshea@waldenu.edu. Please contact Dr. Leilani Endicott at 612-312-1210, should you wish to speak privately about your rights as a participant. Walden University's approval number for this study is 07-24-14-0320632 and it expires on July 23, 2015.

Statement of Consent:

_____I have read the above information. I have asked questions if necessary and received answers. I consent to participation in this study.

Printed Name of Participant _____

Participant Signature _____

Signature of Researcher Anne Marie Gwizdak_____

A signed copy of the consent form will be provided to you for your record.

Electronic signatures are regulated by the Uniform Electronic Transactions Act. Legally, an "electronic signature" can be the person's typed name, their email address, or any

other identifying marker. An electronic signature is just as valid as a written signature as long as both parties have agreed to conduct the transaction electronically.

Appendix F: Interview Consent

Middle School Teachers' Perceptions Regarding the influence of Data on Instruction

June 2014

Classroom Teacher:

You are invited to participate in a research study on Middle School Teachers' Perceptions Regarding the influence of Data on Instruction. You were selected as a possible participant due to the study focusing on using student achievement data that is a huge focus in this school district. Please read this form and ask any questions you may have before acting on this invitation to be in the study.

My name is Anne Marie Gwizdak, and I am a doctoral candidate at Walden University in the Curriculum, Instruction and Assessment program. I am currently a Special Education Teacher in the [redacted] School District, but this study is completely separate from my role as a teacher.

Background Information:

The purpose of this study is to look at how teachers currently use student data to inform instructional practices and to determine what skills and tools are needed to enhance teachers' knowledge of how to use student achievement data effectively.

Procedures:

If you agree to be in this study, you will be asked to participate in an interview during a scheduled time. The interview will be audio-taped for transcription at a later date. I realize that you are busy, and I appreciate your time.

The one on one interview will last no more than one hour in duration, and will

include approximately 5 open-ended questions to clarify the responses I receive from the questionnaires. I invite you to participate in one-on-one interviews and a chance to check my transcript summary for accuracy.

Voluntary Nature of the Study:

Your participation in this study is voluntary. Your decision whether or not to participate in this study will not affect your current or future affiliations with anyone in the school. If you initially decide to participate, you may withdraw at any time without affecting those relationships.

Risks and Benefits of Being in the Study:

There are minimal risks associated with participating in this study. The topic of using student achievement data can be sensitive and threatening to some teachers whose data may not be as remarkable as another teacher on their same grade level. Due to the researcher's experiences in working in the school district, the researcher will make every effort to ensure objectivity and refrain from biases shaping the view of the study. In the event you experience stress or anxiety during your participation in the study, you may withdraw at any time. A coding system will be used to identify participants. You may refuse to answer any questions you consider stressful or invasive and without fear of retaliation or retribution.

Benefits associated with participating in this study include identifying what teachers lack in using student achievement data effectively; recognize the need for increased collaborative teaching practices; help teachers begin to use the data to inform their instruction regularly; and help teachers identify professional development strategies

they need to enhance their knowledge and understanding of using data effectively.

Compensation:

You will receive no compensation for your participation in this study.

Contacts and Questions:

The researcher conducting this study is Anne Marie Gwizdak. The researcher may be contacted at anne.gwizdak@waldenu.edu. The researcher's faculty advisor is Dr. Patrick O'Shea, and you may contact her at Patrick.oshea@waldenu.edu. Please contact Dr. Leilani Endicott at 612-312-1210 should you wish to speak privately about your rights as a participant. Walden University's approval number for this study is 07-24-14-0320632 and it expires on July 23, 2015.

Statement of Consent:

_____I have read the above information. I have asked questions if necessary and received answers. I consent to participation in this study.

Printed Name of Participant _____

Participant Signature _____

Signature of Researcher Anne Marie Gwizdak_____

A signed copy of the consent form will be provided to you for your record.

Electronic signatures are regulated by the Uniform Electronic Transactions Act. Legally, an "electronic signature" can be the person's typed name, their email address, or any other identifying marker. An electronic signature is just as valid as a written signature as long as both parties have agreed to conduct the transaction electronically.

Appendix G: Questionnaire Consent

Middle School Teachers' Perceptions Regarding the influence of Data on Instruction

June 2014

Classroom Teachers:

You are invited to participate in a research study on Middle School Teachers' Perceptions Regarding the influence of Data on Instruction. You were selected as a possible participant due to the study focusing on using student achievement data that is a huge focus in this school district. Please read this form and ask any questions you may have before acting on this invitation to be in the study.

My name is Anne Marie Gwizdak, and I am a doctoral candidate at Walden University in the Curriculum, Instruction and Assessment program. I am currently a Special Education Teacher in the [redacted] School District, but this study is completely separate from my role as a teacher.

Background Information:

The purpose of this study is to look at how teachers currently use student data to inform instructional practices and to determine what skills and tools are needed to enhance teachers' knowledge of how to use student achievement data effectively.

Procedures:

If you agree to be in this study, you will be asked to participate in a questionnaire. I realize that you are busy, and I appreciate your time.

Teachers in grades 6-8 will be asked to participate in a questionnaire that will have no more than 12 questions. All staff members have the option to participate.

Voluntary Nature of the Study:

Your participation in this study is voluntary. Your decision whether or not to participate in this study will not affect your current or future affiliations with anyone in the school. If you initially decide to participate, you may withdraw at any time without affecting those relationships.

Risks and Benefits of Being in the Study:

There are minimal risks associated with participating in this study. The topic of using student achievement data can be sensitive and threatening to some teachers whose data may not be as remarkable as another teacher on their same grade level. Due to the researcher's experiences in working in the school district, the researcher will make every effort to ensure objectivity and refrain from biases shaping the view of the study. In the event you experience stress or anxiety during your participation in the study, you may withdraw at any time. A coding system will be used to identify participants. You may refuse to answer any questions you consider stressful or invasive and without fear of retaliation or retribution.

Benefits associated with participating in this study include identifying what teachers lack in using student achievement data effectively; recognize the need for increased collaborative teaching practices; help teachers begin to use the data to inform their instruction regularly; and help teachers identify professional development strategies they need to enhance their knowledge and understanding of using data effectively.

Compensation:

You will receive no compensation for your participation in this study.

Contacts and Questions:

The researcher conducting this study is Anne Marie Gwizdak. The researcher may be contacted at anne.gwizdak@waldenu.edu. The researcher's faculty advisor is Dr. Patrick O'Shea, and you may contact her at Patrick.oshea@waldenu.edu. Please contact Dr. Leilani Endicott at 612-312-1210 should you wish to speak privately about your rights as a participant. Walden University's approval number for this study is 07-24-14-0320632 and it expires on July 23, 2015.

Statement of Consent:

By submitting your answers to this questionnaire you are agreeing to

- participate in the survey

- read the above information

-asked questions if necessary and received answers.

Signature of Researcher - Anne Marie Gwizdak

You may print a copy of the consent form or one will be provided to you for your records, if requested. Electronic signatures are regulated by the Uniform Electronic Transactions Act. Legally, an "electronic signature" can be the person's typed name, their email address, or any other identifying marker. An electronic signature is just as valid as a written signature as long as both parties have agreed to conduct the transaction electronically.

Appendix H: Consent for Use of Preexisting Instruments

December 24, 2014

Anne Marie Gwizdak

Walden University

[redacted]

[redacted]

Anne Marie,

Learning Forward is pleased to renew your permission to reprint the following articles in your book *Doctoral Project Study.*

Please ensure that the following citation and credit line appear with the material. Reprinted with permission of Learning Forward, www.learningforward.org. All rights reserved.

"Tool 10. 1 - Data use reflection guide" Joellen Killion and Pat Roy, *Becoming a Learning School,* 2009.

"Tool 13. 2 – Team planning template" by Joellen Killion and Pat Roy, *Becoming a Learning School,* 2009.

When this book is published, would you please send a copy of the finished work to us?

Thank you for your interest in our work.

Sincerely,

Christy Colclasure

Members Service Manager

Learning Forward

Business Office

504 South Locust Street

Oxford, OH 45056

Phone 513-523-6029 ext 221

Appendix I: Interview Transcripts

Interview A

Prior: discussed and signed consent form. She asked to look at the questions and start to brainstorm her answers since she was nervous about the recording. She wanted to 'get it right". How much specifics should I give- I will direct you to explain more, or ask a clarifying question, or move onto the next question.

I will ask you the questions and I will ask you to elaborate if we need to.

What types of data do you find most helpful in informing instruction?

The responses from students day to day.

Do you mean you question them directly or do you mean their questions in class?

I ask leading questions and I check for understanding, especially with special education- I I frequently will stop the lesson and ask them to think about what I said or go over what I said or what they have been looking at

Sometimes they are working with each other and I listen to how they are specking to each other and I try to determine if they are understanding by talking about what they have done. Or working on problems together

SPED students don't test well and I find it is not a good indication of what they know. I can better find out their understanding by actually speaking and them having to give oral answers.

In regular ed I do give, not to say that I don't give weekly quizzes, I do but in regular education, I find that the weekly quizzes are more accurate in regular ed students Generally special ed students work very slowly, or they rush through because they just want to get it over with, a lot of times they don't take their time, so I am not sure it is an accurate assessment.

But you still use the questioning technique in the regular education classrooms?

I do.

Describe your process of collecting data, analyzing and using it to inform instruction in whatever way that you do.

So I do the weekly quizzes, the tests on the chapters and the computer based programs like Measuring Up. They computer based program tells me more or less where they need help to prepare for the state test.

However most of my lessons are geared, they are all geared to the common core. So preparing for the state test is ongoing in class as well as testing, however the weekly quizzes might not be as in depth

Usually I will do that kind of assessment in a group work so that even though it appears to be a group work it is assessing.

(PHONE CALL for participant, doesn't take the call and turns it off. Moment to explain why she kept her phone on)

So where were we?

You were saying that the weekly quizzes aren't in-depth as the common…

Yes sometimes it will be just testing understanding of a concept instead of a deeper problem-solving question.

After you get the data, what happens then?

For the weekly tests and quizzes, I see which student grasped the concepts and which did not. If it's a large part of the class I will go back and revisit the topic, if it is just a few students I will see them individually because I do BSI so it enables me to see them during that period usually they are in my BSI class, so that is a good way of going over different topics that a few students missed.

How do team meetings, if at all, help you to discuss student data?

Well its good to see if teachers have similar issues with students and to see the strategies that they may have been using to help the student understand the material.

Do you find its mostly behavioral or academic in the team meeting?

A lot of times it turns out to be behavioral issues. I guess it is necessary but I don't find it very useful. Because to be honest I don't have a lot of behavior problems.

Right. Now is there anything you would add to the team meeting that might make it more academic within the discussions? Do you need that time for anything?

I just don't want to say anything without putting my colleagues down. I should have to tell you that I find the team meetings mostly a waste of time. And its no fault of anyone perhaps it is but I wouldn't criticize because I wouldn't do it. But most of it, most of the time it is spent with people venting or discussing things that really could be done in a memo. I would rather see the time spent… although it has been tried to set aside a day for department meetings things like that its not always the most productive.

Because I went to a couple of team meetings in different grade levels, some people have expressed that if there was some kind of routine since we could say curriculum and you can be working on something separate and Shannon could be doing a test, maybe there could be a focus like everyone working on SGO's. Maybe someone

helps you with SGO's or you help others with an iPad thing that was helpful for you. So all of the 8th grade math teachers meet about whatever it is.
Do you think it would be helpful to use that time differently?

Yea I do. I would like to see it move away from a business meeting and even just the first 10, 15-20 minutes, I don't think it needs to be a business meeting. I think a memo can be sent out and if anyone has any question about the schedule or whatever the proposed items are can take it up with the team leader. I just find that the team meetings could be more productive.
And we have tried to do things like iPad part of the time, buts its not the whole time being spent on that its 20 minutes of business and then whatever you have left to work on it.

OK thank you. So what kind of supports do you feel would be helpful in your process of collecting and analyzing data to inform instruction?

More time. Definitely more time.
When I have free time, I like to spend it looking for ways to enhance what I do.
And I'm not a real big data person so I don't spend a lot of time trying to find ways of interpreting data.
I do think for special education and regular ed also its necessary in order to make comparisons of the student. I don't think its so helpful to make comparisons to other

students especially in special education but to compare the particular student, how he does better or does works…and I think it has to be the same kind of data, I don't think you can compare different types of data like the student is weak in one area and strong in another.

And we use so many different types of tests that I think it's just a little too much. Now with the IXL, now we have to do the IXL and it's another form of collecting data and I think we have to pick and find out what works best for us and just go with it. And that's it. Use one or maybe two would be good. Maybe one good form would be good.

Do you have any strategies that you use to make it easier or more manageable to use data?

Well I guess with my problem of the day. If I taught a lesson the day before ill do something the next day and its not short it could be a five ten minute 15 20 minute problem. That is itself shows me a lot about what the student is understanding what I taught because they're taking it to the next level. Its usually an NJASK type or a PARCC type question. I am able to walk around the room and see the students who are still struggling and that's the data I find most useful in gearing my teaching. Also in differentiating the testing so that the students that I know cant do specific problems-why would I want them to struggle with them. So maybe I would give them easier problems or fewer problems. So it makes it easier to go through a lot of the material that I know that they're not going to understand

And frequent checking of understanding, just the day-to-day data that I collect by asking questions.

Am I inferring right that if your differentiating the questions that you give that one set of 8th grade SGO, for example, wouldn't help you to differentiate instruction?

No not for an SGO. I don't think it is good to have one test for all students. Like the standardized test is very unfair. Especially they are only interested in the student growth. I am interested in students showing what they understand I don't think that the test does that. At least for special education.
I think joseph got a 161.

Do you think that NJASK data is helpful and do you use it at all?

I think for regular education it gives you something, it gives you the levels of student achievement but I think when you get to the students who are performing below 200 I don't really think it's a good indication. Ok they're low, they don't perform well, but what's the purpose of that data if they are below 200? I don't know how to use it perhaps. But for regular education I see the leveling and since we put so much emphasis on the state tests it shows us where we need to improve our instruction to improve in the different area for it. I'm not sure it can help with the special ed student to tell you the truth and I can tell you I've been doing it long a enough to know that.

Well have to compare the scores from 7th grade to the scores from 8th grade from special ed this year, to see if there was any improvement.

I did change my way of teaching a little bit with them by demanding more higher level, so well see how that helps. I have had a chance to compare those scores.

Perfect. Thank you.

Interview B

So I will ask you the questions that I have and then if I need you to elaborate ask you clarifying questions. Since we are doing it over the phone I going to be taking notes so that if I do not respond right away I want you to know that I am taking my time and will soon ask you the next question.

Ok no problem.

First question is what type of data in your classroom do you use to inform instruction that you use the most?

One that I use the most probably be I would say informal questioning I have these popsicle sticks in my classroom and I use the popsicle sticks to have the kids answer questions so I can gauge where they're at before starting it is quick and easy and I can

keep moving. I do use other types of data but I just find it is hard at times to get data on a regular basis because it is very time-consuming, so I do a lot of questioning before topic.

The other thing I do on a regular basis are the journal entries, the Do Nows. That I do more than the popsicle sticks because that is every day and I ask them a question where they keep a journal and I check them daily I go through and see what they have written in their journals.

Perfect.

Can you describe your process of collecting analyzing and implementing the data into your instruction, please walk me through that.

You mean like the do now is for example?

Yes.

Okay so every day they come in and they come in and they have to answer question and then sometimes I check right then and there about 50% of the students work and while they're working on it I'll be walking around and I will give them a check, check minus or check plus so they know what kind of grade they're looking at for the end of the marking period.

But I'm looking to see how much information they have in there. They're more thinking, open-ended questions and than yes or no questions. So I try to gauge where they're at a lot of times Ill see some misconceptions in their answers so I know if I need to review a lesson.

Do you want me to give you a specific example would that be better?

Yes that would be fine you can give me an example of a question where you found a inconsistency and analyzed it and what you did then.

One thing that I'll notice in my evolution unit when I'm asking kids about natural selection and adaptation I know that noticed that they'll start to answer it and they don't really have a full grasp of what it means to adapt. They don't understand how organisms evolve over time, they just think that animals physically change themselves if they are a giraffe and it's not long enough to reach the food the giraffe's neck just gets longer. They don't understand it's happening over generations. So in their responses, I say maybe 50% of their journals I checked when a majority of the kids are done.
I listen to wrap it up and put it in the bin and I will check the others at the end of the day. And go through those. By that time I have a good basis and it is random who I check I just checking on. Sometimes the kids were never really done first I'll just walk over to briefly quickly look at what they're writing because I don't want the kids who are still

working all the time feel that they're always last to finish and that they never get feedback as well. So I always switch it up.

For example of the evolution unit, that was something that I knew I needed to focus on. So it's not like I am documenting everything to the extent of the SGO's that we did but I didn't go to that extreme and I did not write down 50% of the kids wrote this. So it is more just me doing it in my head almost. If that makes sense?

Right, I see… something informal that you use to address in your instruction.

That's exactly it, if I find something during the day and I will almost fly by the seat of my pants and change it up a little bit if that's what I need to do. So sometimes I'll do that and sometimes I'll go back to the topic the following day so I'll do the lesson with them and with the question about the evolution unit we discussed things and we discussed the misconceptions were and the following day I put together a PowerPoint to address those specific things and show them images and go even more into depth about it. Since it I still thought it was something that was unclear to them and I wanted to really stress that. So I guess that's a specific example about how I deal with the journals.

Is it time-consuming to check everyone's journal every day or you get most of them done during class?

You know what, it is a little bit time-consuming but they are not writing a full-page they tend to keep it to a paragraph or less so as long as it is a paragraph or less, and I make sure the questions aren't having them write an essay because that would be way too time-consuming for me. While they are in class I usually get through about 50% of them which I think saves time. Because some kids get in and start working immediately and other kids some in and are still getting their stuff together because they're not as organized. That kind of helps me to get some of the grading done during class so I would say about 50% of been getting graded and read while they are working on their journals. And the other 50% I'll have them put it in the bins and Ill check them later. I have to admit that there are days that are really crazy, or really confusing and I don't get to check them at the end of the day so I have to wait to the following today to check and some days there's times I get to see all of them since I will discuss the journal entry and I will have a brain pop and while they are watching the brain pop I will go to the back the room and read the journals. So it depends on the day and what I have planned for that day.

What kind of supports do u think would be helpful, is there anything or with data in general. What kind of supports do you think would help be helpful for you to get?

What do you mean support?

Support could be anything that the school would give you towards time or professional development, anything that would help you in this process of getting data and using it to inform instruction.

The time thing for me would be the best. Because it is very time-consuming to go through and do those journals every single day. I know for example when Teacher X is with me during second period. She usually helps grade them with me and we will communicate briefly. She will go around and check a bunch of the Do Nows and I will check a bunch of the Do Nows and then we will share with each other what we saw.

So basically second period this year for me was great because all the journals would be graded before the period even ended. And if they weren't finished like if I was ready to start going over the Do Now, and there were still journals left, Teacher X would be in the back of the room reading the rest of them. And checking them for me. And then she would fill me in on some of the answers were. I find it was a big timesaver and it was one period from all of my classes that I didn't have to worry about at the end of the day.

So having that time to sit down and go through those journals would be a helpful thing for me. Because having Teacher X in there to help me out with it is always a plus and it is always quicker to get that feedback back immediately instead of waiting till the end of the day to get that feedback.

Now is there a difference in if you get the feedback by yourself or Teacher X does? I wonder if time is what you need or support is what you need in the class. I don't know if you have an idea.

Alright, I don't have to answer this one.

I am just wondering if since it seems like she gave you the time that you need that maybe if she was in all of your classes you would get the support that you needed to continue this process. Would you still need the time?

Yes. However, besides my first year teaching, I've only worked with her and I've never worked with anybody else. So can I…I don't want to say anything negative about anyone else, can I just see what I need to say without getting in trouble.

By all means no one else will hear this but me so you don't have to worry about someone being mad at you and I just want you to be honest and you'll be fine.

So I do think ultimately when Teacher X has an understanding of what I am teaching it is very helpful and having her to share that with me is great. But there are a lot of times where she has no clue to what the answer is or she thinks she knows but she really doesn't, and then I start noticing that she is marking things correct when they are actually wrong.

Then the students have a misconception and she has the same misconception. Even after seven years, it's the same so sometimes it actually depends on the knowledge that the person has to see if it would be helpful or not. Because there are times where it actually puts more work on my plate and I would just prefer the extra time for myself to get the grading done. But there are times when she does know the content and it is actually very helpful. So having in-class support when she is familiar with the content is good. And I just wish that sometimes when she thinks she knows it instead of just questioning and clarifying if that was correct with me before she starts to grading it I wish that would happen more and I think if it would happen more since she's let it happen in the past we have been talking more and I think that starting to happen a little bit more with her.

So I don't know, I have mixed feelings at times because of who I work with but when she is familiar with the content it is very helpful so I will say that. Does that answer it?

So that answers it because it would be anyone who when you kind of want to make sure the student is getting the same vocabulary and way of explaining it that you would. And no one can take the place of you easily so it totally makes sense.

And just to switch fields for a second I want to talk about team meetings. Do you think it helps team meetings to specifically discuss data? And data can mean a lot of things but do you think team meetings are good for that purpose?

I think it is but I just think sometimes our team meetings don't necessarily go in that direction and it's more about um… excuse my language but it becomes a bitch fest. It's a lot of times I feel like I'm wasting my time sitting there at some of the meetings that we have. Some days, not all the time it is like that but a majority of the time it is like that so I don't know. I feel like their needs to be a little bit more guidance on how we should go about discussing it or what exactly we should be discussing. Maybe I personally think that would be something that needs to be addressed, what should we be focusing on and what specific data should we be discussing at these meetings. Rather then okay what kind of what kid are you having issues with and then he's doing poorly academically but what else I feel like there's never any results there is not much that comes out of it.
So I feel like I'm personally wasting my time so I think it would be better if we had some clarification on what we should be exactly focusing on and what should we be discussing and how can we use this information to better our instruction in the classroom.

Thank you and last question do you have any strategies that make the process of data collection and using it to inform instruction more manageable? You've given the examples of popsicle sticks and daily journals which is awesome. Is there anything else that you use a lot?

The only thing I don't like about it is multiple-choice but it is quick and easy. Sometimes I'll do pretests before the units but they are short pretests and usually they are multiple-

choice questions. But it helps in some ways because there will be a couple of questions that I notice all the kids are getting wrong. However it is multiple-choice so it is harder for me to gauge besides questioning them. Like what do they not understand, sometimes its a matter of them not understanding what was being asked in the question and when I read you word the question they get the answer right and they know what I'm saying. So sometimes it's not always the greatest but that's something else that I do on a fairly regular basis. And I just don't do the open ended as often because it is very time-consuming. And my open ended is really my journal entries so I have a couple of pretests that have open-ended on it but I don't do it on a regular basis because it is so time-consuming to go back and grade.

You know I'll admit I did that with the SGO's and it was very time-consuming and I had to take a lot of it home and I had to grade it every single night and honestly it was great and it really did tell me so much about what they were thinking and their thought process by reading through their essays. But it was very time-consuming and to do that for every single unit. It would be very overwhelming. So I'll do the multiple-choice pretests throughout the year but again I have mixed feelings about those. It's a quick way to get answers from that but I don't know if it is so accurate because it is multiple-choice and they can just take a guess.

Ok, perfect.

Interview C

I will ask you the questions and then you say whatever you feel you need to and if I need any more clarification I will ask you a question. You can stop me at any point, and let me know if you don't get the question.

So, what types of data do you think are the most helpful in informing your instruction?

I think for my classroom is the standardized test results and even the results from measuring up. Or math programs like that only because I can see where the deficits are and I can plan my instruction more around that. I won't change my whole curriculum around it obviously but I'll know a kid is really weak in this area. So then I can make sure during the lesson that I can make sure I'm giving them individualized instruction, giving them extra worksheets if they need it to see where the weaknesses are. I would say I use it more for weaknesses than strengths.

Can you describe your process of getting your data, analyzing it and then doing something with it to inform your instruction? Can you walk me through it?

Ok, so for instance if I use the NJASK results, we get the results when we get back in September and I can see what areas the kids did not do so well in. As much as they give

me, so I'll look at it and analyze it by looking at which strands did the kids do so well in. Was it the open ended that really lowered their score or was it the multiple choice? And then I adjust from there, so if it is numbers and operations that they did not do well in I will work on when I'm planning my instruction that that topic will take 3 weeks or four weeks to cover that topic as opposed to one or two weeks. I will focus it more like that. But also I look at the other data when kids come in, maybe they didn't do so well on the test because they were sick that day. More like assessing the kid when he comes in with like a pretest to see where they really are.

You were saying that if they were sick, are you saying it is not as accurate?

Yes.

Do you find that that happens a lot?

Yes. Not necessarily sickness but I don't think the tests are as accurate of a portrayal of what the kid is capable especially in the classroom setting. Because sometimes I feel see the test results and the kid with have a perfect 300 and then they are in my lower replacement class, so why aren't the in level one?

I know there are other factors that go into it, not necessarily all sickness but I don't think they're always as accurate.

How much emphasis do you think you put on standardized test scores?

As far as instruction I try not to put that much emphasis on it because of all the things that can be put in the way. That might make them lower. I actually look at it mostly on me kind of. So when I look at the test results I'm like oooooo if they passed I'm all excited but if they failed I try to figure out why they failed. I know I shouldn't put that much emphasis on it but I feel like the state has gotten to a point where I feel like we have to put more emphasis on it. But I use it more for a guide for instruction if I see that all of the kids are doing bad in number sense, I know that will be the standard that I focus on.

What kind of supports do you think would be helpful for you?

How to better read the standardized test score results, like I know more about it because of grad classes, nothing from the district that we work in and its more from outside sources. So I think more professional development about how to analyze scores, not just here your kid passed or your kid failed. Tell me how to analyze it and then tell me what would be good things to implement in my classroom based on these scores. So more professional development on interpreting the scores.

You mentioned measuring up, would you say that is the same as you have been mentioning with the standardized test scores? You get scores and see where they go?

But with measuring up I put almost less trust in it because it's on the computer and a lot of the kids are just clicking through. I don't think its as accurate as when I give pretests and posttests to see what the kid know. I see sometimes some students like to use scrap paper and their work on the side and then transferring their answers to computer.
It's the same kind of process with analyzing.

To talk about team meetings, how do you feel about how team meetings help you to discuss student data?

I think team meetings are helpful because you can see how the student is doing across the board. So for me, my students are lower so I can see are they making improvements in other classes. I can see their other test results. I can talk to the teachers about their test results. I can see if the student is having trouble on all multiple choice test and then I know I can modify and maybe not give them multiple choice questions or maybe one less. So we sit there and discuss the child as a whole instead of just one specific subject because every kid has his strengths or weakness in subjects but its nice to get a whole picture of them.

How often do you discuss student data at your team meeting?

We have one day a week devoted to students but most of the time it tends to go to behavior issues about students than data. I would say data is more around test time.

Especially when it comes to tests with science and social studies, its like a lot of them failed this test. So maybe about once a month. It is probably a lot less than it should be.

When you say it is around test time, do you mean standardized test time or classroom test time?

Classroom test time. Yes, not the standardized test because the science and social studies teachers don't really care to hear much about it if they're not a tested area. So its more like the Math and English teachers discuss that but not in an organized fashion.

Do you have any strategies that you use currently use to make the data process more manageable?

I think that ever since the ASK came and I get specific test results for my students who don't pass, I look at all of if because there are a lot of different reasons why students don't pass, they might have passed but maybe they passed by only one point. I think that since our school gave us the folders of the kids that failed and what areas they failed in I think that s really helpful and getting copies of things like that you are more familiar with it more comfortable with it. Its not so daunting looking at the test results. So I think its about getting as much information as possible is what helps.

You mentioned informal tests, classroom tests, do you use that a lot? It seems that you put more emphasis on standardized tests, is that true when you're planning your instruction.

No I think informal tells me more because it tells me where the kid is currently. Because the standardized test results that I'm going off of is from last school year. Its like you don't know what they do and don't retain over the summer and I feel that its more in the moment. So right now we are doing a test on fractions and they are doing really well on the fraction sense. So I think that gives me better feel for their knowledge about fractions as opposed to what they got on the fractions strand of the standardized test. It's like the teacher conversation that happens more often is about informal tests rather than standardized testing.

Would you day you use more standardized tests or informal to plan?

Probably informal. Specifically day to day. For when I look at units I may look at the standardized tests for planning before hand but as I go through I need to see where the kids are day to day. Especially because of the nature of the kids that we teach.

Now what does an informal test look like? Can you give me an example?

A chapter test. For math it a lot of fill-in, I don't give a lot of multiple-choice questions on my math tests. I would give more fill-in where they can show that they know the process. They can also the right answer and partial credit is given. Which I think is important because they might know the process of how to solve the problem but maybe they made a silly mistake with adding or multiplying that messed up their overall answer. So its good to give partial credit.

What would happen next? What if they failed it?

Well it depends on how many fail it. If my whole class failed it I would go back and reteach it, if one student failed it I know they need extra practice. Whether its going on measuring up or IXL the other computer program, just for extra practice on the one topic or giving them worksheets or saying hey come in afterschool and let's talk about this or give them a chance to redo some of the questions. So it depends on the scenario.

Perfect. Thank you!

<u>Interview D</u>

I will ask you the questions and then you say whatever you feel you need to and if I need any more clarification I will ask you a question.

What type of data do you find is most helpful in informing your instruction?

Student derived data. Does that make sense?

What do you mean, maybe give me an example.

Work samples produced by the student.

Work samples of classroom assignments, tests or standardized tests?

Not so much standardized test but more informal assessments like homework, how they did on a quiz, the tests.

Can you describe your process of getting our data and then what you do with it and how it would lead to changing your instruction?

I would start by giving a test and then collect it. If they're on target we will proceed if they're not then well stop and we wont move on until that skill, objective or that goal for the day or week is mastered.

Do all of the students have to pass it?

Honestly it depends on the size of the class. If it is a larger class I will pull them during study hall or afterschool. For example in writing, how to write a thesis statement, if they

don't understand how to do that you can't move on, you have to make sure they know how to do it.

So while I might be moving on, I will always go back to make sure that each child has mastered it.

Is there any supports that are helpful to help you do all of this?

Time.

What would you do with the time?

Analyze the work samples, take a look at the lessons that I have planned for that week. Does the lessons need to be altered, does m assessment need to be altered?

To change course, team meetings, how do team meetings help you to discuss student data?

To be honest, its not so much student data its part of the background and understanding the student, to understand the data.

Background like what?

Are they having an off week, did something happen in the classroom the period before or outside of school? Because maybe they do understand it but there are external factors.

So you are looking at behaviors mostly in the meetings?

Yes. To see if there is a pattern across the board.

When you mentioned time, and it doesn't seem that time is really available during your team meetings, would that be a time that you could be discussing your data for your classroom or it never overlaps to work out that way?

Not really in the team meeting.

What would be your ideal time?

Taking away one of the team times during the week and using it to analyze data. There is one for instruction but that I take as creating new lessons, collaborating with other people to develop new things. For example the PARCC modifying assignments, things like that. But if you took a day strictly to analyze data.

Individually?

Yes

Do you have any strategies to make the data process easier?

Checklists.

Checklists for you? A list of things you want to do?

Yes. A trick that I used is that I have given the students my checklist that I've been using to see if A: how they perceive if they have accomplished it or not and B it also makes them a little bit more accountable.

Do you find that they do better If they have that checklist beforehand?

Yes they do better. But sometimes I don't give it because I don't want it to skew anything. Sometimes ill purposefully wait until the end. They think they are going to hand it in and ill give them the checklist and ill say take a look does it look the same, will you do well?

Since all of the work seems to be more informal teacher made assignments, do you use the standardized test data at all?

I did use the measuring up as data and I did use achieve as data.

To inform instruction? What reason did you use it?

To inform instruction, to see what lessons I needed to spend more time on, what I need to give for practice for homework.

Same with achieve?

No, for achieve I only use it for benchmarks. I used it for students to have personal goals.

Does achieve give you anything else besides that. Like the extra practice you give with measuring up?

Achieve they'll tell you standards that they'll mastered or not to and the reading levels. That basically it.

So they don't give you practice or worksheets?

No they don't give follow-up. They give you some resources to use. For example there are open-ended questions at the end and they will have graphic organizers to help. And at

the same time there totally might be but I have never found or utilized them. I just don't know if there are.

Interview E

I am going to tape record you just so you remember that I am doing that.

Thanks for being up front with me.

No problem. First question is, Well actually beforehand I am taking notes so if I am a little delayed don't think that I didn't hear you or we lost connection I am just kind of writing at this point

That's ok you can either repeat it or slow down I am right here

So the first this is, what type of data do you think is the most helpful in informing your instruction?

I don't know. I have to preface it by saying humanity as a teacher. I am much more comfortable with anecdotal evidence data because my content is much more subjective. I look at stuff you know as Is this accurate analysis justifiable conclusion as opposed to is

this mathematically correct so that's what kind of makes it tuff a little bit for me when I talk about data only because I guess its different for my math or science class. So that being said the data that is most helpful to me is really comes through students writing a sense of how well they understand the content because they are able to really articulate it and expand upon it in length that they couldn't necessarily do in speech.

Ok. Now can you just describe your process of collecting the data and then analyzing it and telling me how would you implement that into your class for instruction. Just kind of walk me through that process.

Sure I mean it really depends on what the assignment is or what I want to use the data for so it would be helpful especially for me with the technology as an example is I can get, I don't know if you talked about the ipads at all in your research kinda of buy do you want me to talk about the fact that we have ipads or is that something that you are going to cover elsewhere.

If that's something you use then that technology is something that you use to add to whatever kind of process you use. So you can use that as part of your example by all means.

OK no I just want to tell you that I use ipads in the classroom and one of the ways that I will gather data through the do now or exit activities. I'll have the kids respond to short

prompts and what that allows me to do is get a very immediate sense of how well they understand the information especially in short writings it is brief enough that I can look at it but I can give rather prompt feedback which certainly I can't do with an essay. The kids can get more detailed feedback on how they are doing with understanding the content, how well they are doing and articulating it. Shorter responds allow me to provide them with more instantaneous feedback and a better sense of what they understand.

Ok

What do you do after you gather the data what happens next?

It really depends. Most likely what happens is most of the kids and I will remediate those kids that need more instruction and go over to them or call them up to my desk or really in fairness I don't just do that to students who need remediation but I will read through what the kids have and I'll write commentary for remediation I will tell the kids ok you wrote this, now where did you get that information. And then I will get clarification through my questions or the kids who did something rather insightful I will let them know and I will praise them either individually or depending on the day I may share it with class. Because the other thing is the way the technology is utilized. Google forms responses can be posted to or can be shared with the rest of the class. So this lets other people as well see it so that I can point to something and be like Anne Marie here seems to really understand or she explains herself well. At the same time, the material, when it is posted, doesn't have names attached to it necessarily so that they can read each other's

submissions but no one will necessarily be self conscience because it is turned in anonymously.

Ok thank you.

What kind of supports do you feel would be helpful in your process?

Is there something that would be helpful for you to get in support?

Really the support is time. Especially with longer writing assessments or developing questions and developing the content there is no enough time to sit and analyze and determine how I want to go through with it. Fortunately I am a rather privileged educator who has at least an hour a day devoted to cross teaming with people within my department or I have got the opportunity to meet with other teachers on a team, so there's already time built in for collaboration by even with that and a relatively light teaching lode I struggle find time still on top on that to really get the best handle on student work and understanding.

Do you think or how do you feel that team meetings help you to use student data?

With the team meetings while we may discuss hard data the teams meeting's best function as a place anecdotally get a sense of student performance. So it helps to see what I am experiencing in my classroom with student's success or struggles or what-have-you. And how that responds to other classes. I am the only teacher where students are

struggling or vice-versa it nice to get a sense of how I am doing or what I am seeing compared to what the other teachers are doing and at the same time we can coordinate strategies and lessons. So for specific example that has developed in a team process was relatively insignificant was that the eighth grade students have to head they papers in MLA format and that is something set from all of our content so the students can see more holistically how the content or skills from a course are applicable elsewhere. So even if there is a very subtle approach like that and yet it is very much in mind to reinforce the skills and content used throughout the grade.

When you said hard data in the team meetings, what did you mean by that, can you give me an example?

Sure. This is one of the problems that I have because when I think of hard data like when the kids take a unit test, and x percent get A's and x percent get B's and so forth and why that doesn't really help me is because I am not really a tested subject in the sense that I don't have a state exam that relates to my material nor do I personally use multiple choice assessments as frequently in my course so in that sense it is challenging for me to gather data just because a log of my assessments are written or presentation and very infrequently if at all my students get the traditionally multiple tests so for opportunities for me to generate data I really don't have that many.

Now in your team meetings would you say you discuss the numbers part of data or more behaviors about assessments?

Our meetings are more an open discussion because we teach different subjects and within that some of the different subjects are leveled so the English students are grouped by ability and the math students are grouped by ability and certainly the types of assessments and assignments in those classes differ so it is no necessarily helpful to get a breakdown of what students did on a certain assignment. Its more holistically about what types of assignments we generally see students struggling with or where we see kind of achieving real success and that's when the example like the MLA format reaches all students and reinforces I guess the much more basic skills even if it is separate from the content the students need the skills to master the content

Ok that makes sense

Ok well I hope so if it didn't I'd be in bit trouble because that is how I run my classroom for several years now.

Now you were saying the strategy of the Google forms, are there any strategies that make your process easier or more manageable? What be something that you would suggest to another teacher?

What I like about the Google forms is that it is very sortable and one of the things that I can do very well is skim for understanding rather quickly. So the combination of both text and length is that it is not too extensive to read and it makes it very easy for me to get a very quick glimpse of student understanding so if I am playing to one of my strengths so I don't know if I can recommend that to all teachers but that aside what I do like about the Google forms is the presentation, the information is put into a spreadsheet and it is very easy to manipulate the information. And what I mean by that is not that I change student answers but on of the things that I found very helpful but at the same time frustrating because with the students this past year is for my SGO one of the things I am trying to focus on was students increasing the specificity of their answer, of their written answers. So they had a prompt from me about a short story they had read and they had to use specific details from the passage in order to answer and open ended question. So I read them over on a Tuesday lets say, and on Wednesday I picked four to put on a spread sheet and the do now had the class essentially revise the work done by their peers. And what I really like about it besides the fact that it was manageable to create is that I couldn't have created those responses myself and I think it gives more relevance to the assignment since the students are seeing that their peers are creating and in that sense there is real world application because suddenly there is a student presenting to a body of their peers as the audience

Ok. Lastly is there anything else to give me a feeling or perceptions that you have about using data in the classroom? Anything that we haven't talked about to understand where you are coming from?

The thing that always, and I don't want to come across as someone who is negative or positive about it because I have a lot of contradictory thoughts. The first one is that teachers have to use data in the classroom, I mean how else do you understand what your students know if you don't get a sense of what they know. But at the same time within the context of this discussion is it is very much at the backdrop of the educational reforms. The common core, the PARCC tests and all that stuff then and to get kind of political here for a second, I have a serious concern about why these things are suddenly getting involved in education now. So that being said, the idea of data almost because it has become politicized I can't separate the merits of understanding student achievement from kind of the context of everything. So that 's kind of my lengthy disclaimer. With that being said teachers need to be able to assess their students and need to be able to understand what their students know or what they don't know to tailor lessons and activities to promote student engagement and promote student achievement, to give students the skills that they are going to need in the future. I know that is kind of vague of an answer but that is essentially what data is.

Teacher F

First question. What is the most helpful type of data that you use to inform instruction?

I believe asking questions to make students understand concepts during class having them explain how they understand the concepts

For instance, having them how you that they know it through independent practice in the classroom is the most informative for me.

When you say, independent practice, what do you mean?

For example when I am teaching prepositional phrases and trying to get them to explain, further explain information to create better sentences, having them actually show me how they are using prepositional phrases to do that in practice, so I will have them do an activity where they need to show me they can use prepositional phrases. Or through just questioning and having them answer you in class.

That's the most effective way for me to know that they understand the concepts.

So I am assuming that these are all informal things that you have made up

Yes informal.

Eventually it will be a more formal assignment but the most practical and quickest way that I can tell that I'm on target with the teaching and their on target with their understanding is an informal question and answer or small independent practice

Can you describe process, collect and analyze data to inform your instruction?

Ok um. A lot of it would be questioning, answering and observation in class. Um observation and then benefit of having a small group instruction class is that I have enough time to meet with each student in class to understand how well they understand concepts or if they are not. That is the most valuable to me.

The others are some independent practice where it is a written assignment maybe writing or analyzing, at that point looking to see if they really got at that point what I was teaching in class into a homework assignment. Or writing assignment

At that point I either need to reteach or I can then go on and take it on step further

Have their understanding even further brought further to a higher level

So they can not just use prepositional phrases but they can then use them for specific reasons, maybe showing direction or maybe prepositional phrases that lead into paragraphs, things to that effect where they can expand on their knowledge.

What type of supports do you think would be helpful to support your process?

As far as what?

Any thing that you would like to have or need to support your process. It can be physical things it could be something you need to understand something or knowledge to help you do something. Something's that you think I wish I had this. I wish I knew this.

Well I think the most valuable and however very time consuming would be more workshops to meet with other teachers, not necessarily from our districts but from other parts of New Jersey to collaborate and develop different techniques or different methods of teachers, sometimes just a different language is valuable

So the most important thing would be time to meet and time to collaborate with like minded teachers who are teaching the same content and same grade level. One of the disadvantages that I am in now, is that I am pretty much flying solo as the sixth grade English special ed teacher, where I really have no one to collaborate with.

There is another sixth grade teacher but she teaches a different level and we are not like minded in our teaching. Not that my mind is superior to hers, that's not what im saying at all but we are not like minded so it makes it difficult to collaborate

Describe how team meetings

Team meetings when we are discuss students does not relate to data that is beneficial to teaching, as far as academics. Usually the data that is collected is a behavioral issue that

is happening with the student. Very rarely is it curriculum driven information. So far as handling behaviors yes that is a benefit, however but as for helping me teach them academics it is not so valuable.

What strategies that you use currently that help you to be more efficient?

Well I focus, I keep my tests and quizzes focused on minute areas, I don't make my tests and quizzes largely focused on several different areas, I keep time focused on one or to concepts, which makes the data collection a bit easier so that I m not
For instance if I'm giving a test on parts of speech, I wouldn't give my students a test on all of the parts of speech at one time, I would them a test on one part of speech at a time so I'm giving all of it but in smaller chunks.
Eventually I will have them create as a summative for maybe the entire grammar unit when I am collecting all the data together but keeping my test/quizzes focused on one or two concepts makes it much easier for me to organize and keep an understanding of where my students are with the concepts.

To go back for a second, you mentioned that you would like time to collaborate with other people. If you did have that at the school, would that be helpful or do you think it is better to collaborate outside of the district?

If I had more like minded teachers, teachers who are teaching the same content and same levels as myself. I would much rather have an opportunity to do that, than to even attend the team meetings, because...um I won't get into why. But the district level would be fine.

Is there anything else that would help me understand your feelings or perception
Well data collection and …it is not always something tangible where I can touch it and hold it and feel it in order for it to be used. Many times the data that is collected is a verbal communication with the student it is not something that I can obtain and hold and show many times so I guess you know maybe in a collaborative setting maybe there can be some sort of a checklist or um some kind of key questions or key phrases that need to be maybe put down in a list form or us to check off
To make that more tangible, to make the verbal communication more tangible. Since I have to prove everything now and things have to be documented and it needs to be a piece of paper that is shared with someone as part of that data collection that is so verbal cannot be transferred to someone else unless it becomes in that form.
Possibly a checklist or a chart ot some form of tangible material that can be shared with others.

Now it seems like you are expressing an emphasis on accountability.

Yes.

Is there an emphasis for data in your school or for your teaching?

I would say, I have to say that this is a new understanding that I have, this is a new process that I've seen since the new evaluation system that's been put in place in the state of New Jersey. I never felt the need to develop charts or to be so careful with data collection prior to this. Um I've always been the type of teacher whose kept good records of what my students are able and unable to do, however many times as I've said, its all in my mind because its all verbal communication.
But now with the evaluation process I feel the need to have it in a physical form, a physical paper that I can show and manipulate and show other people that I am accountable to helping my students develop these skills.

Perfect. I hope it's helpful.

Just an aside, (motions to shut off tape)
- informally speaks about how needless team meetings are

Teacher G

First question. What is the most helpful type of data that you use to inform instruction?

I would say data from previous years. Whether it be about the students I have presently or for instance if I made up a test and last year the students bombed, I would know I have to adjust the test for the present year. Or they all got 100, I have to make it a little tougher. So previous data I would say, from previous years.

Now, do you do anything that year with that kind of data? Is there a problem or if everyone gets a 50?

You mean review the materials?

Yes.

Yes we would definitely review the material before the next assessment. But do I do anything else as far as revamp the grading, do I curve it? No we don't curve the grades. The only thing we would consider doing is if they want to do something in addition that would give them extra credit, something like that. But we never curve our grades.

Now when you say 'we', you mean?

Teacher X and I, because we do the same thing.

Can you describe your process of collecting, analyzing and using it to inform your instruction? walk me through the steps.

Two ways. At the beginning of the year I go to the sixth grade teachers and I show them my list and I go through to get personal information on the students. Because that's not given to us which I think should be. And so I do that and that's getting that data, and as far as the assessments, my own assessments, tests or whatever. What was the third part of the question?

How do you analyze and then what do you do with it?

Basically what I said, if kids did well on it we'll move ahead and if they didn't we will have to back up and review.

Can you give me an example of something a sixth grade teacher might say when you collaborate?

They give me information like their home life, what kind of student, are they hyper are they quiet. Are they lazy are the, will they come for extra help every single day? Things like that, what kind of student they are.

Behaviors mostly?

Yes.

What do you do with that?

I had one actually last year that came everyday afterschool and she just needed help, and at the end of the year she wasn't doing that and I wanted to get her to that point. I didn't want to be crutch, and she was smart enough to do it on her own so I was building up her self-esteem – that you are a great math student, you don't need me to look at every single thing that you do to make sure that you're on the right track and that you can make mistakes and learn from them and that type of thing?

So is it fair to say that you try to keep going whatever is happening in sixth grade, the extra help or if the behavior is there, you are building upon that?

Um, I don't know if I would say build on it, but I try to correct it if it needs correcting. A lot of times there are things going on at home that influence their behavior in school that are important to know. And the way I respond to that will be different from one student to another depending on what background information I have on them.

Now, when thinking about the process that you do, what kind of supports do you think might be helpful in aiding your process?

Time. The way I get my information from the sixth grade teachers is on my own time, trying to grab them for five minutes and look through my lists to respond to my questions about the students. I'm never given that time, ok now sit down with the sixth grade teachers and you have an hour to do that and I think we need that time.

Do team meeting or do team meetings help you to discuss data?

I think they help, I think they're important and I think we do it a sufficient amount of times, twice a week is plenty to discuss students and make sure that it is not an individual problem and 99% of the time we are all on the same page with the students. This one is great, this one is not so great, this one is hyper, this one is not respectful in my class. It seems to be that is confirming your thoughts and from there we all stick together and say ok this is how we are going to work with this student. They see that it is across the board and it is a lot easier.

Your examples were mostly behaviors; do you ever compare academic data within the team meeting?

In the team meetings? Yea we definitely do that and usually it's pretty consistent across the board with academically.

When you said you needed time, it seems that the team meetings offer some time to do this.

I'm only talking about with the sixth grade teachers in the beginning of the year.

So specifically, you only need time in the beginning of the year to talk to the sixth grade.

Yep, a one-time deal. One hour, be done with it and move on. As far as our team time throughout the year, I think what we meet is sufficient.

So, am I saying it right, if you received the one time, your process would be perfect, that you wouldn't need anything else? You wouldn't need anything throughout the year?

As far as the students and getting data on them, I only need to do that one time, as far as the continuity from sixth grade, to seventh grade to eighth grade, that's a whole different category. I think we should meet several times throughout the year. I think once every other month afterschool for about an hour. Just to make sure we are all on the same page, and to make sure what I'm covering you're not covering. How are the kids doing with that? I taught them fractions for three months and they still don't know it, then in the next grade you're going to have to do it again. But we need time to discuss that.

Do you have any strategies that you currently use to make your process easier or more manageable?

The only thing that I can tell you is all tests and quizzes are graded that night and returned the next day, and put up on parent portal or RealTime the next day. And I think in math especially it's really important to do because it is so cumulative, in other words, if you are not understanding how to add or subtract, if you don't get good grades on that, how can you move on to multiplying and dividing? So this way I am giving them information so they know oh I don't know----and I better--- before we move on to the next concept. That's one of the things that I think is really important. They all think I'm nuts but I think it's important to have the results right away.

Do you think it helps the students to do that?

Yes that's what I'm doing it for the students. Sure not for my sanity?

What Is there reaction?

Then they'll come for extra help.

Oh ok, they will. Independently?

Not all of them of course, but definitely my level one kids will come in and say oo I did really poorly on this quiz and come for extra help in the next day or two.

Thank you! That's it.

Teacher H

First question, is what is the most helpful type of data that you use to inform instruction?

I would say just conversations with other teachers. I think it gives you more of a personal experience rather than just looking at numbers. Because numbers can be interpreted in a lot of different ways, I mean they are very useful but I just think just having conversations with people, especially with ideas that are that can be used better and are possibly better than just looking at data that might be not or you may not understand or only measures one particular thing where a student has a strength in another area. And I think personal conversation does a better job of that.

With teachers?

Yes, with teachers.

So the data you're saying the data you might get is not that accurate so that helps too?

Yes, agreed.

Now what is your process of getting the data you use?

First thing I would do is, lets say I receive the data from a personal conversation with other teachers. Number one how does it translate into my classroom. If it does at all. Obviously what a math teacher does with equation solving may not be how I would teach WW1. Number 2 then I take a look at my class itself, whether or not this thing or particular lesson or idea can be implemented, because some classes it can and other classes it can't. Especially if it's a class with a lot of kids with say trouble with reading complex texts, I'm not going to throw Shakespeare at them. I'm gonna try something that is going to beneficial for them. Which a conversation helps since the teacher might have experienced that and can direct you to that differently instead of you figuring it out yourself and trying to bang your head against the wall. And then I think the other thing you gotta do it just do it. You will never know if it's going to work or not unless you actually try. You know you want to try to take a lot of things into consideration and try to ensure that its successful but unless you actually try it, you're never going to know. And if its going to work for you and I'm a big believer in that you gotta change things up and

you got to, I don't think everybody, well obviously everyone doesn't learn in the same way so you gotta always try different things to get to all the different student abilities. Which is tough, and I know I don't do it all the time, id like to but I don't because other things pop into play, you know. Bureaucratic things you have to take care of, meetings you have to take care of, you have your own family in many cases so its done within certain parameters that you have to deal with but um I would say that is it, just take a look at it and see if it translates to my class and that would be it. And just do it and see what the results are and then you can make a better judgment of if its going to be something you're willing to keep or something you're going to scrap completely. I know I've done that. I've tried ideas and they've gone off like lead balloons, and you know they're done and you move on to something else.

Now you said an example like the leveled text, is there anything else you can give me a specific example for that you tried in your room?

Like a specific source?

A specific source or strategy that you received from a teacher that you thought was good and tried in your room.

Um, always wanted to try Socratic method. Definitely would try that because I think the idea of constant questioning and getting deeper and deeper that would help immensely--.

I would say using certain apps would be good and one suggestion was Quizlet, and I think that's a very good strategy for students to prepare for tests and quizzes. Looking at the app, where you get the texts and you read the text and it points out, what is it, where there's a word you don't understand and it has the definition right there?

Subtext.

That's it, subtext. And I'd take a look at that. I definitely want to institute that. In the past, strategies that have been brought up, maybe a flipped classroom, definitely want to look into that, definitely once or twice to get a feel of it, to see if it works and to see which classes it works with too. Jigsaw classroom, done that a couple of times.

What is it?

Jigsaw classroom, you know where students take a much more active role and they take a certain responsibility and then teach each other it. You have to be careful with that though because you have to steer them in the direction that you want them to go in. Which like especially in history they might focus on what a particular figure in history might have been wearing or the fact that he had a wig, instead of more important things like foreign policy or whatever. I did do something that they do in science, I don't know if they call it this it is lab practicals but basically they go to different stations around the room and complete specific tasks. I don't know what the scientific name would be. But I

remember it was called lab practicals, and I've done that with artwork, especially historical artwork. Different texts, especially primary sources, I wish I got to the 20's because I have a great 20's practical which involves a movie which is the jazz singer because it's the first talking movie, they listen to music, specifically jazz itself, they'll read a passage from the great Gatsby, a lot of those things, since trying to pull from multiple subjects, because history is not always everyone's cup of tea by any stretch but if you can infuse other things that they are interested in, especially seventh grade boys they love sports, a lot of them love sports, so if you can get sports in there it just makes their interest a little bit more. And hopefully by doing that, you are able to keep their attention. And I think like there is also tons of strategies that I've done, that I don't realize, but again I think a lot of it comes from conversations, because I've been to numerous websites and I've read how this teacher does it and how this teacher does it and are very detailed and involve a lot of wonderful things but you know but I think there's a lot more confident going into it if you hear specifically from a colleague that its worked and they've done it and been very successful with it and you should think about putting it in. I think I'm much more open to those things instead of reading it on a website. Because it could be from a state that the curriculum is different, it could be a state that you know a lot of the student dynamic, student demographic is vey different, and it could also be a lot of cases the classes don't have a lot of special ed students and a lot of times yea you want a challenge but you want it to be a challenge they can do or a lot of times they get frustrated quickly. Whether it doesn't matter if its regular ed or special ed you know they

don't see the merit of it. It has to be lessons that have that fine balance that is tough. It is very, very tough.

Now when you gave your examples about having conversations with teachers, do the team meetings help this collaboration?

They can yes. I think being a team leader, I think I can do a better job of facilitating conversations that facilitate more in that direction, rather than highlight issues and problems. And I think I have a tendency to focus on that too much. We bring up issues, again and again and again and talk about them and talk about them and nothing gets done. And many times they are issues that are out of our hand and maybe they conversation should steer more toward how can we make our professional better, what are some things we can teach each other that can be very helpful. Because this has happened to me before where you're at the team meetings and its like I don't know what to do about XYZ, and someone's said oh I've done this. And I think its been pretty successful and that helps out big time in order to help that teacher break down a wall or get through to a class that may have been difficult. Because everyone thinks differently. And as adults sometimes we have a hard time thinking like others think. Because we are so used to the way we do it, but I think the team meeting concept allows at least the ability that there's a forum where you can have those conversations

Is there a time that can be facilitated for the share of ideas? Or is there something or some kind of procedure you have to go through? To set aside a day?

I think setting aside a day is a good thing, if we can do it. And I don't think it could be weekly, especially with our schedules. With parent meetings, and people on two different teams or two different grades, those can be very hard, and to try to get everybody together can be a difficult thing. Especially when you get to the end of the year, when you start getting annual reviews and all those things and people get, and now the summative essay and documentation log, people are concerned with that. But I think, I would try to set a goal of maybe if it was, I don't know if once a month is not enough but maybe try once a month at least see how it works and if you could get more, great. But I think if you had a specific day, pointed to it and I think people would be more open to put up ideas, and it can be spur of the moment thing, I think people need to prepare for it, it has to be something people can mark on their calendar, say this day because they could work other schedules around it if possible so they could devote it to it. Maybe the ideal thing, or if there's an in-service or professional development, that might be. I've heard many teachers say if I just had the time to just sit down and you know not only work with each other in your grade but also just in your subject area. And you just had a good block of time to just sit down and just hammer out some ideas and really get things going. Much more beneficial than I would say having to listen to a lecturer or you know have to go through pd that I've done before, depending on state law and stuff like that. But there's been times that I've been times, I've done a lot of pd with coaching for example

and in a lot of cases they haven't told me anything substantially different so why use that time for that. Or you know something a long those lines. I'm sure another would come to mind, something like that.

That answers my other question about supports. But you are already laying out a plan. You said that once a month would be ideal, because it's doable.

Yea.

And then in-service, but it seems like you're saying time is what you need to collaborate with other people, if you had more time together.

I would say that's true. I would say if…I don't know if it would be the amount of time but a block of time. Like an uninterrupted block where you could get something's done. Having a half hour here or a half hour there might be a little too hard to do, but it might be quick because if you get on a role with something but then you have to move onto something else. I guess if I had to clarify my idea of more time, its more getting a good block or chunk of time and I know I've done my best development in that area when I've just had that solid block of time where I could just get to work. And it's not chopped up by having to go to this duty or having to end quickly because I have to go do this. I would say just a solid block of time would be ideal, rather than just adding something to a full plate already.

Are there any strategies that you use personally that you would suggest to anyone else?

I think there was a benefit to the SGO, the student growth objective. Because I think it does give you a good baseline to work with and it gives you a pretty good idea of where a majority of the students are and where you can direct your attention. Definitely scores like ask scores, in my mind more of the English side for my subject, because it might definitely give you clues about how well students can read a text, interpret a text, reading comprehension. Discussions with the English teachers, generally the English teacher uses it a lot more, but I think that type of data is more helpful. Because data like the student always gets their homework in or always participates but ---- doesn't have that – or that bottom line, so having that information could be critical.

I would say periodic, and I should do this more, but periodic checks for understanding. Very simple but checks for understanding just to see if everyone keeps up with whatever you're doing. Student surveys can also be a good one and I've done that before. Because students will be very, especially if they have the freedom to be honest, I think they will give you some grate insights about what you can do to improve. Now it shouldn't be used as truth 100% in many cases but I can definitely tell you, one of the things that did come out of it student surveys was they loved reenactments. They loved anything that had to do with the Lincoln assassination, or civil war weaponry, any type of that where they can be

fully engaged, its kind of funny, fully engaged without actually writing, they gravitated toward it a lot. So that's one example of using that particular data to improve the students in the classroom. But its, data is a tough thing especially numerical data. And another thing too, and ill be completely honest with this, I'm not a very good numbers person, so sometimes I may look at a statistic or a particular number or empirical data and I may not interpret it the way it should be interpreted so I think that its mainly because I don't know a lot of background in that area, from just what I've experienced and what I've seen,. I think that could be something that could be helpful if they want to use statistical data and that's not exactly a strong point because people are better at statistics than others and people are better at ways of acquiring data than others. That would be in my opinion, a very beneficial workshop to attend, to get really get a firm understanding of what do the numbers actually tell you? What does this matrix actually tell you? I think that could be pretty huge.

I've also used personality--- in the classroom to get a sense of how kids learn, what kids, what really works for a particular kid, and actually its pretty interesting how you can get that and if you can design classrooms or setups with kids of like personalities can be together, and its amazing about how much they are the same, they are not just kids living in the same town or going to the same school. They have certain thought processes that are the same that they didn't know before.

Perfect. Thank you!

Appendix K: Sample of Transcript Summary Form

Transcript Summary – Teacher A

*Please review the notes and comment in the teacher column if there are any statements that are inaccurate or need additions to be complete, accurate statements.

Summary	Teacher Comments or Revisions
1. Informal Assessments are used most often in the classroom like questioning and listening to student conversations. Formal Assessments like weekly quizzes and tests might work with regular education but Teacher A is unsure if it is an accurate measurement with Special Education students.	
2. Collection of data involves distributing quizzes/tests/computerized assessments. The analysis helps determine the need to review with the class or individual students. Some students have Basic Skills Instruction (BSI) in their schedule that	

allows for individual review.	
3. Team meetings are used to discuss mostly behavior issues with students that don't always correlate to Teacher A's classroom or procedural aspects of the school. Teacher A suggests that any business be conducted through a memo in order to leave time for more productive curriculum work.	
4. Time is the Most Important support needed for Teacher A.	
4a. Teacher A shows uncertainty and lack of interest in using data. "Im not a real big data person". Teacher A notes the importance of comparing the individual progress of students but not helpful to compare students to their peers. In addition, the variety of data available to Teacher A seems overwhelming and	

finding one, beneficial collection tool may be helpful.	
5. Helpful strategies include differentiated testing questions. Frequent questioning on the students' levels allows Teacher A to check for understanding.	"Problem of the Day" PARCC type questions Everyday practice
5a. Standardized-testing helps with leveling for regular education students but for partially proficient students, Teacher A is unclear of how to use the data although mentions the emphasis of the school on testing.	
Any additional comments:	

Appendix L: Team Planning Observation Notes

Team planning template 6-1

TEAM MEMBERS: [redacted]

DATA ANALYZED

Student achievement data:

lower struggling students will be sent to a mandatory study group

ESL progress with student: waived, possible score to test out, what does the program look like

Good quality work but absent regularly without excuse

Project grade: dispute with parent and student regarding missing work

Process data:

Demographics data:

number of band students

background of students: siblings, specific absences, home life (divorce)

Perception data:

Behaviors in classroom: defiance, sadness, anxiety

MAJOR FINDINGS FROM DATA

Based on the number of students in band, a study group will be constructed since a field trip will interfere with tests

Student discussions ended in no plan, call home, or teacher awareness for responding to behaviors

GOALS

Team's goals for students:

Specific students were discussed based on classroom behaviors

Team's goals for teachers:

Decide on plan to consistently respond to inappropriate behaviors

Call home for certain students to address concerns with parents

OTHER:

Procedural information regarding scheduling, announcements, and conflicts (8 min)

Team leader has a goal but miscellaneous conversations regarding behavioral instances and personal perspectives

Discussion of meeting schedule – seems like not all participants in student plan are at meeting (case manager), not all provided with same information

Based on time constraints, teachers had to leave meeting

Team planning template 7-1

TEAM MEMBERS: [redacted]

DATA ANALYZED

Student achievement data:

Absences affecting test, need to make up in guidance office

Placement of students: concerns of parents and students

Speech issues: student refuses to speak correctly using 'th' sound

Process data:

Demographics data:

Lateness concerns, new home life events (siblings)

Perception data:

Behaviors in classroom: defiance, distractions, inappropriate drawings, concerning social interactions

MAJOR FINDINGS FROM DATA

GOALS

Team's goals for students: none

Team's goals for teachers: make parent phone calls when necessary

OTHER

Procedural concerns and announcements: supply lists (11 min)

Meetings/schedules affected all participants to be present

Teacher concerns with waiving students into higher levels

Team planning template 8-1

TEAM MEMBERS: [redacted]

DATA ANALYZED

Student achievement data:

review list of awards (both academic and character)

portfolios for Special Education students (show progress, some students will be declassified)

plagiarism with two students – failing grades, behavior consequences/procedures

Process data:

Demographics data: absences**,** home life events (siblings, busy parent work schedules)

Perception data: behavioral and social concerns (anxiety)

MAJOR FINDINGS FROM DATA

GOALS

Team's goals for students: complete portfolios

Team's goals for teachers: discuss modifications for exams to match student abilities; depending on situation provide modified homework for needy students

OTHER

Procedural concerns and announcements: calendar, scheduling, school rules, supply list (13 min)

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Curriculum Vitae

Anne Marie Gwizdak

Education:

Ed.D Curriculum, Instruction, and Assessment 2011-2015

Walden University, Minneapolis, MN

Dissertation Topic: Data Informing Instruction

GPA *4.0*

Masters in Literacy 2007-2008

St. Thomas Aquinas College, Sparkill, NY

Bachelor of Science, Elementary Education and Special Education 2003-2007

Concentration in Mathematics

St. Thomas Aquinas College, Sparkill, NY

Professional Experience:

Special Education and Mathematics Teacher 2008-Present

[redacted]

- Participant in K-12 / Critical Thinking Committee, 2009-2011

- Member of Educational Advisory Committee, 2008-2014

Other Experience:

Participant in K-12 / Critical Thinking Committee 2009-2011

Work with colleagues from various grade and content areas to develop a rubric for K-12 student preparation based on 21st century standards

Member of Educational Advisory Committee 2008-2014

Collaboration with building principal to discuss developing new curriculum initiatives at the school and supporting implementation and evaluation

Community Service:

Facilitator of Young Adult Programs 2010-2014

[redacted] NY

Originator of Christian young adult programs, Facilitated

with organization and management a monthly events

Certifications:

New York State

Elementary Education

Special Education (1-6)

New Jersey

Elementary Education

Special Education (K-12)

Middle School Mathematics and Language Arts

Professional Affiliations:

Member, [redacted] Education Association

Member, New Jersey Education Association

Member, [redacted] County Education Association

Member, Learning Forward