

University of Nebraska at Omaha DigitalCommons@UNO

Student Work

3-1-2017

The Delivery of Professional Developemnt in the Middle School: **Exploring Optimal Settings, Times, and Participants**

Carrie A. Mohr University of Nebraska at Omaha

Follow this and additional works at: https://digitalcommons.unomaha.edu/studentwork



Part of the Education Commons

Please take our feedback survey at: https://unomaha.az1.gualtrics.com/jfe/form/ SV_8cchtFmpDyGfBLE

Recommended Citation

Mohr, Carrie A., "The Delivery of Professional Developemnt in the Middle School: Exploring Optimal Settings, Times, and Participants" (2017). Student Work. 3653. https://digitalcommons.unomaha.edu/studentwork/3653

This Dissertation is brought to you for free and open access by DigitalCommons@UNO. It has been accepted for inclusion in Student Work by an authorized administrator of DigitalCommons@UNO. For more information, please contact unodigitalcommons@unomaha.edu.



THE DELIVERY OF PROFESSIONAL DEVELOPEMNT IN THE MIDDLE SCHOOL: EXPLORING OPTIMAL SETTINGS, TIMES, AND PARTICIPANTS

By

Carrie A. Mohr

A DISSERTATION

Presented to the Faculty of
the Graduate College of the University of Nebraska at Omaha
in Partial Fulfillment of Requirements
For the Degree of Doctor of Education

Major: Educational Leadership
Under the Supervision of
Dr. Jill F. Russell, Chair
Omaha, NE
March, 2017

Supervisory Committee
Kay. A. Keiser, Ed.D.

Janice M. Garnett, Ed.D.

Bridget A. Franks, Ph.D

ProQuest Number: 10263651

All rights reserved

INFORMATION TO ALL USERS

The quality of this reproduction is dependent upon the quality of the copy submitted.

In the unlikely event that the author did not send a complete manuscript and there are missing pages, these will be noted. Also, if material had to be removed, a note will indicate the deletion.



ProQuest 10263651

Published by ProQuest LLC (2017). Copyright of the Dissertation is held by the Author.

All rights reserved.

This work is protected against unauthorized copying under Title 17, United States Code Microform Edition © ProQuest LLC.

ProQuest LLC. 789 East Eisenhower Parkway P.O. Box 1346 Ann Arbor, MI 48106 – 1346 DELIVERY OF PROFESSIONAL DEVELOPMENT IN THE MIDDLE SCHOOL:

EXPLORING OPTIMAL SETTINGS, TIMES, AND PARTICIPANTS

Carrie A. Mohr, Ed.D.

University of Nebraska at Omaha, 2017

Advisor: Dr. Jill F. Russell

The purpose of this study was to describe and understand the experiences of teachers and instructional leaders related to the delivery of professional development at the middle school level. This qualitative study examines four professional development experiences and provides a summary of emerging themes related to those experiences for both teachers and instructional leaders at the middle level in order to describe the phenomenon of professional learning at the middle level. Utilizing four schools in the Omaha Public Schools, a focus group of teachers and an instructional leader comprise the sample from each school. Professional development delivery models are separated by interdisciplinary teaming, a tenet of middle school reform, and other delivery models. Themes which emerged as being important to the professional development experience are reported by both delivery model and overall. Emerging themes for the teaming model include the amount of time for receiving professional development, hands-on/interactive activities, small groups, peer observations, instructional coaching, and relevance of topic. Emerging themes for other delivery models include time for implementation of strategies, application to content, peer observations, instructional coaching, and relevancy to content. Prevailing themes overall include time to receive and implement professional

development, application to content, use of hands-on activities, peer observations, instructional coaching, and relevance of topic.

```
Acknowledgements
List of Figures
                    iii
                           1
Chapter 1 Introduction
      Background/Context 2
      Theoretical Framework
                                  6
      Purpose of Study
      Problem Statement
                           8
      Research Questions
      Definition of Terms
                           12
      Assumptions 13
      Limitations
      Delimitations 14
      Significance of the Study
                                  15
      Outline of the Study 16
Chapter 2 Review of Literature
                                  17
      Introduction 17
      Professional Development
                                  20
      The Evolution of Middle School and Middle School Reform
                                                                     29
      Traditional or Departmental Organization
                                                36
      Conclusion
                    37
                           38
Chapter 3 Methodology
      Brief Overview
                           38
      Research Design
                           38
      Research Questions
                           42
                    45
      Subjects
      Description/Background of Schools 46
      Data Collection
                           47
```

Table of Contents

```
Data Analysis 55
      Summary
                    62
Chapter 4 Results 63
      Description of Professional Development, Setting, and Participants
                                                                            63
                           65
      Data Analysis
              Descriptive Analysis 66
              Thematic Analysis
                                   77
              Keyword Analysis
                                   81
              Data Analysis of Field Notes
                                                 86
              Analysis of Coaching Dashboard Data
                                                        92
      Overall Summary of Findings
                                          96
      Summary
                     106
Chapter 5 Conclusions and Discussion 107
      Introduction 107
      Conclusions by Research Question 107
      Discussion of Characteristics That May Have Affected Results
                                                                     115
      Findings Related to Review of Literature
                                                 116
      Emerging Ideas
                            119
      Implications for Practice
                                   122
      Synthesis Across Organizing Structures
                                                 126
      Summary
                     127
              129
References
```

49

Instruments

Acknowledgements

I would like to thank the four schools in the Omaha Public Schools, specifically their principals, instructional leaders, and focus group participants who not only gave me their time, but truly shared their genuine thoughts regarding professional development so this study could be made possible. It is certainly a situation in which one is made vulnerable, but I hope they know how valuable their responses are.

I would also like to thank my principal, Mr. Darren Rasmussen. He is a mentor, leader, partner, and friend. Thank you for supporting me in this experience and demonstrating for me the type of leader I want to be.

I am grateful to other mentors I have had throughout my leadership experience, Mrs.

Rachelle Walker, Dr. Jeanie Talbott, Mr. Kyle Rohrig, Dr. Deborah Frison, and Dr.

ReNae Kehrberg. You have each shaped my leadership skills and philosophy and I hope
I can continue to emulate your greatness in my career.

I was fortunate to have phenomenal instructors while at the University of Nebraska at Omaha including Dr. Richard Christie, Dr. Karen Hayes, and Dr. Peter Smith. Dr. Keiser has been foundational in getting me through the dissertation process as well.

My dissertation chair, Dr. Jill Russell, led me through this experience in such a way that I always felt prepared and supported. She thoroughly read each draft I sent to her and gave me feedback. She genuinely valued the knowledge and understanding I gained through this process, and shared in my excitement as I reached each milestone throughout.

I have an incredible circle of friends that has motivated me through this experience.

Carla Schroder, a fellow educator, kept things light when they needed to be. Lise

Wagner, another fellow educator and my first friend when I moved to Omaha, constantly praised me and shared in my excitement. Dr. Tyree Sejkora paved the way for me to go through this process and set the bar high, all the while encouraging me and keeping me accountable along the way.

Morgan Carr, my boyfriend and best friend, and truly one of the most joyful people I have ever encountered. Thank you giving me time to work, caring about what I am doing, loving me, and celebrating my success with me.

Finally, to my parents, Ann and Jerry Mohr. They have loved me and supported me unconditionally my entire life. They worked hard and not only taught me the value of education, but also of being an educator. They sacrificed so that I could have opportunities that would grow me as a person, and I hope that I have made them proud.

List of Figures

Figure 1: This We Believe: Keys to Educating Young Adolescents; 16 Characteristics
and Essential Attributes 35
Figure 2: Conceptual Framework 41
Figure 3: Data Collection and Instruments 49
Figure 4: Data Collection and Analysis; Strengths and Weaknesses 58
Figure 5: Research Questions and Data Source, Collection, and Analysis 59
Figure 6: Description of Professional Development, Setting, and Participants by School
65
Figure 7: Major Themes for Focus Groups 78
Figure 8: Minor Themes for Focus Groups 78
Figure 9: Repeated Themes Overall for Focus Groups 79
Figure 10: Repeated Themes by Delivery Model for Focus Groups 79
Figure 11: Major Themes for Instructional Leaders 79
Figure 12: Minor Themes for Instructional Leaders 79
Figure 13: Repeated Themes Overall for Instructional Leaders 80
Figure 14: Repeated Themes by Delivery Model for Instructional Leaders 80
Figure 15: Description of Field Note Coding 89
Figure 16: Field Note Coding School A 89
Figure 17: Field Note Coding School B 90
Figure 18: Field Note Coding School C 90
Figure 19: Field Note Coding School D 90

Figure 20: Coaching Dashboard Data

94

Chapter 1 Introduction

The following questions can be heard routinely from the classrooms of any secondary educational institution, "Why do we have to do this? When am I ever going to use this?" Teachers spend countless minutes justifying the importance of their instruction to their students daily to the point of exhaustion. They often get creative in their explanation with the hopes of snagging just a few more minutes of classroom engagement from their students. The cruel irony is that teachers then find themselves in an all too familiar situation when they partake in their own professional learning. "When am I ever going to use this? How could I implement this in my classroom? Why are we doing this?" Learning is at the heart of all these questions, whether it's teacher learning or student learning. However, beyond the question of "why" we learn, we must also ask "how" we learn. Student learning has evolved significantly since the first educational institutions broke ground and as any educator can attest to, continues to evolve daily. As a result, the ways in which teachers learn has also evolved. How do teachers learn best? What structures can be put into place in order to ensure teachers learn via the best methods and in the best settings possible?

This study focused heavily on the evolution of two key components: The middle school, as an organizational structure, and professional development, as a formalized program with the school district. The middle school, as will be described in the review of literature, arose out of a need to address the emotional needs of young adolescents in a different educational setting than the elementary school or high school. It was determined that young adolescents not only needed a different physical environment, but

also different structures and programs to fully address the educational and emotional challenges faced by that age group. Professional development, often referred to as teacher learning, has evolved similarly with an understanding that in order for teachers to implement new strategies in their classrooms to impact student achievement, their learning needs must be met as well. Through the evolution of these components, we gain an understanding of how both young adolescents and teachers learn and can apply this knowledge to improving instruction so students ultimately reap the benefits and demonstrate success. These two components mentioned, middle schools and teacher learning, have been the targets of significant reform, even in the last five years. However, the depth of research following the implementation of the most recent reforms has been somewhat shallow, and this study hopes to add to the body of research. The purpose of this study is to describe and understand the experiences of teachers and instructional leaders related to delivery of professional development at the middle school level utilizing one of the tenets of middle school reform, and subsequent implementation of the professional development in the classroom.

Background/Context

This study took place in the Omaha Public Schools, an urban school district of over 51,000 students in Omaha, Nebraska. In 2010 the Omaha Public Schools unveiled and implemented the District Action Plan to Raise Student Achievement. The plan contained three components dedicated to increasing student achievement in the

classroom. The first component was to use the Omaha Public Schools Instructional Framework which included the Gradual Release of Instruction model, literacy strategies across all content areas, and consistent procedures and routines to ensure effective classroom management. The use of numeracy strategies across all content areas would be added two years later. The second component to the Action Plan was the use of Acuity, a predictive and diagnostic assessment tool that breaks down students' skills piece by piece and provides teachers information on the students' skills to guide reteaching for mastery of the concept. The third component was instructional coaching. The implementation of instructional coaching enabled school leadership to visit a minimum of two classrooms a day to provide positive feedback and reinforcement of good practices to teachers (Omaha Public Schools Academic Action Plan, 2010).

The components previously described were not only new to teachers, but new to instructional leaders. Thus, a system of training and staff development had to be established in order to ensure the information and strategies were presented to both school leadership and teachers. The Elementary and Secondary Instructional Leadership Networks (EILN and SILN) were established within OPS to provide monthly meetings in which staff from the department of Curriculum, Instruction, and Support presented new information to school leadership via turn-key presentations, and school leadership returned to their buildings and presented the same information to their staff.

Additionally, all buildings began to follow a four-week professional development cycle. During the first week staff would receive the professional development and implement in their classroom. The second and third weeks were intended for instructional coaching and lesson plan review by building leadership, as well as peer observations in colleagues'

classrooms. Finally, the fourth week provided time for teachers to collaborate and review student work in order to ensure alignment and calibration (Omaha Public Schools Yearlong Professional Development Plan, 2010). Embedded in these weeks also was a professional development survey, in which all staff responded to a district survey regarding recent professional development.

As the new District Action Plan continued to roll out, this four-week pattern was followed by the district for several years. Now six years into the implementation of the District Action Plan, professional development schedules leave significant room for building choice, as each school has the opportunity to decide which component of the Action Plan its staff needs as a refresher, and to provide appropriate professional development accordingly. The staff from the department of Curriculum, Instruction, and Support still provide 1-2 turn-key presentations each year on topics such as standards-based grading, literacy and numeracy strategies, and the gradual release of instruction. Turn-key presentations are delivered by the department of Curriculum, Instruction, and Support to all instructional leaders, who then deliver the same professional development to their staff. The remaining months of professional development are decided upon by building leadership teams as building choice months.

The implementation of such an in-depth and dense plan in an urban district the size of the Omaha Public Schools certainly leaves some room for interpretation. The simple challenge of finding the right time and setting to conduct professional development is one important issue, and the first item of consideration in this study. The contractual agreements for meeting times in OPS differ at the elementary and secondary levels. While all staff participate in two hours of faculty meetings per month, elementary

schools have additional grade level meeting time in which to conduct professional development, and middle schools have 45 minutes of daily team time in which to conduct professional development in addition to the two hours (Master Agreement, 2016). The high school contract was adjusted this year to include time during teacher plan periods for additional professional development. Previously at the high school level, all professional development had to be conducted after school and could only be conducted during the school day after a majority vote by teachers. Therefore, time set aside for teacher learning at one building may look drastically different than time for teacher learning at another across the district.

The other component in this study, the participants in the professional development, has also evolved in the Omaha Public Schools through the implementation of interdisciplinary teaming. Based on the foundational practices from the Association for Middle Level Education (AMLE), an essential characteristic of effective middle level education includes "Organizational structures foster that purposeful learning and meaningful relationships" (p. 31). AMLE goes on to describe the implementation of interdisciplinary teaming as a "signature component of high performing schools" (p. 31). Following the recommendations of AMLE and current research, OPS has moved to have as many of its 12 middle schools as possible adopt the teaming structure. Several schools already had teaming in place prior to the implementation of the Action Plan, and currently nearly all of the OPS middle schools utilize some variation of teaming. However, while nearly all schools incorporate teaming, not all schools necessarily choose to disseminate their professional development through teams. Some may still choose to present at whole faculty workshops, or through department meetings separately. These

three components, time, setting, and participants, are married in this study to paint a clear picture of how middle schools provide for teacher learning in their buildings. The hope is that the results of this study may inform a recommendation of setting, time, and participants for professional development based on data from teachers and school leaders at various middle schools in OPS.

Theoretical Framework

This study was qualitative in nature in that it contained several key characteristics of qualitative studies according to John W. Creswell's text, "Research Design" (2014). It was designed to collect data in the natural setting of the subjects and utilized multiple sources of data. While focus groups and interviews were the primary data collection method, this study also used descriptive numerical data regarding the implementation of specific strategies following their presentation in professional development, as well as field notes to capture the professional development experiences. Next, I, the researcher, served as the key instrument in collecting the data. I conducted the focus groups and interviews and collected the majority of the data. Additionally, the research design was emergent, in that it possessed the potential for change or a shift in the process of conducting the research. This study also contained a component of reflexivity, in which I reflected on my own experiences and role in the study in order to understand how they may have influenced my interpretation of the data. Finally, and of the utmost

importance, is that the focus of this research was on the meaning of the phenomenon for the participant.

This study was phenomenological in nature as it so keenly focused on the subjective experiences of the individual in relation to the delivery of teacher learning. Phenomenology relies on interviews or any other source of data that will help the reader understand the experiences of the subjects related to the phenomena. According to Sharan B. Merriam (1998), "The defining characteristic of phenomenological research is its focus on describing the essence of a phenomenon from the perspectives of those who have experienced it (p. 93). Additionally, it was crucial for me to reflect on and explore my own experiences in this field prior to completing this study in order to identify any prejudices or challenges in viewpoint that may arise in the interpretation and analysis of data.

Purpose of Study

The purpose of this study was to describe and understand the experiences of teachers and instructional leaders related to delivery of professional development at the middle school level and subsequent implementation in the classroom using a phenomenological design, and resulting in a description of emerging themes and patterns regarding these experiences and perceptions. In addition to describing the experiences of teachers as they participate in teacher learning, the experiences of teacher leaders were also described in order to provide a more holistic picture of the phenomenon. At this

stage in the research the central concept being studied is the impact of alternative professional development models of delivery at the middle level. Middle school level is defined as a school with a gradespan configuration of 5-8 or 6-8, while a junior high school is defined as a school with a gradespan of 7-8. Although some schools utilized for this study are 7-8 schools, all are referred to as middle schools by the Omaha Public Schools, and therefore middle schools for the purpose of this study. Professional development is defined as job-embedded teacher learning which occurs at the building level.

Problem Statement

The world of education is constantly evolving because it deals with people, and people are also constantly evolving. The way our students learn is always evolving as well and so educators must be constantly on the cusp of the most effective instructional strategies to meet the needs of our students. Just as educators adjust their teaching to meet the needs of their students, it is important that school leaders also have an understanding of how teachers learn best in order to assure the highest level of implementation in the classroom. Something as simple as the structure of a teacher learning opportunity may make or break the teacher's ability and motivation to implement the strategies effectively in the classroom. While there is significant amount of literature in the realm of teacher learning, much of the data is presented in quantitative terms, seldom providing educators the opportunity to use their words to express their perceptions and feelings. In order to have a real understanding of how teachers learn

best, we must listen to their voice. This study is intended to provide voice to the teachers in capturing their experiences in professional development in order to suggest a framework for future professional development delivery and a model for school leaders.

Research Questions

The research questions for this study relate to two groups of people and their experiences in professional development, one group who will have experienced professional development through other delivery models, and the second group who will have experienced it through interdisciplinary teams. The questionnaire will be given to both teachers and school leaders, and the majority of the questions are similar for the two groups.

- How do teacher participants and instructional leaders experience varied methods of professional development delivery at the middle school level?
 - How do teacher participants experience delivery of professional development through interdisciplinary teams at the middle school level?
 - What are the strengths and weaknesses of delivery of professional development through interdisciplinary teams at the middle school level?
 - What are the teachers' perceptions of the impact on their own abilities when professional development is delivered through interdisciplinary teams at the middle school level?

- What are the perceptions of impact on student achievement when professional development is delivered through interdisciplinary teams at the middle school level?
- What are the unintended consequences of delivery of professional development through interdisciplinary teams at the middle school level?
- How do teacher participants experience delivery of professional development through other delivery models at the middle school level?
 - What are the strengths and weaknesses of delivery of professional development through other delivery models at the middle school level?
 - What are the perceptions of impact on teacher abilities when professional development is delivered through other delivery models at the middle school level?
 - What are the perceptions of impact on student achievement when professional development is delivered through other delivery models at the middle school level?
 - What are the unintended consequences of delivery of professional development through other delivery models at the middle school level?
- How do instructional leaders and school administrators experience the delivery of professional development at the middle school level through interdisciplinary teams and other delivery models?

- How do instructional leaders and school administrators experience delivery of professional development through interdisciplinary teams at the middle school level?
 - What are the strengths and weaknesses of delivery of professional development through interdisciplinary teams at the middle school level?
 - What are the perceptions of impact on teacher abilities when professional development is delivered through interdisciplinary teams at the middle school level?
 - What are the perceptions of impact on student achievement when professional development is delivered through interdisciplinary teams at the middle school level?
 - What are the unintended consequences of delivery of professional development through interdisciplinary teams at the middle school level?
- O How do instructional leaders and school administrators experience delivery of professional development through other delivery models at the middle school level?
 - What are the strengths and weaknesses of delivery of professional development through other delivery models at the middle school level?

- What are the perceptions of impact on teacher abilities when professional development is delivered through other delivery models at the middle school level?
- What are the perceptions of impact on student achievement when professional development is delivered through other delivery models at the middle school level?
- What are the unintended consequences of delivery of professional development through other delivery models at the middle school level?

Definition of Terms

There are six key terms inherent within this study.

- Interdisciplinary Teaming: Two or more teachers working with a common group of students in a block of time (AMLE, 2010, p. 31). The defining characteristic of teaming is the idea of teachers regularly working together during a scheduled block of time with a group of students to create a smaller learning community within a larger school environment.
- Departmental Structure: Teachers in a building are organized according to their curriculum areas, such as science, math, social studies, etc.
- Junior High School: Typically encompasses grades 7-8, though occasionally may include grade 9 (Iver & Epstein, 1993).

- Middle School: Typically encompasses grades 5-8 or 6-8 in gradespan configuration; used to describe schools in this study (Iver & Epstein, 1993).
- Professional or Staff Development: Training provided for teachers in order for them to increase knowledge and instruction in ways that translate to enhanced student achievement (Desimone, 2011, p. 68). This training can occur at various times across an educator's entire career.
- Teacher Learning: Synonymous with professional or staff development, but a
 much more time-period friendly term as a result of the evolution of the concept.
 Teacher learning can also occur at various times in an educator's career.

Assumptions

It is assumed in this study that as all students have varied learning needs, so do teachers. It is also assumed that teachers want to learn the most effective strategies for providing quality instruction that meets the needs of their students. It is assumed that school leaders, in an effort to see students in their schools succeed, also have a desire to meet the learning needs of their teachers. Finally, it is assumed that when school leaders meet the professional learning needs of their teachers, higher and more successful classroom implementation will occur.

Limitations

There are several limitations which may potentially weaken the study. First, participation in the four focus groups was done purposefully, but still voluntarily. Thus, the teachers who participated in the focus groups may not be representative of the overall population of middle school teachers in the Omaha Public Schools. Additionally, teachers from the focus groups received professional development on different topics, each of a different duration in time, as each building has their choice in their professional development themes and duration for that professional development. Every effort was made to select focus groups who would be receiving professional development on similar topics. This may also limit the validity of the results as certain topics may be more highly engaging than others. In addition, the presenter of the professional development in each school will not be consistent, providing another limitation. Presenters at the selected schools could be presenting on the same topic but one could be more engaging than the other, which could also limit the validity of the results. Finally, while all the schools utilized for the focus groups are middle schools, they represent different gradespan configurations, which may have an impact on their responses to the focus group questions.

Delimitations

This study was delimited to middle school teachers and middle school leadership from four middle schools in the Omaha Public Schools (OPS). They are named School A, School B, School C, and School D for the purpose of this study. School A currently

utilizes a 7-8 gradespan configuration, while two of the other schools utilize a 6-8 configuration (B and C), and School D uses a 5-8 configuration. The four schools, while all middle schools in OPS, vary in size and student population and will be described more in Chapter three. The study is delimited to certificated teachers and instructional leaders. The study was conducted in the fall of 2016 after the majority of teachers have received professional development on various topics.

Significance of the Study

This study was needed to explore which presentation method appears to be the most preferred by teacher and instructional leader participants at the middle level, and teacher perceptions with respect to student achievement and level of comfort and implementation in the classroom. This study has significant implications for teachers and school leaders. In regard to teachers, this study provided them the opportunity to share their voice as to how they learn best as educators so they can meet the needs of their students. In providing teachers that voice, teachers felt what they have to say is valued in their profession. This study also has significant impact for school leaders who are constantly searching for the most effective methods to meet the professional development needs of their teachers. Finally, this study relies heavily on previous research and literature from national organizations such as the Association for Middle Level Education (AMLE) and Learning Forward (formerly the National Staff Development Council).

interdisciplinary teaming and teacher learning, and its results may contribute to the body of research for these organizations.

Outline of the Study

The following chapter will provide a review of related literature to enable a better understanding of the background and topics pertinent to this study. Chapter Three will provide a detailed description of the methodology of the study, including the various pieces of data that will be analyzed and described. Chapter Four will provide the results and synthesis of the data collection, and Chapter Five will include conclusions and a discussion of the results, as well as implications for practice.

Chapter 2 Review of Literature

Introduction

Prior to describing the experiences of middle school teachers as they participate in varied methods of professional development delivery, it is important to clarify key concepts that manifest themselves in the review of literature, and then examine and review related research.

Interdisciplinary teaming is at the heart of middle school reform, which is a key concept described in the evolution of the middle school. The Association for Middle Level Education (AMLE) specifically describes interdisciplinary teaming in its 2010 report entitled, "This We Believe: Keys to Educating Young Adolescents." The report describes interdisciplinary teaming as two or more teachers working with a common group of students in a block of time (p. 31). While some components of the team structure may vary, such as number and certification of teachers and number of students, the defining characteristic of teaming is the idea of teachers regularly working together during a scheduled block of time with a group of students to create a smaller learning community within a larger school environment.

Next, the counterpart to the interdisciplinary teaming model at the middle school level, and it is not necessarily the absence of teaming, but rather, structure by department. The implementation of this structure means that teachers are organized according to their curriculum areas, such as science, math, social studies, etc. Students have the potential of having several different teachers for their various subject areas, as well as different student populations in all classes. For example, a school of 300 students with a teaming

structure could have two groups of 6 teachers for 150 students. Those 150 students would have the same 6 teachers for their classes at different times but would have the majority of their classes with their same 150 peers. A school of the same size without teaming would have those 300 students with the potential of having any combination of the 12 teachers with different peers in each class. Most schools that incorporate the organizational structure by department lack the features included in interdisciplinary teaming such as common plan time, and a smaller group of students for whom they are responsible.

The next terms to be described related to this study are linked. There is often much confusion between the terms junior high school and middle school. While their evolution will be described later in the review of literature, it is important to differentiate the two. The earliest model of schooling in America incorporated an 8-4 model, that is, K-8 and 9-12, or eight grade levels in one building and four in another (Alexander, 1987, p. 314). The junior high school, encompassing grades 7-8, was later proposed to provide an intermediate step between the two (Lounsbury, 1989, p. 92). The junior high gradespan can also include grade 9, thus containing students in grades 7-9 (Iver & Epstein, 1993). The middle school, on the other hand, typically refers to grades 5-8 or 6-8 in terms of gradespan configuration (Iver & Epstein, 1993).

The final terms to be defined are also related and perhaps synonymous. Professional development is often used synonymously with staff development to refer to training provided for teachers in order for them to increase knowledge and instruction in ways that translate to enhanced student achievement (Desimone, 2011, p. 68).

The final term, teacher learning, is used much like professional development and staff development, but is the term much more commonly used in the present day, teacher learning reflects the concept that professional development for teachers has evolved to focus on understanding how teachers learn best in order to apply what they have learned in their classrooms to impact their students. Therefore, professional development and staff development will be used to describe the earlier stages of teacher learning. The spectrum of teacher learning throughout an educator's career will be further described in the review of literature.

Encompassing the six concepts, this review of literature addresses two main categories: Professional Development, and The Evolution of the Middle School, incorporating both interdisciplinary teaming and departmental organized structures. Because this study seeks to describe the experiences of teachers in receiving professional development, it is vital to first describe and examine the evolution of professional development, as well as review current trends and best practices in that area. Second, as this study is focused on middle level teachers, primarily teachers of grades 6, 7, and 8, it is also imperative the reader have an understanding of the development of the middle school, as well as trends in reform and current best practices in early adolescent education, in particular, the practice of interdisciplinary teaming. Finally, as this study explores the idea that the use of the teaming in delivery of professional development leads to enhanced implementation of professional development in the middle or junior high school, it is also important to describe delivery of professional development in a building structure which does not include teaming in its purest form, which would be a more traditional structure or organization by department.

Professional Development

Though it can be phrased countless different ways, the mission of every school, and education in general, is for students to learn. Whether this involves learning academically or learning socially, schools are charged with providing a well-rounded educational experience for students from early childhood to their transition to adulthood and beyond. However, this growth and development of students cannot occur without the growth and development of the staff charged with this mission. The term professional development, sometimes called teacher learning, encompasses this concept. As the learning styles and characteristics of students are constantly evolving, there is a need for instructional pedagogy to evolve as well. The field of education is all too well-known for releasing a new strategy or technique guaranteed to lead to student achievement on a frequent basis. How do teachers stay abreast of current best practices in educational research? Not only that, but how do teachers themselves receive training on the best practices and implement them in their classrooms so they can ultimately accomplish the mission of schools, which is to provide students with learning experiences?

Teacher learning can occur in a variety of phases. First, teacher learning can occur within the pre-service phase, that is, during educational training at the college or university level. In addition to coursework, this can include observations, practicum, and student teaching experiences. Next, professional development can occur at the job level, or as defined in this study, job-embedded professional development. This job-embedded professional development can differ based on number of years of service. That is, new teachers most likely receive more opportunities for professional development than veteran teachers. This job-embedded professional development typically occurs at the

building or district level, but may also involve attending external conferences or workshops. Finally, professional development for active teachers can occur on a more formal level, or by means of pursuing an advanced or graduate degree in the field of education, a National Board Certification, or attendance at a professional conference. Additionally, the newly adopted Every Student Succeeds Act (ESSA) widens the definition of professional development as well. ESSA defines professional development includes personalized, ongoing, job-embedded activities that are available to all school staff including paraprofessionals, and emphasizes that professional development should be part of broader school improvement plans, collaborative and data driven, and developed with educator input, and regularly evaluated (2015).

The review of literature in relation to the evolution of teacher learning can be separated by its most critical element in reform, the social context for learning. Previous teacher professional learning often occurred in fragmented isolation, with little follow-through, accountability, and collaboration with colleagues. Teachers typically participated in professional development in which they sat passively while they received information from an expert (Dickinson, McBride, Lamb-Milligan, 2003). The current state of teacher professional development provides a much different context for teacher learning. Teachers move from a passive role in their own learning to an active role by not only participating in the professional development activities, but collaborating with their colleagues on the implementation and follow-through.

The Carnegie Foundation for the Advancement of Teaching composed a letter to the President of the United States in 2008 citing teacher learning as the critical key to educational reform and providing several recommendations for improvement. The letter

detailed the state of teacher learning at that time as being fragmented, irrelevant, and not applicable to daily classroom life. The letter contained strong recommendations that teacher professional development should be "refocused on the building of learning communities" (p. 227). The critical element of creating a social context for learning was emphasized in that teacher professional learning should never occur in isolation, but rather with support, accountability, and instruction from and with their peers. The letter also emphasized several key features to ensuring effective teacher professional learning. It states, "We believe that districts and states can support professional learning communities by providing teachers with continuous blocks of time devoted to a variety of ways for teachers to teach teachers the strategies that have been successful with their own students, using technology to illustrate good teaching, and building networks of teacher communities where teacher leaders can provide such professional development with their colleagues" (p. 227). Thus, the evaluation of teacher professional learning has moved from isolation to socialization, from passive to active, from individual to communitybased learning.

There are a multitude of studies that describe critical characteristics and components to effective professional development, those that have become trends in the last 20 years. Three large and rather significant studies stand out in regard to professional development. One of the largest and most comprehensive studies conducted in the area of professional development was launched in 2008 by the National Staff Development Council, now called Learning Forward. The organization conducted a multi-year research initiative which describes the state of teacher learning in the United States. Each state was analyzed according to certain criteria related to professional development via

the federal government's Schools and Staffing Survey (SASS). A stratified probability sample design was used to gain data for reliable estimates from schools, principals, teachers, districts, and school library media centers. The survey was given to 56,580 public, private, and Bureau of Indian Education (BIE) teachers at the elementary and secondary levels from all sectors and from varying sizes of schools. With a 70% response rate, an average of 3-8 teachers completed the survey from each school in the sample (http://nces.ed.gov/surveys/sass/index.asp). Teachers were first surveyed on their participation in professional development. They first reported on the number of hours of participation in professional development in certain topics over a twelve-month period. The topics included: specific content, uses of computers for instruction, reading instruction, student discipline and classroom management, teaching students with disabilities, and teaching English Language Learners. Teachers then reported on the intensity of participation in four main topic areas including the content of the subjects they teach, uses of computers for instruction, reading instruction, and student discipline and classroom management. Teachers also were surveyed on their participation in induction programs provided for those new to the profession. Each state then received an overall score out of eleven indicators. The eleven indicators were separated into two main categories: Induction indictors, and professional development indicators. The three induction indicators from the overall list of eleven included: at least 80% of new teachers participating in induction, at least 80% of new teachers working with a teacher mentor, and at least 51% of new teachers reporting 4 out of 5 induction supports. The professional development indicators were at least 80% of teachers reporting receiving professional development on their content, at least 51% of teachers with 17 or more hours of professional development on their content, at least 67% of teachers reporting professional development on uses of computers, at least 67% of teachers reporting professional development on reading instruction, at least 67% of teachers reporting professional development on student discipline/classroom management, at least 51% of teachers reporting professional development on teaching students with disabilities, at least 51% of teachers reporting professional development on English Language Learners, and at least 50 average cumulative hours of professional development on the six topics. The results of the study revealed key trends in the last decade of teacher learning.

The study first concludes that, "Effective professional development is ongoing, intensive, and connected to practices and school initiatives; focuses on the teaching and learning of specific academic content; and builds strong working relationships among teachers" (p. 1). The research also concluded that the United States is far behind other countries in providing teachers with opportunities to participate in extended learning opportunities and productive collaborative communities. Learning Forward found that the range in cumulative hours of professional development has decreased from a modest duration of 9-16 hours to 8 hours or shorter in length. Teachers in high-achieving nations are provided with five times this amount. The study also states that teachers reported an average of 2.7 hours per week for collaboration and that the cooperative effort occurring between and among staff members at their school has decreased. Learning Forward reported an increase in participation in the specific criteria areas indicated previously, including teachers' specific content areas, use of computers, reading instruction, student discipline and classroom management, teaching students with disabilities, and teaching English Language Learners.

A second and also significant study included a meta-analysis of nine specific research studies addressing the effect of teacher professional development on student achievement. The nine studies were focused on elementary school teachers and their students, and they looked at achievement across a variety of content areas including reading, mathematics, science, and English/Language Arts. The studies, published from 1986-2003, included five randomized controlled trials that meet evidence standards of the What Works Clearinghouse, and four that include one randomized controlled trial with group equivalence problems and three quasi-experimental designs which met the evidence standards with reservations. The summary report by Yoon, Duncan, Lee, Scarloss, and Shapley (2007) entitled, "Reviewing the Evidence on How Teacher Professional Development Affects Student Achievement" also provides some conclusions on effective characteristics of professional development. The report separates the characteristics into four areas: form, contact hours, duration, and intensity. All nine studies included workshops or summer institutes, as well as follow-up sessions to support the main professional development event. All nine studies also included professional development given directly to the teacher, rather than the train-the-trainer approach. The most significant conclusions from the report were in relation to duration, as the analysis of the studies concludes that participation in professional development greater than 14 hours had a positive effect on student achievement, while participation of 5-14 hours resulted in no statistically significant effect on student achievement. Furthermore, the analysis concluded that teachers who receive substantial professional development, an average of 49 hours in the nine studies reviewed, can boost their students' achievement by about 21 percentile points (Yoon et al., 2007).

Finally, in a study entitled, "What Makes Professional Development Effective?" Garet, Porter, Desimone, Birman, and Yoon (2001) describe the results of a survey of over 1,000 math and science teachers who participated in job-embedded professional development, as well as six exploratory case studies and ten in-depth case studies in five states. The authors identify three structural features that occur during a professional development experience: Form, duration, and participation. Form refers to the structure of the professional development whether it be a traditional faculty workshop, or a reform method which may include a study group, task force, or small learning community. Duration refers to both the contact hours of the professional development as well as the time span during which it takes place. Participation refers to the collective participation of groups of teachers from the same school, department, or grade level as opposed to the participation of individuals from various schools. In addition to the three structural features, three core features were also identified: Content focus, active learning, and coherence. Content focus refers to the deepening of teachers' content knowledge on the subject. Active learning refers to the teachers' ability to actively participate or be engaged in their teacher learning. Coherence indicates to what degree teachers were able to continue communication between one another on the topic. Several common themes emerged from this study.

Within the structural features, the study concluded that activities within the reform realm were more effective than traditional workshops or conferences in terms of form of professional development. In the area of duration, the study concluded that activities of longer duration lend themselves to more content area focus, more opportunities for active learning, and more coherence with teachers' other experiences

than do shorter activities. The study also concluded that professional development activities that include collective participation, or teachers from the same department, subject, or grade, are more likely to afford opportunities for active learning and are more likely to be coherent with teachers' other experiences. The analysis of the core features of professional development as concluded by this study indicate that in the area of content, generic professional development is not found to be effective, but rather professional development should emphasize some element of the teachers' content area. The study also concluded that teachers whose professional development includes opportunities for active learning reported increased knowledge and skills as having positive impact on classroom practice. Finally, the coherence of professional development with policies and other professional experiences is directly related to increased teacher learning and improved classroom practices.

Common themes in these studies include that teacher learning must be: connected to practice, intensive, collaborative, ongoing, content-rich, and include some type of follow-through or accountability (Darling-Hammond & Richardson, 2009). The review of literature demonstrates the dissolving of traditional "sit and get" workshops where there is little to no active role taken by the teachers in receiving the professional development. Several studies hinge on the idea of active collaboration, the idea that teachers have the opportunity to become actively engaged in the professional development (Darling-Hammond & Richardson, 2009). The concept of collaboration relates heavily to this study, as a recommendation of middle school reform relies heavily on the implementation of common plan time and the ability of teachers to collaborate with one another on a regular basis. The former National Staff Development Council,

now called Learning Forward, concluded that, "Research shows that when schools are strategic in creating time and productive working relationships within academic departments or across grade levels, across teams, or among teachers school wide, the benefits can include greater consistency in instruction, more willingness to share practices and try new ways of teaching, and more success in solving problems of practice" (p. 44).

The Association for Supervision and Curriculum Development, a national educational leadership organization, suggests three areas of focus for ensuring highquality teacher professional learning in its article, "Teacher Learning: What Matters? (2009)" written by Linda Darling-Hammond and Nikole Richardson. These three areas are content, context, and design. ASCD recommends in the area of content, the focus should be on active teacher learning focused on student-centered outcomes. In the area of context, the focus is on participating in professional development in a collaborative setting, not in isolation. The collaboration leads to a link between the teachers, curriculum, assessment, standards, and professional development. Finally, in the area of design, teacher professional learning should provide teachers the opportunity to learn the way their students do, in an active and participatory manner. Through their professional learning, teachers should be provided new strategies via modeling, given opportunities to observe their colleagues implement the strategies, practice the strategies on their own, receive feedback, and participate in reflection. The cycle involving all components is integral to the current model of teacher professional learning.

The Evolution of the Middle School and Middle School Reform

Before addressing the topic of middle school reform, we must first understand how the middle school came to be. Prior to the twentieth century, the concept of the then junior high school was non-existent. The Americans inherited higher education from Europe, as well as the elementary or grammar school, and the secondary or high school. The junior high school, the middle ground between the elementary and secondary school, is the only part of the American school system which was created in the United States (Van Til, 1970, p. 222). Most schools until that point existed in a K-8 or K-12 structure, yet a movement arose in 1888 suggesting the idea of reorganization in order to better prepare students for college (Lounsbury, 1989, p. 92). Noting differences in philosophy, curriculum, and organization between grades eight and nine, as well as an understanding of differences in psychology, the junior high school, in most cases consisting of grades seven and eight, was proposed as a step between the elementary and high school experience. The first half of the twentieth century saw the growth of the junior high schools, as the movement struggled to define its best practices and critical attributes. The 1960's brought further reform and push for reorganization of the grade levels. It was in this decade the first signs of advisory and teaming concepts surfaced as options for restructuring. The separation between the middle school and the junior high school became more defined, not only by their gradespan configurations, but also by their defining qualities. Middle schools typically included grades 5-8 or 6-8, included interdisciplinary teaming, advisory, and integrated curriculum. Junior high schools, on the other hand, typically contained grades 7-9 or 7-8, and their structure was more accurately defined as a "mini high school" (Clark & Clark, 1993, p. 451).

Further reform and recommendation for reform came in 1989 with the publication of "Turning Points: Preparing American Youth for the 21st Century." Published by the Carnegie Council for Adolescent Development, the report describes the adolescent years as a crucial turning point with potential for great opportunity and also great risk. In order to address these risks within the school realm, the report included eight recommendations for transforming middle grade schools and the middle school experience. The recommendations include:

- Create small communities for learning
- Teach a core academic program
- Ensure academic success for all students by shaping the educational program to fit the needs of students
- Empower teachers and administrators to make decisions about the experiences of middle grade students
- Staff middle grade schools with teachers who are expert at teaching young adolescents
- Improve academic performance through fostering health and fitness
- Reengage families in the education of young adolescents
- Connect schools with communities

In addition to the recommendations, the report described the characteristics with which a middle school student should enter high school as a result of having an effective middle school education. These characteristics included being: a good citizen, a person en route

to a lifetime of meaningful work, a caring and ethical individual, a healthy person, and an intellectually reflective person (Carnegie Council for Adolescent Development, 1989).

A second phase of this report was published in 2000 entitled, "Turning Points 2000: Educating Adolescents in the 21st Century." The report revisits the recommendations from the 1989 publication and includes some minor adjustments to the recommendations while addressing the issues of academic excellence, equity, and global studies (Jackson & Andrews, 2000). Many schools responded to these reports by implementing the recommendations in some form. Several studies have been conducted as a result of the implementation of these recommendations.

"Education in the Middle Grades" shared the results of a national survey completed in 1991 shortly after the release of "Turning Points." The survey included over 1,700 public schools all containing grade 7 in their school gradespan. The survey, analyzed by Douglas J. Iver and Joyce L. Epstein was directed to school principals and analyzed their perceptions on four key reform practices: Interdisciplinary teaming, advisory groups, remedial instruction, and school transition programs. In regard to interdisciplinary teaming, the survey results suggest the implementation of this practice is associated with increases in the overall strength of the middle level program, according to the principals surveyed. The principals also reported that the implementation of common plan time and strong team leaders contribute to the effectiveness of the teaming practice. The survey results indicated that regardless of family and student background, region, and grade organization; principals in schools with well-implemented group advisory programs report that they have stronger overall guidance services and lower expected dropout rates. The impact of remedial instruction was not as positive, as the survey

results indicated that using an extensive remedial program did not appear to contribute to more students being promoted to the next grade level in a statistically significant way. Finally, school transition programs, which included activities such as elementary school visits to the middle schools and vertical alignment among elementary and middle school counselors and administrators, received more positive results. Principals in schools using numerous and diverse articulation activities are more likely to report that their articulation program is meeting student needs, and that the implementation of the program increases the likelihood that students will succeed in their first year in the new school (Iver & Epstein, 1993).

Another study was conducted in 1997 of 97 schools as they restructured according to the recommendations of "Turning Points." The study entitled, "The Impact of School Reform for the Middle Years: Longitudinal Study of a Network Engaged in Turning Points-Based Comprehensive School Transformation (1997) analyzed the schools, all a part of the Illinois Middle Grades Network, that varied in size from 200-2000 students, and also varied in levels of implementation of the recommendations of "Turning Points." The highest levels of implementation of the practices include the structural components, such as interdisciplinary teaming, common plan time, and use of an advisory program. The study made several conclusions on the implementation of the "Turning Points" recommendations. First, the study concluded that adolescents in highly implemented schools achieved at higher levels than those in nonimplemented or partially implemented schools. Teachers in highly implemented schools also reported lower levels of student behavior problems, and students in highly implemented schools reported being less

fearful of bullying, and in general, students had a greater sense of security at their school as well as higher levels of self-esteem (Felner, Jackson, and Kasak, 1997).

A final and significant study was conducted by the National Association of Secondary School Principals (NAASP) and specifically looked at the leadership and programs at the middle level (Clark, Hackmann, Petzko, and Valentine, 2001). Ninetyeight highly successful schools were identified and participated in a school and staffing survey through the National Center for Education Statistics in the fall of 2001 based on nominations from each state, and their survey results were compared with a national sample. In this extensive study, principals, teachers, parents, and students completed surveys regarding a variety of topics including school climate, self-efficacy, behavior, school improvement, and school programs. The grade patterns were similar in the 98 schools, with grades 7-8 being more present than other gradespan configurations. Results of the survey indicated principals from the highly successful schools that were nominated placed greater importance and therefore higher levels of implementation on the following items: Interdisciplinary teams, exploratory course offerings, advisor-advisee programs, co-curricular programs, and intramural activities. The results also indicated that the majority of the highly successful schools utilized a 6, 7, or 8 period block schedule, as opposed to a 6, 7, or 8 period schedule in one day. A block schedule would indicate class periods of 80 minutes or more in length, and typically includes only four class periods per day. The highly successful schools not only implemented interdisciplinary teaming in some way at their school, but also implemented the key characteristics of teaming such as common plan time, similar locations in the building, use of a designated team leader, students in core classes taught by team teachers, and students heterogeneously assigned

to teams. Highly successful schools also implemented strong transitions both into and out of the middle grades.

Nearly three decades after the first Carnegie report, the Association for Middle Level Education (AMLE), published its own position paper in 2010 entitled This We Believe detailing 16 critical characteristics within three domains for successful middle schools. In addition to the 16 characteristics the report describes four essential attributes of schools that must be present in order for young adolescents to have a successful education including being developmentally responsive, challenging, empowering, and equitable (Association for Middle Level Education, 2010). AMLE is the leading middle school professional organization in middle level education. The organization defines the essential attributes and characteristics as a structure for its practice, professional development, and research. Figure 1 describes the essential attributes and characteristics for middle level education as put forth by AMLE.

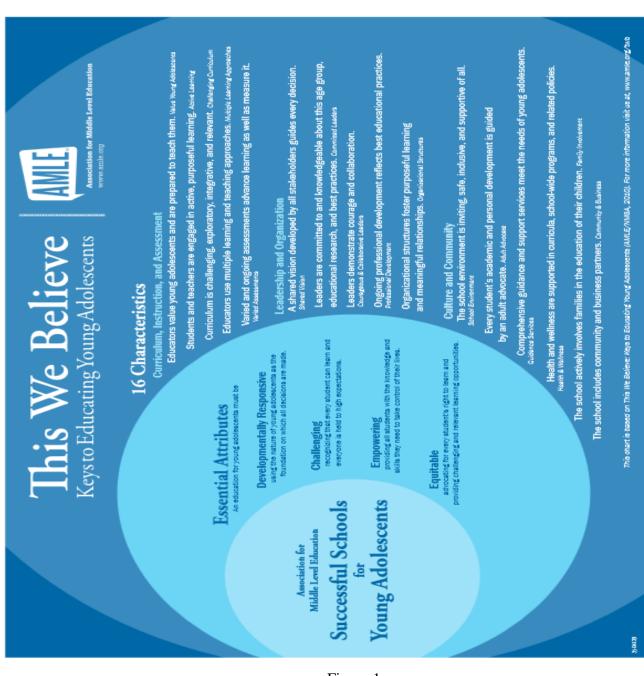


Figure 1

Traditional or Departmental Organization

While the body of research on middle level education relies heavily on the implementation of teaming, there are still many schools that do not incorporate teaming. These schools are organized in a traditional structure, many times under the umbrella of their department. Iver and Epstein describe this structure by stating, "These schools may organize their faculty by subject area, appoint department heads, give common planning periods to members of departments, and use disciplinary (single-subject) team teaching" (p.597). These teachers align themselves to a specific academic department, and not to a team of teachers representing the spectrum of academic content areas. The students are therefore not aligned to an interdisciplinary team. John Briggs writes on the characteristics, advantages and disadvantages of the departmental structure in early literature concerning the junior high school. He lists several advantages including attracting more qualified teachers, providing children with more responsibility and frequent movement in the school, expansion of curriculum, and the ability of the teacher to reach a broader number of students (Briggs, 1917). Iver and Epstein also comment that teachers organized by department may find it easier to collaborate with teachers of the same discipline rather than with different disciplines through an interdisciplinary team (p. 598). Some disadvantages of the departmental structure include difficulty in organization, lack of personal attention on the student, narrow focus for the teacher, and difficulty in providing remedial lessons (Briggs, 1917). Some of the key features of teaming as described earlier are absent in this departmental structure.

Conclusion

The review of literature speaks to the evolution of two key topics in this study: The middle school, incorporating both interdisciplinary teaming and departmental organized structures, and Teacher Learning. Following the foundation of these topics, this study seeks to describe the experiences of middle school teachers as these topics, professional development within the middle school setting, are married and executed in day to day school life. By asking the question, "How do middle school teachers learn best?" this study will seek to explore the optimal time, setting, and participant make-up for delivery of professional development. Additionally, middle school reform has occurred in distinct phases in the history of the middle school. Substantial research exists following the reforms of the 1960's which included the implementation of advisory programs and teaming. Further reforms as a result of "Turning Points" after 1989 were implemented, and the depth of analysis and research following these reforms is also substantial for the simple fact that those reforms occurred nearly 25 years ago. Although This We Believe is described as, "the landmark position paper of the Association for Middle Level Education builds a strong case for basing all decisions about middle grades education on the unique developmental needs of 10-to 15-year olds" (Association for Middle Level Education, 2010) it is still in its infancy in terms of follow-up research. This study hopes to provide breadth to the research and recommendations made in This We Believe and the subsequent reforms of 2010 in order to supplement the data regarding those strategies and to add implications for further reform.

Chapter 3 Methodology

Brief Overview

The purpose of this study was to describe and understand the experiences of teachers and instructional leaders related to the delivery of professional development at the middle school and junior high school levels and subsequent implementation in the classroom. The questions that were utilized in the focus group and interview setting sought to capture the feelings and experiences of the teachers and instructional leaders before, during, and after receiving the professional development, as well as during the implementation of the strategy presented in the professional development in their respective classrooms. The interview strategy is critical in identifying the participants' interpretation about the receiving of professional development, rather than the judgment of the researcher as to which method is better (Creswell, 2009). Additionally, this study sought to describe a complex yet holistic account of the phenomenon under study, that is, teacher learning. This study is phenomenological in nature as it intended to both describe and understand the experiences of the participants from a first-person point of view (Creswell, 2009).

Research Design

This study sought to describe the experiences of middle school teachers in their participation in professional development, as well as their perceptions and reflection of the experience. The study was phenomenological, in that it sought to explain and

understand the phenomenon of teacher learning at the middle level. Creswell (2009) describes phenomenological research as the process of understanding the lived experiences of a subject through intense inquiry (p.13). The emphasis of this study comes in the form of the study participants, the middle school teachers and instructional leaders to be interviewed. The overarching research questions as well as the specific interview questions were intended to provide an in-depth and detailed description of the experiences, feelings, perceptions, and interpretations of the interviewees. While the teacher focus group interviews and instructional leadership interviews made up a great majority of the data, there were also two additional forms of data utilized in the study to provide a more complete picture of the experiences of teachers and instructional leaders.

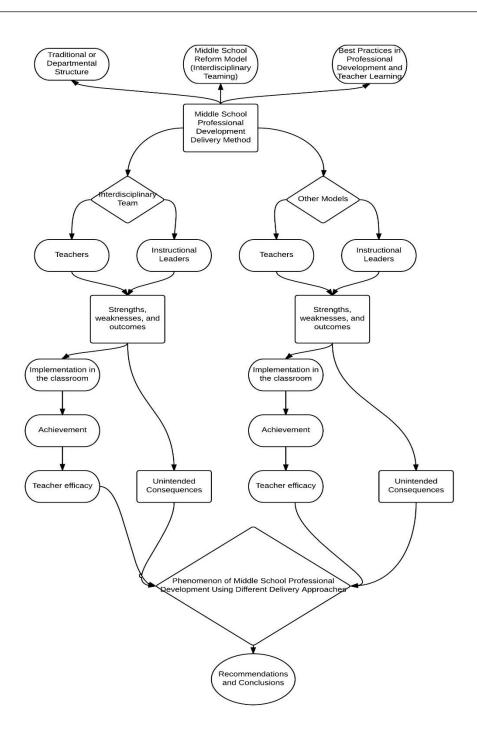
As described in the review of literature, a significant body of research exists which details the implementation of teaming at the middle school level as a means for providing common plan time for collaboration and professional development. However, the body of research is lacking a specific model or setting for delivery of professional development. How should professional development be delivered at the middle school level? This overarching question could certainly be answered with a simple stating of preference by the teachers and instructional leaders. However, we know in education that so many things are circumstantial and based on individual needs of a school and its students. It is for this reason the focus group and interview process were used and emphasized in this study, in order to truly gain a richer understanding of the experiences of teachers and instructional leaders at four different schools in the same district.

The conceptual framework of this study relies on the review of literature as divided into two specific areas of background information and previous research. The

first is a summary of literature on delivery of professional development in general in education, and defining best practice as described by the body of research. The second is a more detailed summary of the evolution of the middle school and the middle school reform model, which relies heavily on recommendations from reports generated by the Carnegie Council for Adolescent Development (1989) and the Association for Middle Level Education (2010). The reports describe a model for middle school reform, and provide specific recommendations for how the reform is to be accomplished through specific characteristics and structures, including the implementation of small learning communities and professional development. The middle school reform section contains description on two key organizational structures: interdisciplinary teaming and departmental structure. These areas provide the foundation and need for this study, to determine a method of delivery of professional development at the middle school level.

The framework for this study was intended to describe the experiences of teachers and instructional leaders in the delivery of professional development. It identifies the strengths and weaknesses of delivery methods. It also describes the impact on teacher implementation of the strategy in the classroom, and potential impact on student achievement. Finally, it describes the unintended consequences of delivery methods. As a result of this study, I was able to describe the phenomenon of teacher learning in the middle school by comparing delivery models. Based on the data collected, I was able to make recommendations for utilization of certain methods of delivery for professional development at the middle school level, as well as other critical components of the professional development experience. The framework is demonstrated in the conceptual framework diagram on the following page.

Figure 2
Conceptual Framework: The Delivery of Professional Development in the Middle School: Exploring Optimal Settings, Times, and Participants



Research Questions

This study sought to answer the overarching question describing how teacher and instructional leader participants experience varied methods of professional development delivery at the middle school level. The question was broken down into two subquestions, one that described the experience of the participants who received professional development through interdisciplinary teams, and the other that described the experience of participants who received professional development through other approaches. Each of those sub-questions described the strengths and weaknesses of the delivery method, the perceptions of impact on teacher abilities, the perceptions of impact on student achievement, and the unintended consequences of the delivery method. Participants were divided into two groups: teachers and instructional leaders.

- How do teacher participants and instructional leaders experience varied methods of professional development delivery at the middle school level?
 - How do teacher participants experience delivery of professional development through interdisciplinary teams at the middle school level?
 - What are the strengths and weaknesses of delivery of professional development through interdisciplinary teams at the middle school level?
 - What are the teachers' perceptions of the impact on their own abilities when professional development is delivered through interdisciplinary teams?

- What are the perceptions of impact on student achievement when professional development is delivered through interdisciplinary teams?
- What are the unintended consequences of delivery of professional development through interdisciplinary teams at the middle school level?
- How do teacher participants experience delivery of professional development through other models at the middle school level?
 - What are the strengths and weaknesses of delivery of professional development through other models at the middle school level?
 - What are the perceptions of impact on teacher abilities when professional development is delivered through other models at the middle school level?
 - What are the perceptions of impact on student achievement when professional development is delivered through other models at the middle school level?
 - What are the unintended consequences of delivery of professional development through other models at the middle school level?
- How do instructional leaders and school administrators experience the delivery of professional development at the middle school level through interdisciplinary teams and other models?

- O How do instructional leaders and school administrators experience delivery of professional development through interdisciplinary teams at the middle school level?
 - What are the strengths and weaknesses of delivery of professional development through interdisciplinary teams at the middle school level?
 - What are the perceptions of impact on teacher abilities when professional development is delivered through interdisciplinary teams?
 - What are the perceptions of impact on student achievement when professional development is delivered through interdisciplinary teams?
 - What are the unintended consequences of delivery of professional development through interdisciplinary teams at the middle school level?
- O How do instructional leaders and school administrators experience delivery of professional development through other models at the middle school level?
 - What are the strengths and weaknesses of delivery of professional development through other models at the middle school level?
 - What are the perceptions of impact on teacher abilities when professional development is delivered through other models at the middle school level?

- What are the perceptions of impact on student achievement when professional development is delivered through other models at the middle school level?
- What are the unintended consequences of delivery of professional development through other models at the middle school level?

Subjects

The subjects for this study consisted of four different focus groups from four schools in the Omaha Public Schools with teachers who were purposefully selected in order to best describe the experiences of middle school teachers receiving professional development. All of the teacher participants in the focus groups were seventh grade teachers. Additionally, in order to address the final research question regarding the experiences of the instructional leaders and school administrators regarding the delivery of professional development, interviews were conducted with at least one school administrator or instructional leader at the home schools of each of the focus groups.

Two of the focus groups represented schools that currently implement the practice of teaming, and received professional development through their common team time with their team members. They are labeled schools A and B, respectively. For the purpose of this study, an interdisciplinary team consists of teachers from the following subject areas: Language Arts, Math, Science, Social Studies, and Special Education. School A included eight participants ranging from a student teacher to 24 years of experience. The instructional leader interviewed was the instructional facilitator who has 11 years of

experience in education. School B included six teachers ranging from one to 26 years of experience. The instructional leader interviewed was the instructional facilitator who has 12 years of experience. The two remaining focus groups represented middle schools who carried out their professional development through another model; not through their interdisciplinary teams. They received their professional development after school hours and with a variety of their peers. They will be labeled C and D, respectively. The focus group for school C consisted of six teachers ranging from four to 23 years of experience, and the instructional leader interviewed was the instructional facilitator who has 20 years of experience. Finally, the focus group for school D consisted of 17 teachers ranging from one to 38 years of experience. The instructional leader interviewed was the assistant principal who has two years of experience in that role.

Description/Background of Schools

The demographic information for the four schools used in this study is as follows according to the *State of the schools report* (2014-2015) from the Nebraska Department of Education. School A has an enrollment of 783 students in grades 7-8, with 86% of students receiving free or reduced price lunch. The three largest ethnicities reported are Hispanic (61%), White (21%), and Black or African American (12%). School B has an enrollment of 441 students in grades 7-8 with 83% receiving free or reduced price lunch. The three largest ethnicities reported are Black or African American (49%), White (27%), and Hispanic (14%). School C has an enrollment of 610 students in grades 7-8, with 32% receiving free or reduced price lunch. The three largest ethnicities reported are White

(63%), Black or African American (18%), and Hispanic (10%). School D has an enrollment of 699 in grades 7-8 with 87% of students receiving free or reduced price lunch. The three largest ethnicities reported are Hispanic (80%), White (11%), and Black or African American (4%) (Nebraska Department of Education, 2014).

Data Collection

The primary source of data collection for this study was through focus groups and interviews conducted with the purposefully selected four focus groups of teachers, as well as the individual interviews with instructional leaders. The focus groups and interviews took place during the months of September, October, and November at a time determined by the interviewer and interviewee. These months featured what the district has deemed building choice options for professional development. The presentations were given to teachers by teachers, instructional leaders, and district supervisors. Both the focus group interviews and instructional leader interviews took place at the home school of the focus group, were audio recorded, and transcribed by the researcher. The focus group and interview process provided the researcher with a full picture of the experiences of the participants. The researcher was able to gather historical context, as well as more detailed descriptions of current experiences of the participants. The focus group and interview method also enabled the researcher to have control over the questions asked of the participants, and provides consistency in questioning for the four focus groups and instructional leaders.

While the focus group and interview process has many strengths, it also includes some limitations, such as gaining information on the experiences of the teachers in the focus groups through an artificial, interview setting, rather than a natural, conversational setting. In addition, the questions may communicate any existing bias of the researcher in their content which may be observable to the interview participants. Finally, the focus group process does not necessarily guarantee that each teacher in the interview has equal voice. Some teachers may be more vocal than others, and may feel more comfortable and willing to share their attitudes in relation to their experiences than other teachers.

In addition to the focus groups and interviews, I collected supplemental pieces of data in order to more fully represent the experiences of the teachers. First, I completed field notes and observations during the delivery of professional development. Field notes are defined as a written account of what the researcher hears, sees, experiences, and thinks in the course of collecting and reflecting on the data (Bogdan & Biklen, 1992). Through the process of field notes the researcher can keep track of the development of the project, as well as remain aware of how the researcher has been influenced by the data. Field notes allow the meaning and context of the interviews to be more complete, and enable the reader to visualize the phenomenon (Bogdan & Biklen, 1992).

I also utilized one piece of electronic data regularly collected by the district following a delivery of professional development, the Coaching Dashboard. School and district administrators and instructional leaders utilize this tool regularly to conduct instructional coaching visits on teachers, as well as record the implementation of specific strategies. The specific component from this tool I used was the count recorded for the observations of implementation of the strategy for which the professional development

was delivered at the schools utilized in this study, and the total number of coaching visits completed at the school for the 2016-2017 school year thus far. For example, if the professional development delivered covered reciprocal teaching, I would review the coaching data to find out the number of times reciprocal teaching was observed in the classrooms during that particular month. The intent was that the variety of data sources would come together to truly paint a more accurate picture of professional development delivery as well as the after-effects.

Instruments

The following chart represents the instruments used for data collection in this study:

Figure 3: Timeline for Data Collection

Before Professional Development (at least one week prior)	Focus Group and Individual Interview with Instructional Leader or Administrator
• ′	
During Professional Development	Field Notes
After Professional Development (within one week of receiving professional	Focus Group and Individual Interview with Instructional Leader or Administrator
development)	Coaching Dashboard

The key instruments utilized for this study were the focus group and interview questions which will seek to describe the experiences of the teachers and instructional leaders in order to answer the research questions. An interview protocol was used based on the model described by Creswell. The first question was an ice-breaker question to begin conversation with the group, with the remaining questions directly related to the research questions. As previously stated, the interview was audio recorded, and notes

were recorded during the interview. The following represent the interview questions for teachers:

<u>Introductory Questions</u> (at least one week before professional development)

- 1. Please tell the subject you teach, and your years of experience.
- 2. How often do you receive professional development at this school?
- 3. Who typically delivers professional development at this school, and where?
- 4. Please give some sample topics for which you have received professional development within the last year.
- 5. In general, how do you feel about professional development at your school?

<u>After the Professional Development</u> (Questions related to during PD experience, immediately after PD)

6.	How engaged did you fee	el during the professional development
	delivery for	(strategy) during the month of
	(month) ar	nd why?

- 7. Please name any strategies utilized by your presenters in the delivery of your professional development through teaming/whole-faculty meetings which enabled you to be engaged during the professional development presentation.
- Please describe your follow-up directions as given by your instructional leaders for implementation of strategies following the delivery of professional development.

9.	. Following a delivery of professional development on			
		(strategy) in _	(mon	th), how did you
	feel yo	ou implemented the strateg	y in your classroon	n and why?
10.	Which	of the following help to en	nsure your implem	entation of the
	strateg	y?		
	a.	Instructional Coaching		
	b.	Peer Observations		
	c.	Lesson Plan Reviews		
	d.	Follow-up Professional D	evelopment	
	e.	Anything else?		
11.	Follov	ving a delivery of profession	onal development o	n
	(strate	gy) in	(month), did you w	ork with
	colleag	gues to discuss how to imp	lement strategies in	your classrooms?
12.	How d	lo you feel the implementa	tion of	(strategy) for
	which	you received professional	development in	
		(month) contribute	ed to the achievement	ent of your
	studen	ts in the classroom?		
13.	Do yo	u feel the delivery of profe	ssional developmen	nt through
	teamir	ng/other setting had an imp	act on your ability	to implement the
	strateg	yy of	_ (strategy) in	
		(month)? Why or	why not?	
14.	What a	are the advantages and disa	dvantages to receive	ving professional
	develo	pment through teams/other	r settings?	

- 15. Do you think it would be advantageous for your teachers to receive professional development in the other setting? Why or why not?
- 16. If you could choose two critical components in delivering and receiving professional development, what would they be and why?

The following represent the interview questions to be asked to the instructional leaders:

<u>Introductory Questions</u> (At least one week prior to PD)

- 1. Please give your position and your years of experience.
- 2. Who typically delivers professional development at this school, when is it delivered, and where?
- 3. How often do you deliver and receive professional development at this school?
- 4. Please give some sample topics for which you have delivered and received professional development within the last year.

<u>After the Professional Development</u> (Questions related to during PD experience, immediately after PD)

5.	How engaged were your teachers during the professional development
	on(strategy) during the month
	(month)?

6. Please name some of the strategies utilized in the delivery of your professional development which enabled your teachers to be engaged.

7.	Please describe your follow-up directions to your teachers regarding
	implementation of strategies following the delivery of professional
	development.
8.	How do you feel the strategy of (strategy) was
	implemented by your teachers in their classrooms during the month of
	(month)? Why do you feel that way?
9.	Which of the following do you believe helped to ensure the
	implementation of the strategy?
	a. Instructional Coaching
	b. Peer Observations
	c. Lesson Plan Reviews
	d. Follow-up Professional Development
	e. Anything else?
10	. Were your teachers given the opportunity to discuss the
	implementation of the strategy in their classrooms?
11	. How do you feel the implementation of(strategy) for
	which your teachers received professional development in
	(month) contributed to the achievement of their
	students in the classroom?
12	. Do you feel the delivery of professional development through
	teaming/other settings had an impact on your teachers' ability to
	implement the strategy of(strategy) in
	(month)? Why or why not?

- 13. What are the advantages and disadvantages to receiving professional development through teams/other settings?
- 14. Do you think it would be advantageous for your teachers to receive professional development in the other setting? Why or why not?
- 15. If you could choose two critical components in delivering and receiving professional development, what would they be and why?

The second instrument used were field notes during the delivery of professional development. The field notes serve as a written account of what the researcher sees hears, experiences, and thinks in the course of collecting and reflecting on the data (Bogdan & Biklen, 1992). The field notes contain a heading on each page with the date and time of the observation. The field notes provide a more complete picture of the phenomenon of the professional development experience.

The third and final instrument utilized was the Instructional Coaching Dashboard, which is utilized in the Omaha Public Schools by instructional leaders to conduct coaching visits on teachers. Using the application, instructional leaders informally observe and provide coaching feedback to teachers via either a 30 second format, or a five-minute format. The tool allowed instructional leaders to check which strategies are observed during the classroom visit. I used data from this tool to identify the number of times the targeted strategy is observed in the classroom following the delivery of the professional development. While this provided additional information on the implementation of the strategy, it also presented a limitation in the results, in that not every teacher was visited when they are utilizing the new strategy, and the data was school-wide, not only the teachers who participated in the focus groups. Though this

study is generally qualitative, the use of this quantitative piece may suggest trends in the research to provide more descriptive information for the study (Bogdan & Biklen, 1992).

Data Analysis

A description of the data analysis follows. It is organized by data source. Each data source was analyzed individually, and then compared according to delivery of professional development through teaming and other settings.

Focus Groups and Interviews: The focus group and instructional leader interviews required the most intense analysis of the three data pieces. In analyzing the interviews, I followed a modified model of John W. Creswell's (2009) steps for completing a textual analysis (p. 155). The first step was to thoroughly read through the data as a whole in order to become fully immersed in the content. I also utilized this step to extract meaningful and impactful quotes from the focus groups and interviews. This step also enabled me to also become familiar with the dominant themes. The second step was to complete a descriptive analysis of each of the focus groups and interviews. This consisted of generating a descriptive summary of the content of the focus groups and interviews by item and delivery model. The third step was to identify and make a list of the major and minor themes by focus group and interviews for the thematic analysis. fourth step was to create an organizing scheme for the themes. I did this by identifying the repeated themes overall in the focus groups and interviews, and repeated themes by delivery models. This step also determined the frequency of

the themes in the focus groups and interviews. A major theme for the focus groups had three or more mentions and a minor theme had 1-2 mentions. A major theme for the instructional leader interviews had two or more mentions, and a minor theme had at least one mention. Next, I charted the data to begin the keyword analysis. Maggi Savin-Baden and Claire Howell Major (2013) describe keyword analysis by saying it "involves searching out words that have some sort of meaning in the larger context of data" (p. 435). Holistically, they also explain that, "in order to understand what participants say, it is important to look at the words with which they communicate" (p. 435). I utilized three categories of keyword analysis. The first was frequent repetition of terms, in which I identified terms participants used frequently. The second was unusual use of terms, by which I identified words used in an unusual way, with most of these terms having local significance to the participants. Finally, I identified words used in context, which extracted keywords and the words surrounding them. Throughout this process, the responses from the focus groups and interviews were compared with one another, teaming compared to other delivery models. My goal in this analysis was to take small portions of data and move toward a larger understanding of the experiences of the teachers and instructional leaders. This is defined as an inductive process of data analysis (Savin-Baden & Howell Major, 2013).

Field Notes: The field notes were used to supplement the focus groups and
interviews to provide a description of the people, objects, places, activities,
events, and conversations during the research as well as reflections by the
researcher throughout the study. The field notes were especially useful

considering the amount of text resulting from the interviews to enable the researcher to keep track of the development of the project. The analysis of the field notes included an overall descriptive analysis, then setting, strategy, activity, and relationship coding, and a comparison analysis with teaming and other delivery models. Before coding, I divided each professional development experience into logical segments. These could include segments where the activities or settings changed, or a logical break in the professional development. Each professional development experience first received an overall setting coding. The setting coding was categorized by where the professional development experience took place, as well as the size of the space. The coding included C=classroom, O=other space, L=large space, S=small space. Each professional development experience had two setting codes. Next, I coded the strategy or strategies utilized by the presenters during the professional development experience. They included A=audio, V=visual, and K=kinesthetic. Each segment could have more than one strategy code. Next, I coded by relationship, that is, the interactions the participants had during the professional development. They included I=independent, P=pair, G=group. Again, each segment could have multiple relationship coding. Finally, I coded by the activity in which the participants were involved during the professional development, including P=passive and I=interactive. Segments could have both activity codes as well. Finally, I completed a descriptive comparison of the coding by delivery model.

The data analysis generated by the Coaching Dashboard tool was largely
descriptive. It included the number of times the targeted strategy was observed

thus far in the 2016-2017 school year as well as the overall number of coaching visits for the building. The results were also compared for the teachers who participated in the professional development through interdisciplinary teaming and those who participated through other settings. The analysis of coaching dashboard was purely descriptive, and intended to show trends at each of the four schools. The first of the following charts represents the data collection and analysis for this study, and the second chart indicates how the data will answer the research questions:

Figure 4-Data Collection and Analysis: Strengths and Weaknesses

Data Piece	Why?	How?	Strengths	Weaknesses	Analysis
Focus Group and Individual Interviews	Main source of data, most complete way for subjects to describe their experiences	Using interview questions, complete focus groups and interviews with purposefully selected participants at four schools; record interviews and	Questions focused on purpose of study, provides researcher true voice from subjects	Time consuming and cumbersome process, may be bias with interviewer or other participants, requires structured interview protocol	Search for patterns and create coding categories; intend to generate five overarching themes with subcategories below themes. Example: Themerelationships; subcategory-trust
Field notes	Provide a personal log that helps researcher keep track of development of project visualize how the research plan has been affected by the data collected, enables the researcher to remain self-conscious of how he or she has been influenced by the data.	transcribe The researcher keeps a written account of what he or she sees, experiences, and thinks in the course of collecting and reflecting on data; a recording of spoken field notes may also be used.	Meaning and context captured more completely	Additional task during process	Each page of field notes contains a heading of information on when observation was completed and where

schools from the study		Coaching Dashboard	Reflects prevalence of teaching strategies presented in professional development in teachers' classrooms		Suggests trends in implementation of strategies, provides more descriptive information	May not reflect implementation from specific teachers in focus group, subjective in observation of strategies	Compare data to previous months regarding implementation of strategy
---------------------------	--	-----------------------	--	--	--	---	--

(Adapted from Biklen and Bogdan, 1992)

Figure 5-Research Questions and Data Sources, Collection, and Analysis

Research Question	Data Source and Collection	Data Analysis
How do teacher participants experience delivery of professional development through interdisciplinary teams and whole faculty workshops at the middle school level?	 Focus Group Field Notes 	 Focus Group: Descriptive, keyword, theme analysis, comparison Field Notes: Descriptive, setting, activity, strategy, and relationship coding, comparison
What are the strengths and weaknesses of delivery of professional development through interdisciplinary teams and whole faculty workshops at the middle school level?	 Focus Group Field Notes Coaching Dashboard 	 Focus Group: Descriptive, keyword, theme analysis, comparison Field Notes: Descriptive, setting, activity, strategy, and relationship coding, comparison Coaching Dashboard: Descriptive and comparison analysis
What are teachers' perceptions of the impact on their own abilities when professional development is delivered through	Focus GroupField Notes	Focus Group: Descriptive, keyword, theme

interdisciplinary teams and whole faculty workshops? What are the perceptions of impact on student achievement when professional development is delivered through interdisciplinary teams and whole faculty workshops?	Focus GroupField Notes	analysis, comparison • Field Notes: Descriptive, setting, activity, strategy, and relationship coding, comparison • Focus Group: Descriptive, keyword, theme analysis, comparison • Field Notes: Descriptive, setting,
What are unintended	- Fogus Crown	activity, strategy, and relationship coding, comparison
consequences of delivery of professional development through interdisciplinary teams and whole faculty workshops at the middle school level?	Focus GroupField Notes	 Focus Group: Descriptive, keyword, theme analysis, comparison Field Notes: Descriptive, setting, activity, strategy, and relationship coding, comparison
How do instructional leaders and school administrators experience delivery of professional development through interdisciplinary teams and whole faculty workshops at the middle school level?	InterviewsField Notes	 Interviews: Descriptive, keyword, theme analysis, comparison Field Notes: Descriptive, setting, activity, strategy, and relationship coding, comparison
What are the strengths and weaknesses of delivery of professional development through interdisciplinary teams and whole faculty workshops at the middle school level?	InterviewsField Notes	 Interviews: Descriptive, keyword, theme analysis, comparison Field Notes: Descriptive, setting,

		1 1 1
		activity, strategy,
		and relationship coding, comparison
What are the perceptions	Interviews	Interviews:
of impact on teacher	Field Notes	
abilities when professional		Descriptive,
development is delivered	 Coaching Dashboard 	keyword, theme
through interdisciplinary	Dashooard	analysis,
teams and whole faculty		comparison
workshops at the middle		• Field Notes:
school level?		Descriptive, setting,
		activity, strategy,
		and relationship coding, comparison
		• Coaching
		Dashboard:
		Descriptive and
		comparison analysis
What are the perceptions	Interviews	• Interviews:
of impact on student	 Field Notes 	Descriptive,
achievement when	 Coaching 	keyword, theme
professional development	Dashboard	analysis,
is delivered through		comparison
interdisciplinary teams and		• Field Notes:
whole faculty workshops		Descriptive, setting,
at the middle school level?		activity, strategy,
		and relationship
		coding, comparison
		 Coaching
		Dashboard:
		Descriptive and
		comparison analysis
What are the unintended	 Interviews 	• Interviews:
consequences of delivery	 Field Notes 	Descriptive,
of professional	 Coaching 	keyword, theme
development through	Dashboard	analysis,
interdisciplinary teams and whole faculty workshops		comparison
at the middle school level?		• Field Notes:
at the initiale school level?		Descriptive, setting,
		activity, strategy,
		and relationship
		coding, comparison
		 Coaching
		Dashboard:

	Descriptive and
	comparison analysis

Summary

Because the purpose of this study was to describe and understand the experiences of teachers and instructional leaders related to delivery of professional development, the study weighs heavily on the teacher focus groups and interviews with instructional leaders. This study identified common and prevailing themes from the analysis of these components, as well as provided a descriptive analysis of the implementation of the strategies delivered in the professional development. These analyses, in combination with descriptive field notes and analysis of instructional coaching data, were designed to provide the reader with a full picture of the professional development experience through the eyes of its participants.

Chapter 4 Results

This chapter will present a description of the professional development setting for the four schools as well as the participants. Next, the results of the study will be presented by data analysis, then summarized by data source.

Description of Professional Development, Setting, and Participants

Prior to presenting the results it is important that the reader understand the experience of professional development in which the teachers and instructional leaders participated.

Background and context information follows.

- School A received their professional development on Wednesday, September 21, 2016. The professional development was presented by three teachers selected by the building leadership. The topic was engagement techniques. The teacher participants attended the professional development during their normal team time during the school day with their interdisciplinary team in a selected classroom. The teachers rotated between the three teacher presenters to receive information on engagement techniques. The duration of the professional development was approximately 45 minutes.
- School B received their professional development on Wednesday, September 14,
 2016. The professional development was delivered by both the magnet
 coordinator and the gifted facilitator. The topic was engagement techniques. The
 teachers attended the professional development in the team room during their

normal team time during the school day with their interdisciplinary team. The teachers remained with the whole team while the presenters gave their information on engagement techniques. The duration of the professional development was approximately 45 minutes.

- November 14, 2016. Prior to the professional development, teachers were emailed an online sign-up for selecting which professional development sessions they would like to attend. Various teachers were selected by building leadership to present the professional development. There were six stations offered in various classrooms, each 20 minutes in length, with time to rotate between stations in between. Teachers selected and rotated between the two stations with their colleagues. The entire duration of the professional development was approximately 55 minutes.
- School D received their professional development after school hours on Monday, October 3, 2016. They began the afternoon with a whole faculty meeting in which announcements and a short presentation on gifted education were given, and then separated in their content departments and reported to various classrooms to receive professional development delivered by district supervisors related to text dependent analysis. The entire duration of the professional development was approximately 55 minutes.

The following chart represents the professional development presentations delivered, as well as the participants of the focus groups and interviews at each of the four schools including their years of experience.

Figure 6: Description of Professional Development, Setting, and Participants by School

School	Professional Development Topic	Setting	Presenter	Focus Group Participants	Instructional Leader
A	Engagement Strategies	Team	Teachers in the building	6 teachers, 1 student teacher, 1 counselor 1-24 years experience	Instructional Facilitator 11 years experience
В	Engagement Strategies	Team	Magnet coordinator, Gifted and Talented coordinator	6 teachers 1-26 years experience	Instructional Facilitator 12 years experience
С	Vocabulary Games Growth Mindset Quizalize Student Behavior Tips Differentiated Reading Projects Advanced Kagan Structures	Teacher Share Fair	Teachers in building	6 teachers 4-24 years experience	Instructional Facilitator 20 years experience
D	Text-Dependent Analysis	Whole Faculty/ Department	Principal, Gifted and Talented Coordinator, District Supervisors	17 teachers 1-38 years experience	Assistant Principal 2 years experience

Data Analysis

The data analysis occurred in three parts, each aligning to the data source. I first conducted the data analysis of the focus groups and instructional leader interviews. For

these data sources, I conducted descriptive, thematic, and keyword analyses. Next, I conducted the data analysis of the field notes. This included an overall description of the professional development observations, as well as coding for setting, strategy, activity, and relationship for the four schools, as well as a comparison between models. Finally, I conducted a descriptive analysis of the Coaching Dashboard data for each of the four schools. The Coaching Dashboard provides a glimpse into the implementation of the targeted strategies in classrooms, as it indicates the number of times the targeted strategy or strategies was observed compared to overall coaching visits conducted at the school.

Descriptive Analysis. The majority of the data analysis occurs as it relates to the eleven questions asked in the post-professional development focus group. Those particular questions lend themselves to data that is intended to answer the research questions. I conducted and organized the descriptive analysis by identifying and summarizing questions that earned larger responses from the focus groups and interviewees. Additionally, the pre-professional development focus group, which was completed at least one week prior to the professional development experience, also contained a question regarding teachers' perceptions on professional development at their school. I also included a descriptive analysis of this question in the results. A description of the data by delivery model is as follows:

• Focus Groups for Schools A and B (Teaming): The pre-professional development question four asked participants, "In general, how do you feel about professional

development at this school?" Participants from schools A and B indicated that their feelings were mostly positive and that they enjoyed receiving professional development through teams. They value the ability to collaborate with their colleagues and feel comfortable sharing with one another. However, both focus groups indicated the professional development felt rushed, and that there was a lack of time to do everything that was required of them. They also both indicated they had received significant amount of professional development recently, so they felt overwhelmed with the material. In regard to the post-professional development focus group, the following questions were answered at greater depth in the focus group with schools A and B: 1, 5, 9, and 11. Question 1 speaks to the level of engagement during the delivery of professional development. One school indicated a moderate to high level of engagement, while the other indicated a moderate to low level of engagement. Following describing the level of engagement teachers also shared why or why not they felt engaged. The school that indicated a higher level of engagement stated they were actively participating in the professional development and the strategies were ones they could apply in their classrooms. One teacher stated, "I felt like I wasn't looking at the clock because we were actually doing things." Another said, "I think the small groups helped me feel engaged because we could have more in-depth conversations rather than if it was in a large group being talked at." The school that indicated a moderate to lower level of engagement indicated they had received similar professional development in the past, and felt the information was repetitive. Question 5 asked which items from a list ensured implementation

of the strategies presented on at the professional development. Both schools overwhelmingly stated that peer observations and instructional coaching were integral in ensuring their implementation of the strategies. One teacher stated, "I would say instructional coaching. If you know someone is going to come in and check and see if you're doing something, you're more likely to do it. We have to be held accountable just like our students." Another teacher mentioned in regard to peer observations, "It's nice to see an expert teacher actually doing it. There is sometimes a disconnect between theory and practice, so it's great to see it in action." Question 9 asked teachers to share their perceptions on advantages and disadvantages to receiving professional development through teams. Both schools emphasized the importance of smaller groups and a level of comfort in sharing and asking questions as advantages. One teacher stated, "I think the fact that you can ask immediate questions on how to do something, and you were able to tell me how to implement it right away." Some disadvantages mentioned included the difficulty with using team time during the day and content not necessarily being applicable to all subject areas. One teacher stated, "I really liked the math one but was trying to think of how I could apply it with my content area and classes, and I wish I was with other people in my content area so we could discuss it further." The final question, question 11, was also answered at a greater level of depth. The question asked teachers to identify two critical components in delivering and receiving professional development, and why they were critical. Both schools easily listed more than two components and both groups emphasized the importance of the activities being hands-on, and the

quality of the presenter. One teacher concluded, "The speaker who delivers the professional development makes a huge difference on how that professional development is accepted. I am definitely more apt to listen to you if it's someone who's teaching with me because I know it's going to work. You're in the classroom with me every day."

The remaining questions, 2, 3, 4, 6, 7, 8, and 10, though they did not contain the breadth of responses as the other four, still had significance in their responses. Question 2 asked teachers to name the strategies their presenters used during their delivery of professional development. These strategies included hands-on manipulatives, discussion, interactive whiteboards, and stations. Question 3 asked participants to describe any follow-up instructions given by their instructional leaders for implementing the strategies for which they received professional development. Both groups struggled to indicate concrete instructions they received following the professional development. Question 4 asked participants to identify how they felt they implemented the strategies in their classrooms. Both schools indicated the strategies presented were things they were already doing in their classrooms, but needed more time to thoroughly implement them. Question 6 asked teachers if they had the opportunity to collaborate with their colleagues to discuss how to implement the strategies in their classrooms. Both groups answered no because they had not had time to discuss the strategies with their colleagues. Question 7 asked teachers if they thought the implementation of the strategies for which they received professional development contributed to achievement in their classroom. Both groups

indicated a positive impact on student engagement which they indicated leads to a positive impact on student achievement. Question 8 asked participants if they believed receiving professional development through teams had an impact on their ability to implement the strategies. One school indicated it did not make a difference, while the other school reinforced the importance of having smaller groups and the ease of asking questions. Finally, question 10 asked teachers to identify if it would be beneficial to receive professional development in another setting. Both groups indicated there were certain topics that were more appropriate for a whole faculty meeting, such as student-led conferences. Both groups stated that the topic for which they received professional development, engagement techniques, was better in a small group because it referred to specific instructional strategies.

Focus Groups for Schools C and D (Other Models): The pre-professional development focus groups included the question, "In general, how do you feel about professional development at your school?" Both schools in this delivery model indicated there was a significant amount of professional development, and they felt there was a lack of time to implement all they needed to implement in their classrooms. School C mentioned their professional development was well-done and relevant, and they felt challenged to try new strategies. School D added that there were some components of their professional development that were applicable in their classrooms. There were three questions from the post-professional development focus groups that received lengthier responses from schools C and D, which delivered their professional development via other

models. Question 1, level of engagement, was answered at length by both schools, but in different ways. One school indicated a high level of engagement and use of hands-on activities as well as choice in attending certain sessions. A teacher from this focus group said, "Interacting with what they're trying to teach you was definitely helpful." The other school indicated a moderate level of engagement due to the lack of time devoted to the material as well as a difficulty in seeing the content as applicable. One teacher from this focus group said, "I was pretty engaged because this topic applies to language arts, but it was difficult finding math examples." Both schools indicated they felt rushed during the professional development and would have liked more time to receive the information. One teacher indicated, "I felt it was too much information trying to deliver in a short amount of time, so it felt overwhelming. By the time we got to a spot where they wanted us to interact with it, time was up." Question 5 asked teachers to identify which items helped to ensure the implementation of strategies for which they receive professional development. Similar to schools A and B, both schools utilizing other delivery models indicated peer observations and instructional coaching were integral in their implementation of the strategies. One teacher stated, "Peer observations are helpful because you get to see it in action somewhere else." Finally, question 11 asked teachers to identify two critical components in delivering and receiving professional development. Again, both groups listed more than two components that included: Follow through, consistency, engaging presenter, access to information, applicability, and contentspecific. One teacher concluded, "Definitely an engaging presenter. It's great to hear from someone who is in the trenches with us."

The remaining questions, 2, 3, 4, 6, 7, 8, 9, and 10, were not answered in as great of depth as the other three. Question 2 asked teachers to name strategies that were utilized by their presenter in the delivery of professional development. These strategies included hands-on activities, lecture, graphic organizers, Cornell notes, and Think-Pair-Share. Question 3 asked teachers how they were able to implement the strategies in their classrooms. One group indicated their strategies were able to be implemented immediately, while the other indicated they were already being used in some form in the classroom. Question 4 asked teachers what follow-up instructions they received from their instructional leaders. Both groups indicated there was an expectation for implementation by their instructional leaders, and that it was intended to observe the strategies in instructional coaching and peer observations. Question 6 asked if teachers had the opportunity to collaborate with their colleagues regarding the professional development. While both groups stated they were short on time to collaborate, one group stated there was time built into their team schedule to collaborate via content area. Question 7 asked participants if they felt the implementation of strategies contributed to student achievement in their classrooms. One group indicated a certain impact on student engagement, but were unsure about achievement. The other group indicated it was impactful in certain subject areas, but not in others. Question 8 asked teachers if they felt their delivery model had an impact on their ability to implement the strategies. Both groups indicated that

the presenter was a bigger factor than the setting, and it was more important that they have time to discuss and actually practice the strategy. Question 9 asked for advantages and disadvantages to receiving professional development in a non-teaming setting. Both groups indicated it would be easier to receive professional development in a smaller group because there would be less distractions, but that some groups could get different messages. Finally, question 10 asked if participants believed receiving professional development in another setting would be advantageous. They both responded that the more important factor is the content. There are some topics that are appropriate for some settings, and others that are not.

Though the interview responses from the instructional leaders do not provide as much data, they do provide significant data in terms of trends and themes. The following is a descriptive analysis of the instructional leader interviews.

Schools A and B (Teaming): There were several interview items that garnered larger responses than others. Question 8, which asks if the instructional leader feels delivering the professional development through teams had an impact on teachers' ability to implement the strategies in the classroom earned a more substantial response from both instructional leaders. Both instructional leaders noted the importance of having smaller groups, as well as being able to interact more one on one with the teachers. They also both noted that they found that difficult to do in a large faculty meeting setting. One instructional leader stated, "I just feel like when you're at a staff meeting there's too many people and too

much going on. In teams, it's much smaller and there's more face time." Question 9, which asks about the advantages and disadvantages to receiving professional development through teams, also had more significant responses from both instructional leaders. They again both noted the importance of smaller groups, but also noted a disadvantage may be that interaction with only team members might be a hindrance, and it could be beneficial to interact with department members to same grade level teachers. One instructional leader said, "I think that delivering professional development while teams are together in the same room is helpful, especially when they can talk about a group of kids and be able to specify which engagement strategies will be more successful." Finally, question 11 asks for two critical components in delivering and receiving professional development. Responses included application, small group sizes, and time for collaboration. One instructional leader concluded, "To me the most important thing is that it's applied. You can learn all the best things in the world but if you're not going to apply them in the classroom, then professional development is worthless."

The remaining eight questions received much shorter responses than the aforementioned three. Both instructional leaders quickly and readily spoke to the level of engagement of their teachers (question 1) as being moderately to highly engaged. They also noted a variety of instructional strategies that were used during the professional development (question 2) including whiteboards, flashcards, manipulatives, cloze notes, games, and direct instruction. They both mentioned that teachers were expected to implement some of the strategies in

their classrooms following the professional development (question 3) and that about half of their teachers truly implemented the strategies in their classes following the professional development (question 4). Question 5, similar to the focus groups, emphasized the instructional coaching and peer observations as important pieces to ensure implementation of professional development, and question 6 demonstrated that teachers were given some time, though minimal in one case, to discuss the strategies with their colleagues. Question 7 asked instructional leaders to determine if implementing the strategies had an effect on student achievement and both instructional leaders noted that higher student engagement leads to higher student achievement based on research, so they believed implementing the strategies would eventually lead to higher engagement. Finally, question 10 asked if instructional leaders thought it would be beneficial for teachers to receive professional development in another setting. Both instructional leaders stated that it depended on the topic. There were some topics that were appropriate for smaller group settings, and others that were not.

• Schools C and D (Other Models): In terms of delivery through other models, schools C and D, there were similar trends in the responses to the questions.

Question 8, which asks if the delivery through another model had an impact on teachers' ability to implement the strategies in the classroom received more significant responses. They both mentioned that due to the nature of the content that was being presented, it was critical to have the information delivered through the specific model. They both alluded to the power of having it delivered by

someone who is an expert on that particular topic. One instructional leader stated, "Anytime teachers can learn from their peers over leadership the response is higher. Teachers feel more connected to other teachers more than any other position in the school. Learning from peers gives them more of an 'I can do this too' feeling." Question 10, which asks if instructional leaders think it would be advantageous to receive professional development in another setting, also earned similar responses from both instructional leaders. They both stated there are certain topics that are appropriate for whole faculty meetings or other delivery models, but that it's also good to have a variety to keep the brain engaged. One instructional leader indicated, "I think teachers should receive professional development in a variety of ways, from other teachers, building leadership, district leadership, professionals in the field, and online. Our brains are more engaged with variety just like the brains of students thrive on variety." Finally, question 11 asks for two critical components in delivering and receiving professional development. The instructional leaders for these two schools listed relevancy, implementation, practicality, and engagement as their key components. One instructional leader concluded, "To better ensure buy-in, it's essential that the audience see the topic as being relevant to what they are needing at that time. Professional development that isn't timely will never become common practice. If the professional development presented is done in a way where the audience is able to visualize and realize what the new strategy would look like in their classroom, the apprehension for implementation dissipates and instead they are excited about what they can do with the new information."

The instructional leaders noted moderate to high levels of engagement during the professional development (question 1) and listed the following instructional strategies during the professional development (question 2): Demonstration via Power Point, interactive online quiz, manipulatives, small groups, and Cornell notes. They noted that some follow-up directions for the implementation of the professional development (question 3) were given, though there would be further discussion in the future on specifics. They both indicated that some teachers were willing to immediately implement the strategies (question 4) but that others needed more information and follow-up professional development. They again emphasized instructional coaching and peer observations as critical in ensuring the professional development is implemented (question 5). They were unsure of the ability of colleagues to discuss the strategies with one another (question 6). They both noted they were unsure of the full effects of the professional development on student achievement, but noted with higher levels of engagement came more retention. In terms of advantages and disadvantages to delivering professional development in the indicated setting, they listed short sessions, engagement, and common content as advantages, and challenges in organization and accountability as disadvantages.

Thematic Analysis. My next step in the data analysis was the thematic analysis.

I conducted this analysis by determining the frequency of themes in each of the transcriptions, and then charting the data. In this analysis I was able to identify major and minor themes, as well as themes that repeated across schools overall, then by delivery

method. A major theme for the focus groups was defined as having three or more mentions in the focus group, and a minor theme had 1-2 mentions. A major theme for instructional leaders was defined as having two or more mentions, and a minor theme having one mention in the interview. A charting of the themes is below:

Figure 7: Major Themes for Focus Groups

Focus Groups: Major Themes (3 or more mentions)				
School A (Teaming)	School B (Teaming)	School C (Other Model)	School D (Other Model)	
Small groups Hands-on activities	Amount of professional development Topic	Time (to implement) Active involvement Presenter	Time (lack of) Application to classroom	

Figure 8: Minor Themes for Focus Groups

Focus Groups: Minor Themes (1-2 mentions)				
School A (Teaming)	School B (Teaming)	School C (Other Model)	School D (Other Model)	
Time (lack of) Sharing comfort Immediate use Application to classroom Engagement Instructional coaching Content area	Continual professional development Collaborate Repeated information Interactive Small group Peer observations Time (lack of) Same people Engagement Presenter	Amount Follow-through Application to classroom Ask questions Collaboration Instructional rounds	Peer observations	

Figure 9: Repeated Themes Overall for Focus Groups

Focus Groups: Repeated Themes Overall with Number of Mentions

Small groups-2
Hands-on activities-3
Time (lack of; to implement)-5
Applicable to classrom-4
Amount of professional development-2
Presenter-2
Collaboration-2
Peer observations-2
Ask questions-2

Figure 10: Repeated Themes Between Delivery Models for Focus Groups

Focus Groups: Repeated Themes Between Delivery Models			
Schools A and B (Teaming) Schools C and D (Other Models)			
Time (lack of) Time (lack of; to implement)			
Hands-on/interactive Applicable to classroom			
Small groups Peer observations			

Figure 11: Major Themes for Instructional Leaders

Instructional Leaders: Major Themes (2 or more mentions)				
School A	School B	School C (Other	School D (Other	
(Teaming)	(Teaming)	Model)	Model)	
Small group	Collaboration	Time (appropriate)	Small group	
Application to	Small Group	Interactive		
classroom		activities		
Peer observation		Presenter		

Figure 12: Minor Themes for Instructional Leaders

Instructional Leaders: Minor Themes (At least 1 mention)						
School A	School A School B School C (Other School D (Other					
(Teaming)	(Teaming) (Teaming) Model) Model)					
Hands-on	Topic	Choice	Content area related			
Instructional Hands-on activities Application to Implementation						
coaching	Presenter	classroom				

Time (appropriate)	Implementation	Instructional	Instructional
Positive impact in	Engagement	coaching	coaching
classroom	Instructional	Peer observation	Relevant
Topic	Coaching	Collaboration	Follow-up
Implementation	Peer observation	Retention	_
	Time	Variety	
	Impact in	Relevant	
	classroom	Engagement	
	Content area		

Figure 13: Repeated Themes Overall for Instructional Leaders

Repeated Themes Overall for Instructional Leaders with Number of Mentions
Small groups-3
Application to classroom-2
Peer observation-3
Collaboration-2
Interactive activities-3
Instructional coaching-4
Time (appropriate)-3
Topic-2
Relevance-3
Content area-2
Implementation-3
Presenter-2
Engagement-2
Impact in classroom-2

Figure 14: Repeated Themes by Delivery Model for Instructional Leaders

Repeated Themes by Delivery Model for Instructional Leaders			
Schools A and B (Teaming)	Schools C and D (Other Models)		
Small groups	Instructional coaching		
Peer observation	Relevant		
Hands-on activities			
Time (appropriate)			
Implementation			
Instructional Coaching			
Impact on achievement			
Topic			

Keyword Analysis. The keyword analysis is the most thorough of all the analyses, and consisted of three parts: Frequent repetition of terms, unusual use of terms, and words used in context. For each transcript, I conducted the keyword analysis using a color coding system for each of the parts. I first conducted the keyword analysis on the pre-interview transcripts for the focus groups and instructional leaders, then conducted the keyword analysis on the post-interview transcripts for the focus groups and instructional leaders. The keyword analysis is as follows:

Focus Groups.

- Pre-Interview School A (Teaming)
 - o Frequent repetition: Faculty meeting, professional development, team
 - o Unusual terms: Deeper personal relationship, sharing
 - Words in context: Professional development team, team members
- Pre-Interview School B (Teaming)
 - Frequent repetition: PD (Professional Development), daily, time,
 collaborate
 - O Unusual terms: Target, worth, teacher buy-in
 - o Words in context: Allotted time
- Pre-Interview School C (Other model)
 - Frequent repetition: Engagement, blended learning, technology, week/weekly, community room, in the building, PD (professional development)

- Unusual terms: Inclusive, challenged
- Words in context: Math specific PD, daily PD, presented in an engaging way
- Pre-Interview School D (Other Model)
 - o Frequent repetition: Time, meeting
 - o Unusual terms: Unteamed
 - Words in context: Plan time, PLC (Professional Learning Community)
 time

Instructional Leader Interviews.

- Pre-Interview School A (Teaming)
 - Frequent repetition of terms: Instructional facilitator, month, staff
 meeting, strategies, book study, professional development, team
 - Unusual use of terms: Fellow teachers
 - Words in context: Math strategies, literacy strategies, professional development team, formal professional development
- Pre-Interview School B (Teaming)
 - Frequent repetition of terms: Instructional facilitator, professional development, procedures and routines, engagement, technology, Monday, topic, instruction
 - o Unusual use of terms: Plan periods, teams, faculty meetings
 - Words in context: Professional development sessions, Wednesday professional development

- Pre-Interview School C (Other model)
 - Frequent repetition of terms: Strategies, Monday, Thursday,
 conferences, technology, professional development
 - Unusual use of terms: Common Sense Media
 - Words in context: Engagement strategies, delivering or receiving professional development
- Pre-Interview School D (Other model)
 - Frequent repetition of terms: Professional development, data, meetings, delivered
 - o Unusual use of terms: Academic Data Representative
 - Words in context: Team meetings, data meetings

Post-Professional Development Focus Groups.

- School A (Teaming)
 - Frequent repetition of terms: Large group, small group, team, engaged, write/writing, whiteboards, 7th graders, text-tagging, instructional coaching, strategies, professional development, share, stations, implement, content, content area, apply, hands-on, examples, specific
 - O Unusual use of terms: Accountable, tailor, choice
 - Words in context: Engagement strategies, broader professional development topic, real examples, not theoretical examples, more engaged

• School B (Teaming)

- Frequent repetition of terms: Strategies, new teacher, coaching,
 content area, hands-on, talk, team, kids, topic, interactive, engaged,
 small group, large group, discussion, actually, department
- Unusual use of terms: Plan periods, refresher, differentiate, department meetings, manipulatives, timer
- Words in context: Department plans, same kids, same group,
 application to content, math engagement, team wide, right topic,
 wrong topic, instructional strategies

School C (Other Model)

- Frequent repetition of terms: Time, engaged, kinesthetic, hands-on,
 projects, team, interacted, right away, coaching, instructional rounds,
 Fridays, collaborate, in action, strategy, choice, small, in the
 classroom, topic, small group, expectation
- Unusual use of terms: Binge, Quizalize, daily note, tweet, student led conferences, One Drive
- Words in context: Engaging presenter, hands-on activities, coaching notes, collaborating by content

• School D (Other model)

Frequent repetition of terms: Present, message, target, engaged,
 Language Arts, Math, text-dependent analysis (TDA), new teacher,
 use, look for, peer observations, implement, department

- Unusual use of terms: Curriculum day, graphic organizer, Cornell
 notes, think-pair-share, NeSA questions, PLC (Professional Learning
 Community) setting
- Words in context: Examples in practice, short amount of time, cotaught classes, co-teacher

Post-Professional Development Instructional Leader Interviews.

- School A (Teaming)
 - Frequent repetition of terms: Games, engaged, classroom, apply, stations, lesson plan, smaller
 - O Unusual use of terms: Cloze notes, off-team
 - Words in context: Station rotations, engagement strategies, lesson plan reviews, smaller groups, math games
- School B (Teaming)
 - Frequent repetition of terms: Engagement, partner, strategies,
 conversations, retaining information, team, department, small group, time
 - o Unusual use of terms: Sink, soaking up, purposeful pairings
 - Words in context: Engagement strategies, department type plans, smaller setting
- School C (Other model)
 - Frequent repetition of terms: Sessions, share fair, engagement,
 professional development, short, leadership, peers, variety
 - O Unusual use of terms: Gamified, Quizalize, tune out
 - o Words in context: Professional learning, brain stimulation

- School D (Other model)
 - Frequent repetition of terms: Text-dependent analysis (TDA), strategies,
 time, timely, relevant, implementation, grade level, curriculum,
 department, whole faculty
 - Unusual use of terms: Close reading, yield
 - Words in context: Grade level meeting

Data Analysis of the Field Notes. The field notes of the professional development experiences are an account of what I heard, saw, thought, and experienced during the course of the professional development. The presentation of data for the field notes will include a descriptive analysis by school/experience, coding, and a comparison between models.

Description of Observations of Professional Development.

• School A (Teaming): The field notes for this experience were divided into four segments. In the first segment the teachers entered the room and completed an anticipatory set regarding their professional development topic. They were then given instructions by an administrator for what the session would entail. Segment two included teachers rotating to their first of three stations. Station one was related to music and involved staff members working in a small group using whiteboards and an iPad to complete activities. There is some instruction from the presenter, as well as discussion and interaction among the teachers. Segment three, or the second station, was also conducted in a group. Teachers were given

a handout and the opportunity to write. They were also asked questions by the presenter and discussed answers as a group, as well as looked through resource books the teacher-presenter brought to share. Finally, segment four or the third station invited teachers to immediately participate in math games as a group. They interacted with flashcards, crackers, dice, and other games during this station.

- School B (Teaming): During the first of five segments, teachers enter the team room and take a snack and find their seat. The principal gives some announcements and talks to the teachers about their school goals as well as how they align to the teacher appraisal rubric. During this time teachers are seated in groups at tables. Segment two is presented by another instructional leader. The presentation is audio and visual, with teachers independently looking at posters being held up by the instructional leader. The third segment is presented by the same presenter, but is more visual and kinesthetic. Teachers are given a handout and instructed to do writing during this segment. Segment four is presented by a different presenter and she utilizes a combination of audio, visual, and kinesthetic strategies. Teachers are grouped into pairs for the activities, and are asked to interact with each other and technology for this segment. Finally, segment five, again the same presenter as segment four, also utilizes audio, visual, and kinesthetic strategies, teachers working in both pairs and groups, and completing interactive activities.
- School C (Other model): This professional development experience included several stations teachers selected to attend. I attended two of the stations. The

first, or segment one, was held in a large common area. It involved teachers moving back and forth between standing and being seated on couches, as well as looking at a large screen on the wall. The presenter utilized audio, visual, and kinesthetic activities, with the majority being kinesthetic. Teachers worked in both pairs and groups, and there were limited independent activities. The segment was highly interactive. Segment two was a separate station held in a teacher's classroom. The presenters were at the front of the room and their presentation was mostly audio and visual. Teachers were seated independently at tables, and their activity was largely passive as they were receiving information.

• School D (Other model): The activities for this professional development experience were divided into four segments. The first two segments were held in the school cafeteria, a very large space. They were whole-group. The presentation strategy for segments one and two was audio-visual. Teachers were seated at round tables facing a screen in the front of the cafeteria. They were passive in their activity as they were listening to information being presented. Segments three and four moved to smaller classrooms with large groups of teachers in each classroom. In segment three the presenters used audio, visual, and kinesthetic activities. Teachers were given the opportunity to write and reflect independently, as well as work with pairs on specific activities. Finally, in segment four the presentation was mostly audio-visual, with a screen in the front of the room and information being given by a presenter. The teachers were seated independently at tables, and their activity was largely passive.

Coding of the Field Notes. Each of the field notes were divided into segments based on the activity occurring in the professional development, and then color-coded according to setting, strategy, activity, and relationship. A description of the codes is below:

Figure 15: Description of Field Note Coding

Coding category	Possible codes
Setting	C=classroom
	O=other space
	L=large
	S=small
Strategy	A=audio
	V=visual
	K=kinesthetic
Relationship	I=independent
	P=pair
	G=group
Activity	P=passive
	I=interactive

Figure 16: Field Note Coding School A

School A (Teaming)				
Overall setting coding	C, S			
	Strategy	Relationship	Activity	
Segment 1	A, V	I, G	I, P	
Segment 2	A, V, K	G	I, P	
Segment 3	A, V, K	G	I, P	
Segment 4	A, V, K	G	I, P	

Figure 17: Field Note Coding School B

School B (Teaming)			
Overall setting coding	O, S		
	Strategy	Relationship	Activity
Segment 1	A, V	I	P
Segment 2	A, V	I	P
Segment 3	V, K	I	I
Segment 4	A, V, K	P	I
Segment 5	A, V, K	P, G	I

Figure 18: Field Note Coding School C

School C (Other model)			
Overall setting coding	C, O, S, L		
	Strategy	Relationship	Activity
Segment 1	A, V, K	P, G	Ι
Segment 2	A, V	Ι	Р

Figure 19: Field Note Coding School D

School D (Other model)			
Overall setting coding	C, O, S, L		
	Strategy	Relationship	Activity
Segment 1	A, V	I	P
Segment 2	A, V	I	P

Segment 3	A, V, K	I, P	P, I
Segment 4	A, V	I	Р

Field Notes Comparison Between Models. The final component of the data analysis of the field notes is a comparison between models. It is important to further analyze the setting, participation, and activities of the professional development experiences. Schools A and B (teaming) both had their professional development in smaller spaces, one in a classroom and the other in a team room. Schools A and B had the majority of their strategy codes as including audio, visual, and kinesthetic. School A incorporated more group activities while school B utilized both group and pair activities. Finally, school A's activities were both active and passive in each segment, while school B has two passive activities, and three interactive activities. Schools A and B were each divided into four and five segments respectively, because the activities included in the professional development experience could be divided into four and five parts.

Schools C and D had fewer segments and overall activities, C with two segments and D with four segments. However, it is important to note that there were transitions within smaller activities within those segments. Schools C and D each had one segment that included audio, visual, and kinesthetic strategies, while the remainder of the segments included only audio and visual strategies. Similarly, for the relationship codes, School C and D each had one segment with pair/group and pair/independent relationship codes, while the remainder were independent. Finally, school C and D had one segment that was interactive while the remaining were passive.

In terms of comparing the models by coding, it can be concluded that schools A and B included more kinesthetic strategies, more group relationships, and more interactive activities. Schools C and D included more audio and visual strategies, more independent relationships, and more passive activities.

Analysis of the Coaching Dashboard Data. The Coaching Dashboard is utilized by instructional leaders in the district to conduct instructional coaching visits on teachers. During the coaching visit, which lasts anywhere from 5-15 minutes, the instructional leader identifies an instructional strategy being observed, and provides feedback to the teacher using an application. The data from those visits is compiled into the dashboard and maintained by school, and aggregated by teacher, instructional leader, subject area, and strategy.

The analysis of the Coaching Dashboard includes the number of overall coaching visits conducted by the instructional leaders in the building of all teachers for the 2016-2017 school year thus far, and includes all teachers in that building, not only the teachers that were a part of the focus group. The data also provides the number of times the targeted strategy was observed, and the percentage that strategy was observed in relation to overall visits. The targeted strategy comes from the topic of presentation for the professional development received by the focus group of teachers. The targeted strategies also align with the components of the district's Best Instructional Practices Handbook.

School A received professional development on engagement techniques. There were 472 coaching visits conducted school-wide so far in the 2016-2017 school year, and

the strategy of engagement techniques was observed during 111 of those visits, or 24% of the visits. School B also received professional development on engagement techniques. School B has conducted 271 coaching visits so far for the 2016-2017 school year, and 77 of those visits included engagement techniques, or 28% of the visits. School C received professional development on a variety of topics through the teacher share fair model, and conducted 359 total coaching visits for the 2016-2017 school year thus far. One hundred and ten of those coaching visits noted observing literacy strategies and 133 noted engagement techniques, which align with the session on vocabulary games. Ninety-four visits noted differentiation which aligned with the session on differentiated reading projects and 74 noted use of technology, which aligned with the session on Quizalize, which is an online formative assessment tool. Those targeted strategies accounted for 31% (literacy strategies), 37% (engagement techniques), 26% (differentiation), and 21% (technology) of the overall coaching visits. Finally, school D received professional development on text-dependent analysis, which can be aligned to literacy strategies. There have been 152 overall coaching visits conducted at school D for the 2016-2017 school year, and 33 of those coaching visits observed literacy strategies during their visits, or 22% of the visits. The data from the Coaching Dashboard is summarized in the chart below.

Figure 20: Coaching Dashboard Data

	School A (Teaming)	School B (Teaming)	School C (Other Model)	School D (Other Model)
Strategy or strategies targeted	Engagement techniques	Engagement techniques	Vocabulary games (Literacy strategies and engagement) Differentiated reading projects (Differentiation) Quizalize (Technology)	Text- dependent analysis (Literacy strategies)
Overall visits	472	271	359	152
Number of times strategy was observed	111	77	110 (Literacy strategies) 133 (Engagement) 94 (Differentiation) 74 (Technology)	33
Percentage of visits when strategy is observed	24%	28%	31% (Literacy strategies) 37% (Engagement) 26% (Differentiation) 21% (Technology)	22%

The data from the Coaching Dashboard indicates that the strategies are, in fact, being implemented in classrooms following professional development. The lowest percentage of observation of targeted strategies was 21% and the highest was 37%,

revealing that strategies presented in professional development are being observed in practice at the four schools. While there does not appear to be a trend in terms of delivery model in relation to extent of implementation of strategies, all strategies were still implemented at some level across the four schools.

School A, which presented on engagement techniques, noted the strategy utilized in 24% of the coaching visits while school B, using the same delivery model and professional development topic noted engagement techniques in 28% of the visits. It should be noted that engagement techniques can include a variety of things from games to manipulatives to hands-on activities, and are more likely to be observed and incorporated during all parts of the lesson. School C, which presented on several different strategies, noted higher levels of implementation for literacy strategies and engagement techniques (31% and 31% respectively) as again those strategies can be implemented throughout all parts of the lesson. School C also noted 26% of visits indicating use of differentiation, which may be more difficult to note in a brief coaching visit, as well as use of technology (21%), which may also occur in isolation in the lesson. Finally, school D presented on a specific literacy strategy called Text-Dependent Analysis. This strategy is also more likely to occur at a specific point of the lesson and may have less likelihood of being observed in a brief coaching visit.

Overall Summary of Findings

An overall summary of findings will now be presented and organized by data source, with the significant findings extracted by each source. The data sources include:

Teacher focus groups, instructional leader interviews, field notes, and the Coaching Dashboard.

Teacher Focus Groups. The focus groups had several analyses conducted before and after the professional development experience. The first was the descriptive analysis. The descriptive analysis described the responses of the questions in greater depth. The significant findings from this analysis revolved around which questions earned larger responses by the participants compared to the other questions. This analysis was grouped by delivery model, and only included the post-professional development questions. The two focus groups who experienced their professional development via the teaming model, schools A and B, had four questions that earned greater responses out of the 11 overall questions. The first was question one, which asked participants how engaged they felt during their professional development. The responses to this question varied from not engaged to engaged, and some responses included what would have helped teachers to be more engaged. The second question that earned a greater response was question five which asked participants to identify and describe follow-up strategies to ensure their implementation of the professional development. The schools from the teaming models identified instructional coaching and peer observations as the two strategies that helped to ensure their implementation of the professional development. The third question from the focus group that earned greater responses was question nine, which asked participants to describe the advantages and disadvantages to receiving professional development in the setting in which they received it, via teaming. Multiple respondents from each focus group participated in this question sharing a variety of advantages including smaller

groups, being comfortable sharing and asking questions, having common students, and the importance of collaboration. The disadvantages focused on the need to work with common department members rather than interdisciplinary team members, while some respondents indicated that the setting did not really have an impact on the professional development; the more impactful component was the topic or content. The final question to earn greater responses from both teaming focus groups was question 11 which asked participants to identify two critical components in delivering and receiving professional development. Responses included the quality of the presenter, the type of presenter (classroom teacher versus instructional leader), timing, presentation style, hands-on activities, and specific content area examples.

I also conducted the descriptive analysis on schools C and D and extracted three questions that earned greater responses compared to the others from the post-professional development focus groups. The first was question one which asked participants to describe their level of engagement during the professional development. Similar to schools A and B, the responses varied to this question for both focus groups. They included somewhat engaged to pretty engaged. Again, participants expanded on this question and shared what helped to keep them engaged or not engaged. They listed hands-on and interactive activities, being able to interact with the professional development, and content specific information as helping keep them engaged. They listed timing, rushed presentation, large size of information, and material that was not applicable to leading to them being not engaged during the professional development. The next question that earned greater responses from the focus groups that received their professional development via other models was question five which asked participants to

identify which strategies helped ensure their implementation of the professional development. They again selected from a list of five options, and both focus groups indicated peer observations and instructional coaching were impactful strategies to ensure implementation of professional development. Additionally, both focus groups commented on the importance of being able to collaborate with their colleagues on implementing the strategies from the professional development. The final question from focus groups C and D that earned a greater response was question 11, which asked participants to identify two critical components to delivering and receiving professional development. Responses included: Quality of presenter, examples in practice, efficiency, differentiation, consistency, and access to information.

Both delivery models had similar questions that earned greater responses from their focus group participants. This was not only because multiple participants responded to the questions, but also because they expanded significantly. Question one was obviously the first question at the start of the interview, so all participants were most likely more motivated to answer this question early in the interview process rather than later. This question also provided the foundation for the remainder of the interview. If participants were engaged, why? What was it that helped them to stay engaged? On the contrary, if participants were not engaged, why were they not engaged? Both models had a variety of responses across the spectrum ranging from not engaged, somewhat engaged, pretty engaged, to highly engaged. There appeared to be no trend of engagement by delivery model.

Question five, regarding strategies to ensure implementation of the professional development, also earned similar responses from the focus groups, regardless of delivery

model. Respondents indicated overwhelmingly the importance of peer observations and instructional coaching as having an impact on their ability to implement the strategies from professional development. Many stated that peer observations were helpful because one could see the strategy in action in another colleague's classroom, and instructional coaching provided accountability because they knew their instructional leaders would be looking for implementation of the strategy in their classrooms.

Finally, the last question was a significant question for both delivery models as well. Question 11 asked for participants to identify two critical components in delivering and receiving professional development. Each delivery model indicated the quality of the presenter, especially being one that is engaging, was important. Each delivery model also indicated that it was critical to hear from one of their own, that is, another classroom teacher, on strategies that are effective in the classroom. Schools A and B, the teaming models, commented on the importance of the activities being hands-on, as well as related to specific content areas. Schools C and D, the other models, emphasized timing of the professional development, as well as being able to apply the content to their classroom.

The three main questions that stood out from the descriptive analysis speak to what participants value in a professional development experience. They can readily tell if they are engaged or not and why. They can explicitly state what things will help ensure they implement the professional development in their classrooms, and they can name multiple factors that are critical in delivering and receiving professional development.

The thematic analysis from the focus groups also tells a story about what the prevailing themes were for the participants, as well as identifying their underlying meaning. Schools A and B (teaming) had several themes which related to the idea of

them being in small groups. They mentioned having a level of comfort in being able to share with their colleagues and ask questions, and also the ability to collaborate with their teammates. They also mentioned the importance of the activities being hands-on and interactive, and that component contributed to their engagement in the professional development. A final repeated theme for schools A and B was time, in that both focus groups felt there was not adequate time for them to not only receive all the information needed to implement the strategies they were learning, but to actually plan to put those strategies into practice. Schools C and D (other models) also had three repeated themes overall. They included time, application to the classroom, and peer observations. Similar to schools A and B, schools C and D felt there was not enough time in their professional development experience. They felt that the topics being presented merited more time for training. They also emphasized the importance of the professional development being applicable in their classrooms. They found this difficult when they could not see the topic being presented as being relevant to their content area. Finally, both schools C and D highly emphasized the importance of peer observations as a critical component to their follow-through of implementation of strategies. They indicated it was necessary to see the strategy in practice in another colleague's classroom in order to better be able to implement the strategy themselves.

Finally, the keyword analysis also revealed ideas and concepts that stood out for the focus group participants in their professional development experience. Focusing specifically on the frequent repetition of terms, it is apparent what components are most valuable to teacher participants. All four focus groups mentioned the aspect of time, mainly the short amount of time given for professional development when much more time is needed. Schools A and B frequently mentioned hands-on activities, application in the classroom, daily teacher learning, and the word team. Schools C and D used the words in action, department, meeting, and technology more frequently in their focus groups.

Instructional Leader Interviews. Not surprisingly, there were some similarities and differences between the questions that earned greater responses from the focus groups versus the instructional leader interviews. In terms of the instructional leader interviews for the teaming models, questions 8, 9, and 11 earned greater responses than the other questions. Question 8 asked the instructional leaders if they felt delivering the professional development through teaming had an impact on the ability of the teachers to implement the strategies in their classrooms. Both instructional leaders responded that the teaming environment, more specifically the smaller groups, had a significant impact on the ability of the teachers to implement the professional development in the classroom. They stated that having more face time with the presenter as well as being able to talk about specific students and strategies was highly beneficial for their teachers. Question 9, which asked instructional leaders to name the advantages and disadvantages to presenting via teams also earned larger responses from the respondents. Because both had already mentioned they felt presenting via teams had an impact on their teachers' ability to implement the professional development in their classrooms, they both spoke at length on advantages to receiving professional development via teaming. They reiterated the benefits of small groups and sharing common students via the teaming model. They also aligned in their disadvantages, which included the lack of exposure to colleagues offteam, or from common content areas as opposed to interdisciplinary teams. Finally, just as in both sets of focus groups, question 11 earned greater responses from the instructional leaders from the teaming model, who stated that application, implementation, small group sizes, and time were critical components in delivering and receiving professional development.

The instructional leaders from the other models, schools C and D, had some similarities in responses to the interview questions compared to schools A and B. Again, question 8, which asked if delivering through the specific model had an impact on teachers' ability to implement the professional development in the classroom, earned a more significant response from both instructional leaders in this delivery model. They each stated the pros of their delivery model, school C being the benefits of learning from peers over leadership and school D being the benefits of learning from content area supervisors, as being impactful on their teachers. Question 10, which asked if it would be advantageous for teachers to receive professional development in another setting, also earned greater responses from the instructional leaders in this delivery model. They each emphasized the importance of variety, and that there are multiple methods by which teachers can experience professional development, and each has certain advantages and disadvantages. Finally, like all the other focus groups and interviews, question 11 was answered at greater length for schools C and D. In describing two critical components to delivering and receiving professional development they listed relevancy, implementation, follow-up, timely, topic, and engagement.

The similarities in the responses to the interview questions by both sets of instructional leaders presents a trend in showing what the instructional leaders value.

Both models highly valued the delivery model they used for presenting their professional development, even though they were different. They both also spoke candidly on why their chosen model may not always be effective, and what other models could be effective. Last, both models reinforced the importance of application, implementation, and relevancy as being critical components in delivering and receiving professional development.

In terms of the thematic analysis, there were several repeated themes for schools A and B (teaming). They included small groups, peer observations, hands-on activities, time (appropriate amount), implementation, instructional coaching, impact on achievement, and topic. There were fewer repeated themes overall for schools C and D (other models) but the two prevailing themes were instructional coaching and relevant.

Finally, the keyword analysis again highlights frequently used words in the instructional leader interviews. Schools A and B frequently used many terms, but the terms that are highlighted include strategies, team, games, engaged, partner, and conversations. Schools C and D frequently used the following terms: Strategies, variety, peers, data, relevant, and department.

Field Notes. The analysis of the field notes provides more of a picture for the reader of the professional development experience. The experience was summarized using coding, indicating the size and setting of the professional development location, the type of activity in which the participants were engaged, if they conducted the activity alone, with a partner, or a group; and finally if they were active or passive in the professional development. First looking at each individual professional development

experience, school A's participants received their professional development using audio, visual, and kinesthetic activities. While they had some individual tasks, the majority of their participation was done in groups and was interactive. School B included some audio, visual, and kinesthetic activity in their presentation, and while they utilized some individual activities, they also had partner and group tasks. They were equally passive and interactive in their participation. School C, which utilized stations in their professional development, also had a variety of audio, visual, and kinesthetic activities in their experience, with some including partner, group, and individual tasks depending on the station, as well as interactive and passive participation. School D was majority audio and visual in its presentation, with many activities done individually with passive participation. Looking specifically at the number of segments for each of the focus groups had as well as the coding for those segments schools A and B contained nine possible segments. Of those nine, eight contained audio presentation, nine contained visual presentation, and six contained kinesthetic presentation. Four segments involved individual activities, one involved partner activities, and five involved group activities. Finally, six of the segments included passive involvement in the professional development, while seven included interactive involvement in the professional development. For schools C and D, with a total of six segments in their professional development, six segments included both audio and visual presentation of content, while only two contained kinesthetic presentation. Five segments involved individual activities, while only one involved group activities and two involved partner activities. Finally, of the six segments for schools C and D only two contained interactive participation, while five contained passive participation.

Coaching Dashboard. The Coaching Dashboard provided an element of descriptive data, in that it showed the overall number of coaching visits that have been conducted for the 2016-2017 school year thus far, and the number of times the targeted strategy was observed in the coaching visits. School A had 472 overall coaching visits and observed engagement during 111 of those visits, or 24%. School B had 251 coaching visits and observed engagement during 77 of those visits, or 28%. School C provided professional development on several different topics, four of which could be identified via coaching visits. Of the 359 overall coaching visits, 110 observed literacy strategies (31%), 133 observed engagement (37%), 74 observed technology (21%), and 94 observed differentiation (26%). Finally, school D provided professional development on text-dependent analysis which qualifies as a literacy strategy, observed 33 times of the 152 overall coaching visits, or 22%.

While the Coaching Dashboard data did not indicate any significant trend in relation to implementation of strategy and delivery model, it did, in fact, demonstrate that strategies presented in professional development are being implemented in practice in classrooms. While the level of implementation may vary depending on the time the teacher was observed and the nature of the strategy, the strategies are still being observed at some level in classrooms.

Summary

Results for this study were presented by data analysis within the professional development modalities, and then summarized by data source. The data analysis of the

teacher focus groups and instructional leader interviews included descriptive, keyword, and thematic analysis. Key concepts emerging from the focus groups included hands-on/kinesthetic activities, time, peer observations, applicability to content, and collaboration. These were repeated themes overall among all the focus groups, regardless of delivery model. Key concepts emerging overall from the instructional leaders included small groups, peer observations, interactive activities, instructional coaching, time, relevance of topic, and implementation.

This analysis of the field notes revealed that schools A and B (teaming models) included more kinesthetic strategies, more group relationships, and more interactive activities in their professional development experiences, and schools C and D (other models) included more audio and visual strategies, more independent relationships, and more passive activities overall in their professional development experiences.

The analysis of the Coaching Dashboard data demonstrated first and foremost that the strategies presented in the professional development were, in fact, observed in classrooms. However, there appeared to be no significant trend in percentage of visits in which the targeted strategies were observed related to the delivery model.

Chapter 5 Conclusions, Discussion and Suggestions for Future Research

Introduction

Results were shared in Chapter 4 by data analysis methodology and data source.

Chapter five will offer conclusions by research question and discussion in terms of the characteristics of professional development that may affect the findings, a comparison to

the literature review, emerging ideas, and implications for practice. In conclusion, a synthesis across organizing structures is offered.

Conclusions by Research Questions

This study was conducted surrounding one major research question: How do teacher participants and instructional leaders experience varied methods of professional development delivery at the middle school level? Beneath this overarching question, are five additional questions for each of the two delivery models, each separated into the teacher focus groups and instructional leader interviews. This is also represented in the conceptual framework presented in chapter three. I will summarize the results and conclusions to each of the research questions below.

- How do teacher participants experience delivery of professional development through interdisciplinary teams and other models at the middle school level?
 - Teacher participants from both delivery models value being able to interact with the material they are learning. They prefer hands-on activities as well as the ability to collaborate with their colleagues during their professional development. They appreciate a presenter who is engaging, and prefer a presenter who is a classroom teacher as well. They rely on peer observations of strategies to increase their comprehension ability in those strategies.

- What are the strengths and weaknesses of delivery of professional development through interdisciplinary teams and other models according to teacher participants at the middle school level?
 - Teacher participants from the interdisciplinary teams listed several strengths for this model including smaller group sizes, level of comfort in sharing with their colleagues, the ability to collaborate, having a common group of students, the ability to implement immediately, and the consistency of strategies presented. They also listed several weaknesses which included lack of applicability to specific content areas, not being able to discuss with similar content area teachers, and an insufficient amount of time to receive the material and complete team tasks. The teacher participants who received their professional development via other models noted several strengths from their delivery model. They included everyone receiving the same content, differentiating by content area, and receiving professional development from classroom teachers. They also identified several weaknesses to receiving professional development via other models which included more distractions in larger groups, different modeling of strategies, and lack of time to receive information.
- What are teachers' perceptions of the impact on their own abilities when professional development is delivered through interdisciplinary teams and other models according to teacher participants at the middle school level?

Some teacher participants from the interdisciplinary teams delivery model indicated that being in the teaming setting enabled them to discuss the strategies more with their colleagues, so they felt more comfortable trying to implement the strategies in their classroom. Other teacher participants from the interdisciplinary teams delivery model stated that they did not see a huge difference in the setting in terms of their ability to implement strategies in the classroom, but did emphasize that the smaller group size enabled them to collaborate more, and therefore feel more comfortable in attempting to implement the strategies in their classrooms. The majority of teacher participants from the interdisciplinary teams delivery model, however, reiterated that being with their teams enabled them to discuss and utilize strategies that would be effective for their particular groups of students. The teacher participants from the other delivery models were also split in their responses. Some teacher participants from the other models did not focus so much on the setting as having an impact on their ability to implement the strategies in their classroom, but rather the quality of the presenter and their ability to remain engaged during the professional development. Other teacher participants from the other models, who participated in the teacher share fair for their professional development, felt that model was beneficial for them because they could select which sessions they wanted to attend,

- and their ability to choose gave them more motivation to implement the strategies in their classroom.
- What are perceptions of impact on student achievement when professional development is delivered through interdisciplinary teams and other models according to teacher participants at the middle school level?
 - According to the teacher participants from the interdisciplinary teams model there is a positive impact on student achievement when professional development is delivered through interdisciplinary teams. Teacher participants from interdisciplinary teams commented that the implementation of the strategies they learned in their professional development experience increase engagement in the classroom, and therefore increase achievement as well. Teacher participants from the other delivery models also saw a positive impact on achievement in the classroom, though they were more reluctant to fully conclude it at the present moment. They also noted an impact on engagement with the implementation of the strategies in their classroom.
- What are the unintended consequences of delivery of professional development through interdisciplinary teams and other models according to teacher participants at the middle school level?
 - Teacher participants from both delivery models strongly noted a lack of sufficient time to effectively receive and implement professional development, regardless of the setting. The delivery

through teams facilitated an environment in which teachers felt more comfortable sharing and asking questions. Teachers strongly valued being able to participate in hands-on activities as they learn, as well as being able to learn from and observe their colleagues implementing the strategies. The participants in the professional development through teaming also participated in more interactive group activities during their professional development experience. Teacher participants from the other models also emphasized the important role that content areas play in the professional development picture.

- How do instructional leaders experience professional development through interdisciplinary teams and other models at the middle school level?
 - Instructional leaders from all models saw the value in the model they utilized. The instructional leaders from the teaming model highlighted the small groups and level of comfort in collaborating with colleagues, as well as being able to discuss common students with teammates. They also noted the importance of engagement during professional development, and the use of interactive activities to increase engagement. In addition, they mentioned the value of being able to collaborate with department members as a possible adjustment to professional development delivery. The instructional leaders from the other models also felt strongly that

their chosen model was effective. They reiterated the importance of being able to learn from colleagues as well as those who are experts in a particular content area. They also concluded that there are a variety of ways in which to deliver professional development, and the variety of methods contributes to engagement.

- What are the strengths and weaknesses of delivery of professional development through interdisciplinary teams and other models according to instructional leaders at the middle school level?
 - Instructional leaders from the interdisciplinary teams model listed strengths including being able to discuss common students and smaller groups leading to ease of sharing and asking questions, as well as higher levels of engagement observed in the teachers. Weaknesses from the teaming model include always being around the same teachers and not being able to collaborate with your content area. Instructional leaders from the other models listed strengths including more teacher buy-in as a result of having choice in stations, shorter sessions leading to higher engagement, and being able to collaborate with department members. Weaknesses from the other models include difficulty in ensuring all strategies are implemented, amount of preparation required for

professional development, and being unable to collaborate with same grade level teachers.

- What are the perceptions of impact on teacher abilities when professional development is delivered through interdisciplinary teams and other models according to instructional leaders at the middle school level?
 - Instructional leaders from the interdisciplinary teams model believed some teacher participants felt more confident in using the strategies after being able to discuss them with their teams, and most are willing to take a risk and try new strategies. Instructional leaders from the other models believed participants in this delivery model had multiple exposures to the content through professional development, and therefore were more comfortable implementing the strategies in their classroom. They also noted a system of accountability to ensure strategies were being implemented.
- What are the perceptions of impact on student achievement when professional development is delivered through interdisciplinary teams and other models according to instructional leaders at the middle school level?
 - o Instructional leaders from the interdisciplinary teams model noted higher levels of engagement lead to higher levels of achievement, and if implemented, they believe the professional development will have a positive impact on achievement. Instructional leaders from the other models noted increased engagement and therefore increased retention, but were inconclusive as to whether there was an impact on achievement at this point.

- What are the unintended consequences of delivery of professional development through interdisciplinary teams and other models according to instructional leaders at the middle level?
 - o Instructional leaders in the teaming model prefer this model because they feel smaller group sizes lend themselves to higher engagement by their teachers. They also find more ease in preparing and coordinating professional development through this delivery model. Instructional leaders from the other models note the difficulty in arranging and coordinating this type of professional development, as well as the challenge of having building leadership at each session to hold teachers accountable. They also note the value of learning from someone who is in the classroom, as well as someone who is familiar with their content area.

Discussion of Characteristics of Professional Development That May Have Affected Results

Prior to discussing the significance of the results and relating them to the review of literature, it is important to note some characteristics of the professional development experiences from the four schools that may have some impact on the results. School A participated in professional development via the interdisciplinary teaming model, and received their professional development on engagement techniques. School A is also the

school at which I am employed and serve as an administrator, as well as oversee the professional development. While I did not facilitate or lead this particular professional development, I do have that role the majority of the time. While the teachers and instructional leader interviewed provided honest and genuine answers in my opinion, I also have to acknowledge there could be some level of influence by me in their responses. Also, this was a team of teachers and instructional leader that I know very well, and would characterize them as strong, effective, and highly qualified teachers and team members. Finally, I also have to acknowledge that for all four schools, the nature of the topic can have an impact on the level of engagement of the teacher participants. School A received professional development on the topic of engagement techniques and as the name states, it is much more likely to be a more engaging topic. School B also received professional development on the topic of engagement techniques. While the presentation style used for that school was slightly different within the teaming model, it was still an engaging topic, as well as one that easily applies to all content areas. School C presented on a variety of topics including vocabulary activities, technology, projectbased learning, and classroom management through a teacher share fair. Teachers were given the opportunity to select two sessions to attend, and therefore had not only more autonomy in their experience, but were also able to select stations that they would consider more engaging. Finally, School D conducted professional development on textdependent analysis. That topic, compared to engagement techniques, is more difficult to relate to all content areas and also more challenging to make highly engaging for the participants. I again must acknowledge that the topic has some influence on the results.

That being said, several critical ideas emerge from this study related to professional development at the middle school level.

Findings Related to Review of Literature

The review of literature focused on two topics: Professional development and middle school reform, specifically, the implementation of interdisciplinary teaming. As I reviewed the literature on these two topics, I noted significant periods of reform in both areas, but a lack of current data including the two topics. This study was intended to provide current data regarding professional development at the middle level.

The first area of study, professional development, referred to several studies and their conclusions on what makes professional development effective. A 2008 study by Learning Forward, formerly the National Staff Development Council, concluded, "Effective professional development is ongoing, intensive, and connected to practices and school initiatives; focuses on teaching and learning of specific academic content; and builds strong working relationships among teachers" (p.1). A second study entitled, "What Makes Professional Development Effective?" (2001) described important characteristics of quality professional development. They included activities done in study groups, task forces, or small learning communities, content area focus in the professional development, and active learning. A final article published by the Association for Supervision and Curriculum Development (ASCD) listed three areas of focus for ensuring high-quality teacher professional learning. They include focusing on

student-centered outcomes, a collaborative setting, and active participatory learning (2009).

This array of themes was heard repeatedly from the teacher participants in all focus groups, as well as the instructional leaders. School A noted many times the importance of activities being hands-on as well as the ability to share with their team in their professional development experience. School B noted they receive some form of professional development almost daily, so there is a continual focus on ongoing professional development at their building. School C was able to learn on a variety of topics from their own teachers, and we able to select sessions that were related to their specific content area. Finally, School D, who received their professional development on text-dependent analysis, noted a challenge in applying this concept to all content areas. All four of the schools noted in some way the value of an engaging presenter, specifically someone who they could relate to as a classroom teacher in order for them to envision what the strategies would look like in their specific classrooms. All four schools also noted the importance of learning the way students do, in an active and participatory manner.

The second area in the review of literature was related to middle school reform, specifically, interdisciplinary teaming. A study entitled, "Education in the Middle Grades" concluded that interdisciplinary teaming was among the middle school reform practices that, if highly implemented, is associated with an increase in the overall strength of the middle school program (1991). Another study entitled, "The Impact of School Reform for the Middle Years: Longitudinal Study of a Network Engaged in Turning Points-Based Comprehensive School Transformation" (1997) added that schools who

implemented teaming and other middle school reform practices achieved at higher levels than those who did not.

All four of the schools in my study utilize some form of teaming, but their levels of implementation are different. School A has fully implemented teaming and has had it in practice for over ten years. It is an embedded component of the school culture. School B is new to teaming as it was implemented two years ago. It is at a high level of implementation. School C, while they did not conduct their professional development via the teaming model, also maintains a highly implemented level of interdisciplinary teaming. Their interdisciplinary teams, similar to schools A and B, meet daily to discuss student support, hold Individualized Education Plan (IEP) meetings, collaborate, and receive professional development. School D utilizes a relatively low level of implementation for teaming as it is done only for student grouping purposes. The teachers do not meet with interdisciplinary team members as the other three do.

The information gained on teaming from the review of literature referred specifically to levels of student achievement and their relation to teaming. While I do not have specific data of the impact on student achievement as it relates to professional development from my study, I can share that the teacher and instructional leader perceptions were positive in this area, and affirm what the research has concluded. According to the teacher participants from the interdisciplinary teams model there is a positive impact on student achievement when professional development is delivered through interdisciplinary teams. Teacher participants from interdisciplinary teams commented that the implementation of the strategies they learned in their professional development experience increase engagement in the classroom, and therefore increase

achievement as well. Teacher participants from the other delivery models also saw a positive impact on achievement in the classroom, though they were more reluctant to fully conclude it at the present moment. They also noted an impact on engagement with the implementation of the strategies in their classroom. Instructional leaders from the interdisciplinary teams model noted higher levels of engagement lead to higher levels of achievement, and if implemented, they believe the professional development will have a positive impact on achievement. Instructional leaders from the other models noted increased engagement and therefore increased retention, but were inconclusive as to whether there was an impact on achievement at this point.

Emerging Ideas

This study began as a link between two fundamental components of the middle school: Professional development and interdisciplinary teaming. The foundation of the study was the teacher voice and hearing from educators what is valuable to them in their professional development experience. Each school and professional development experience leaves behind many take-aways for the teacher participants, instructional leaders, and district leadership. School A, with its high level of implementation of teaming, maintains a commitment to that reform practice. It was evident in the focus group that the teachers were not only comfortable with one another, but enjoyed being with one another. Therefore, their experience in professional development was more enjoyable and more engaging to them. They also are a group of teachers who are willing to try new things for the benefit of their students, and are energized by the process of

learning. Their deep commitment to this was palpable in the focus group and truly reinforces that the teaming model has an impact on their participation in professional development. They noted small groups and teaming multiple times in their focus group, and appreciated the ability to have in-depth conversations with their team members. They also reiterated the importance of being active. They listed many strategies that were used during their professional development that enabled them to remain engaged, and one teacher even noted, "I felt like I wasn't looking at the clock because we were actually doing things."

While I do not know the personalities of the teachers from the other schools like I do school A, I can still speak to what I observed in the professional development as well as the focus groups and share ideas that emerge from those schools. School B, who also received their professional development via teaming, also demonstrated a high level of comfort with one another and emphasized collaboration. However, an emerging idea from this school was the importance of professional development being conducted by content area and teachers with related classes being able to collaborate with one another. While they value the professional development experience with their team members and discussion on implementing specific strategies within their team, they crave the opportunity to break down strategies more by content to implement in their classes.

School C, which utilized the teacher share fair for their professional development, also leaves behind some key take-aways. First, there is a deeply embedded process of professional development at the school that includes weekly professional development, accountability, and follow-up. The teachers mentioned several times that the expectation was to learn new strategies and implement them in their classrooms. Second, the teachers

from this school valued being active participants in their learning. They reinforce being able to interact with the professional development, as well as it being immediately applicable to their classrooms. From my perception as the researcher, they also displayed a high level of comfort within the team I utilized for the focus group. There appeared to be a strong level of support within the team as well as a commitment to implementing the strategies from the professional development, and accountability.

Finally, School D, which experienced its professional development via content areas, also presents emerging ideas. First, they value being able to work with their department members. Because they do not have a high level of implementation of teaming, the majority of their collaboration is done via department or grade level. While they see that as beneficial, they also note the specific strategy for which they received professional development, text-dependent analysis, is challenging to make applicable to all content areas. They also concluded that they wanted to be engaged in their professional development experience with an engaging presenter and hands-on activities.

All four schools mentioned time in some capacity. Several teachers noted that in order to truly learn a new strategy, they needed more time to be exposed to it. A 20 or 40-minute session was simply not sufficient for deep learning of a concept. There was also a sense of overwhelming in the focus groups because there are so many new things to learn, and teachers are craving time to implement them. When asked what would help to ensure the implementation of strategies one teacher stated, "You need time on here. In all the professional development they tell you this stuff, but we just need time to implement it." Many of the schools are learning a new topic each month in their

professional development, and adding that to their current content is becoming more and more challenging.

Implications for Practice

The results of this study have implications at a variety of levels. On a national level, the findings affirm what the research has concluded in regard to effective professional development. It must be active and participatory, related to content, collaborative, and tied to student outcomes. As professional learning organizations such as Learning Forward and the Association for Supervision and Curriculum Development move forward and provide training for instructional leaders, their focus should be on providing leaders the tools to tailor their professional development to the specific needs of their teachers, rather than promoting a one size fits all model or a generic presentation. Teacher learning occurs on an individual and personal level, and leaders on a national level must commit to providing some element of personalization for teacher learning. Additionally, the Every Student Succeeds Act (ESSA) has widened the definition of professional development to include personalized, on-going, job-embedded activities, and national organizations should consider those criteria as foundational in their leader training.

The State of Nebraska should also take notice of the value of effective teacher learning. While the focus of state legislation may not be on teacher learning, it should be part of the conversation so our state can attract and maintain highly qualified teachers.

Educators want to work in a network where they will be supported and have the ability to grow in their skills, and we must commit to that on a state level.

Our universities and colleges are preparing a teacher workforce for students who learn in a variety of ways, and so our higher education must also commit to providing learning opportunities in a variety of ways. Students need to see that sit and get and lecture are not always the most effective means for delivering instruction, and just as our students learn more in an active, participatory manner, so do our future educators. Higher education should model engaging strategies for students that will transfer to the classroom. Higher education institutions should also facilitate a professional growth plan for future educators that will be maintained throughout their career. Teacher learning does not occur during in an isolated period of the profession, but rather is a process throughout a teacher's entire career. Our higher education institutions should encourage and support the process of lifelong learning.

The Omaha Public Schools is the largest urban district in the state of Nebraska, and one of the largest in the Midwest. With over 50,000 students, it is a foundational piece to the city of Omaha. The district has seen significant changes in the last 12 years, which is the length of my tenure thus far. In less than six months, a new superintendent as well as a new assistant superintendent for curriculum and instruction will be hired. The instructional leaders for our district, much like at the state and national levels, must have a commitment to effective teacher learning. They should facilitate a plan where research-based strategies are presented to instructional leaders in a way they can be tailored to the specific needs of their school. They should also emphasize the importance of doing fewer skills very well, rather than too many skills at a mediocre or less than

mediocre level. Teachers feel overwhelmed and ineffective when they cannot master a skill, much like our students. As leaders, we should provide them opportunities to feel success. Second, our district should show the value of teacher learning by providing time for teachers to learn. Many other districts provide late start or early dismissal days and utilize the extra minutes for teachers to participate in professional development. Using this plan, teachers are not giving up plan time or time after school for their learning, and have more time to be exposed to the professional development. With the current set-up teachers are rushed in their own learning, leading to stress and ineffective results. Finally, the district should recognize and reinforce the value of collaboration, specifically through teaming. The benefits of teaming at the middle school level, including collaboration, increases in student achievement, and impact on school climate, were noted throughout the review of literature as well as from the focus groups. While the professional development does not necessarily have to be conducted through teaming, which was demonstrated in this study, the practice of teaming itself was noted as being strong and effective at the middle school level in the Omaha Public Schools.

The four schools utilized for this study all have strengths in their practices.

School A has a deeply implemented practice of teaming and a culture of sharing and collaboration via teams. School B has a commitment to ongoing professional development on a daily basis, and a focus on implementation of strategies. School C also has a daily commitment to teacher learning, and reinforces a system of accountability to ensure teachers are implementing strategies in the classroom. School D has a commitment to teacher learning by content area and a focus on collaboration by departments. As I experienced professional development at these schools, these strengths

were highly evident to me on the multiple visits I had. My suggestions to all these schools as a result of this study are to provide teachers time to master the strategies they are learning. As leaders we feel burdened to teach on many new strategies that our teachers seldom have time to plan, implement, and see results. As buildings, departments, teams, and individual teachers, we should select no more than three strategies to implement and master in a school year. We should facilitate opportunities for teachers to learn from their peers as well as observe their peers as a component of their learning. We should also understand that professional development can occur in a variety of ways, and we should provide a variety of experiences for our teachers. Finally, we should promote professional development that engages the brain through active learning which will transfer easily to the classroom.

Finally, this study had, and will continue to have an impact on my personal educational philosophy. I have never doubted that every student can learn, nor have I doubted that every teacher is there for the good of their students. I take great pride in the teachers I am fortunate to lead and this study reinforced the importance of constantly hearing their voice. As a teacher, I was responding to the needs of my students on a minute to minute basis. If there was a concept I could tell they were not grasping, I retaught and re-taught until I could see they understood. I also did not teach something and then never refer back to it. My instruction was a pyramid that was built upon daily. As a leader, I hope to emulate this for my teachers. I want to continually put things in their toolbox they can use to benefit their students. I want to be observant to their understanding and proficiency in strategies, and have a variety of methods to teach and re-teach strategies. I want them to have the ability to see strategies in action from their

colleagues, and I also want to build up their confidence by having them present to their colleagues in a professional development setting. I want to foster a culture of collaboration across teams, departments, and grade levels, as well as maintain a system of accountability through peer observations and instructional coaching. I want to model effective professional development in its presentation with highly engaging and participatory activities. Most importantly, I want to continue to hear their voice on their learning needs and convey to them that their thoughts and perceptions are valued by me.

Synthesis Across Organizing Structures

The purpose of this study was to describe and understand the experiences of teachers and instructional leaders related to delivery of professional development at the middle school level focusing specifically on one of the tenets of middle school reform, teaming, compared to other delivery models. This study involved multiple data sources, qualitative and quantitative data, and several different data analysis methodologies.

Across these organizational structures, the themes that emerged most strongly by model were:

Teaming: Participants noted time for receiving professional development, handson/interactive activities, small groups, peer observations, instructional coaching,
and relevance of topic as critical components in their professional development
experiences.

Other Delivery Models: Participants noted time for implementation of strategies,
 application to content, peer observations, instructional coaching, and relevancy to
 content as critical components in their professional development experiences.

Finally, the themes that emerged most strongly across all the delivery models were:

- Time to implement strategy, receive professional development
- Application to content
- Hands-on activities
- Instructional coaching
- Relevance of topic
- Peer observations
- Use of small groups

Summary

Conclusions I would offer are that there are some differences perceived about the effectiveness of professional development in relation to the teaming oriented delivery compared to other delivery models, yet there are also consistencies across the various professional development delivery models. Identifying what the needs of teachers are for skill development within content areas and in overall instruction, as well as the optimal setting to deliver that training, and ensuring effective follow-up may help to maximize the effectiveness of all middle level professional development for teachers.

References

Alexander, W. M. (1987). Toward schools in the middle: Progress and problems. *Journal of Curriculum & Supervision*, 2(4), 314-329. Retrieved from

http://search.ebscohost.com.leo.lib.unomaha.edu/login.aspx?direct=true&db=eue&A
N=48151116&site=ehost-live&scope=site

Association for Middle Level Education. (2010). This we believe: Keys to educating young adolescents

Bogdan, R., & Biklen, S. K. (1992). *Qualitative research for education* (2nd ed.) Pearson.

Briggs, T. H. 1. (1917). Possibilities of the junior high school. *Education*, *37*(5), 279-289.

Retrieved from

http://search.ebscohost.com.leo.lib.unomaha.edu/login.aspx?direct=true&db=eue&A

N=21098408&site=ehost-live&scope=site

- Clark, S. N., & Clark, D. C. (1993). Middle level school reform: The rhetoric and the reality. *The Elementary School Journal*, *93*(5, Special Issue: Middle Grades Research and Reform), 447-460. Retrieved from http://www.jstor.org/stable/1001822
- Clark, D., Hackmann, D., Petzko, V., & Valentine, J. (2001). *Leadership for highly successful middle level schools*.. National Association of Secondary School Principals.
- Creswell, J. W. (2009). Research design qualitative, quantitative, and mixed methods approaches. United States of America: SAGE Publications.

- Creswell, J. W. (2014). Research design qualitative, quantitative, and mixed methods approaches (4th ed.). California: SAGE Publications Inc.
- Darling-Hammond, L., & Richardson, N. (2009). Teacher learning: What matters?

 **Educational Leadership, 66(5), 46-53. Retrieved from

 http://search.ebscohost.com.leo.lib.unomaha.edu/login.aspx?direct=true&db=eue&A

 N=508040987&site=ehost-live&scope=site
- Desimone, L. M. (2011). A primer on effective professional development. *Phi Delta Kappan*, 92(6), 68-71. Retrieved from http://search.ebscohost.com.leo.lib.unomaha.edu/login.aspx?direct=true&db=eue&A
 https://search.ebscohost.com.leo.lib.unomaha.edu/login.aspx?direct=true&db=eue&A
- Dickinson, G., McBride, J., & Lamb-Milligan, J. (2003). Delivering authentic staff development. *Education*, 124(1), 163-168. Retrieved from http://search.ebscohost.com.leo.lib.unomaha.edu/login.aspx?direct=true&db=eue&A
 N=507858767&site=ehost-live&scope=site
- Felner, R. D., Jackson, A. W., & Kasak, D. T. (1997). The impact of school reform for the middle years: A longitudinal study of a network engaged in turning points-based comprehensive school transformation. *Phi Delta Kappan*, 78, 528.
- Garet, M. S., Porter, A. C., Desimone, L., Birman, B. F., & Yoon, K. S. (2001). What makes professional development effective? results from a national sample of teachers. *American Educational Research Journal*, 38(4), 915-945. doi:10.3102/00028312038004915

- Iver, D. J. M., & Epstein, J. L. (1993). Middle grades research: Not yet mature, but no longer a child. *The Elementary School Journal*, 93(5, Special Issue: Middle Grades Research and Reform), 519-533. Retrieved from http://www.jstor.org/stable/1001826
- Jackson, A. W., & Andrews Davis, G. (2000). *Turning points 2000: Educating adolescents in the 21st century* Teachers College Press.
- Lounsbury, J. H. (1989). So far, so good: The junior high school story. *Contemporary Education*, 60, 92-94. Retrieved from

 http://search.ebscohost.com.leo.lib.unomaha.edu/login.aspx?direct=true&db=eue&A

 N=508300900&site=ehost-live&scope=site
- Merriam, S. B. (1998). *Qualitative research and case study applications in education 2nd ed*;. United States of America: Jossey-Bass. Retrieved from http://search.ebscohost.com.leo.lib.unomaha.edu/login.aspx?direct=true&db=eue&A
 https://search.ebscohost.com.leo.lib.unomaha.edu/login.aspx?direct=true&db=eue&A
- National Center for Education Statistics. (2001). Schools and staffing survey. Retrieved from http://nces.ed.gov/surveys/sass/index.asp.
- Nebraska Department of Education. State of the schools report. (2014) Retrieved from http://reportcard.education.ne.gov/Default_State.aspx
- Omaha Education Association and Douglas County School District No. 0001. (2015).

 Master agreement

Omaha Public Schools. (2010). Academic action plan.

Omaha Public Schools. (2010). Year-long professional development plan.

Savin-Baden, M., & Howell Major, C. (Eds.). (2013). *Qualitative research: the essential guide to theory and practice* Routledge.

Turning points: Preparing American youth for the 21st century. the report of the task force on education of young adolescents. (1989). Carnegie Council on Adolescent Development, P.O. Box 753, Waldorf, MD 20604 (\$9.95 per copy; \$8.95, 11-25 copies; \$6.95, 26-99 copies; \$5.00, 100-499 copies; \$4.00, 500 or more copies). Retrieved from http://search.proquest.com.leo.lib.unomaha.edu/docview/63028969?accountid=1469

United States Department of Education. (2015). Every student succeeds act. Retrieved from http://www.ed.gov/essa?src=rn

Van Til, W. (1970). Junior high school or middle school? *Contemporary Education*, 41, 222-231. Retrieved from http://search.ebscohost.com.leo.lib.unomaha.edu/login.aspx?direct=true&db=eue&A
http://search.ebscohost.com.leo.lib.unomaha.edu/login.aspx?direct=true&db=eue&A

Yoon, K.S., Duncan, T., Lee, S.W.-Y., Scarloss, B., Shapley, K. (2007). Reviewing the evidence on how teacher professional learning affects student achievement. (No. REL 2007-No. 33). Washington D.C.: U.S. Department of Education, Institute of

Education Sciences, National Center for Education Evaluation and Regional Assistance.