Rhode Island College

Digital Commons @ RIC

Master's Theses, Dissertations, Graduate
Research and Major Papers Overview

Master's Theses, Dissertations, Graduate
Research and Major Papers

Spring 5-2012

The Dialectics of Teacher Change within a Community of Practice

Armand R. Pires
Rhode Island College

Follow this and additional works at: <https://digitalcommons.ric.edu/etd>

Part of the [Curriculum and Social Inquiry Commons](#), [Educational Assessment, Evaluation, and Research Commons](#), [Elementary and Middle and Secondary Education Administration Commons](#), [Junior High, Intermediate, Middle School Education and Teaching Commons](#), and the [Social and Philosophical Foundations of Education Commons](#)

Recommended Citation

Pires, Armand R., "The Dialectics of Teacher Change within a Community of Practice" (2012). *Master's Theses, Dissertations, Graduate Research and Major Papers Overview*. 59.
<https://digitalcommons.ric.edu/etd/59>

This Dissertation is brought to you for free and open access by the Master's Theses, Dissertations, Graduate Research and Major Papers at Digital Commons @ RIC. It has been accepted for inclusion in Master's Theses, Dissertations, Graduate Research and Major Papers Overview by an authorized administrator of Digital Commons @ RIC. For more information, please contact digitalcommons@ric.edu.

**THE DIALECTICS OF TEACHER CHANGE
WITHIN A COMMUNITY OF PRACTICE**

BY

ARMAND R. PIRES

**A DISSERTATION SUBMITTED IN PARTIAL FULFILLMENT OF THE
REQUIREMENTS FOR THE DEGREE OF**

DOCTOR OF PHILOSOPHY

IN

EDUCATION

UNIVERSITY OF RHODE ISLAND

AND

RHODE ISLAND COLLEGE

2012

DOCTOR OF PHILOSOPHY DISSERTATION
OF
ARMAND R. PIRES

APPROVED:

Dissertation Committee:

Major Professor	Dr. David Brell
	Dr. Carolyn Panofsky
	Dr. George Willis
	Dr. David Byrd
	Dr. Alexander Sidorkin DEAN OF FSEHD-RIC
	Dr. Nasser H. Zawia DEAN OF THE GRADUATE SCHOOL-URI

UNIVERSITY OF RHODE ISLAND
AND
RHODE ISLAND COLLEGE

2012

ABSTRACT

Teacher change is at the heart of school reform. The research on teacher change has been primarily focused on teacher change from an individualistic perspective and has identified three possible paths of teacher change: beliefs precede change, change precedes beliefs, or change is nonlinear and recursive. This study looked at teacher change within a middle school during a time the school was undergoing a district-driven change in student grouping practices.

The study was conducted during the 2009-2010 school year and included ten teachers of science, social studies, and English in a grade 6-8 middle school. A qualitative study approach was used and data was collected from individual interviews, field notes and classroom observations. Wenger's (1998) Community of Practice model was used as a framework that allowed the data collected to be viewed from both an individual and community perspective.

Two levels of data analysis were completed. The first data review was conducted to assist in answering the questions that were identified at the outset of the study. The second review extended analysis and examined the dialectics of teacher change. Qualitative analysis conducted found that participants were more positive the longer they experienced the change in grouping practices, participants felt that the change in grouping practices benefited struggling learners, and participants relied on each other to understand and effectively assimilate to the changes in practices demanded by the grouping change. The examination of teacher change during this study also found that teacher change was recursive and non-linear. Williams Middle School was also confirmed to meet the criteria of a Community of Practice (Wenger,

1998). Additionally, Williams Middle School, at the time of the study exhibited the characteristics of a Community of Innovation (Coakes and Smith, 2007). Finally, an adaptation of Wenger's (1998) Community of Practice model is offered to provide a possible framework to apply the model to schools.

ACKNOWLEDGMENTS

I am grateful to the educators and mentors that have inspired me throughout my professional career to continue to seek answers to the most difficult questions. I am grateful to my major professor, Dr. David Brell, and committee members, Dr. Carolyn Panofsky, Dr. George, Willis, Dr. David Byrd, and Dr. Randy Desimone who gave of their time and energy to offer guidance to me through this long and, often, arduous process. I would like to especially thank David Brell for his mentorship during this journey. Also, I would also like to thank the exemplary teachers from Williams Middle School who willingly participated in this study.

Finally, I would like to thank my family for their ongoing support. Most importantly, my thanks to April, for her support and encouragement as I worked toward achieving my goal. This project is dedicated to my children, Armando and Olivia, for their encouragement and understanding, and in hope that education will help them achieve their goals. It is also dedicated to Joy.

TABLE OF CONTENTS

ABSTRACT	ii
ACKNOWLEDGMENTS	iv
TABLE OF CONTENTS.....	v
LIST OF TABLES	viii
LIST OF FIGURES	ix
CHAPTER 1 Introduction	1
My Background.....	1
My Interest in Teacher Change	4
The Convergence of Two Interests	5
Research Purpose	8
Justification of the Study.....	9
CHAPTER 2 Literature Review and Conceptual Framework.....	12
Introduction	12
Literature Related to Tracking/Grouping.....	13
Literature Related to Teacher Change.....	18
Conceptual Framework	27
Extending the Model of Communities of Practice.....	31
Connections of Communities of Practice to My Study.....	33
CHAPTER 3 Methodology.....	34
Overview	34
Qualitative Research	35

Case Study Research	37
Data Collection.....	38
Design of the Study.....	44
Method of Data Analysis	49
Potential Limitations	50
Conclusion	54
CHAPTER 4 Findings and Initial Analysis	55
Organization of Chapter 4.....	55
Introduction and Background.....	55
Initial Findings	60
Summary of Beliefs and Practices	90
Conclusion	93
CHAPTER 5 Extended Discussions, Conclusions, and Implications	95
Introduction	95
Summary of the Study.....	96
An Adaptation of Wenger’s Model.....	98
Extended Analysis of the Adapted Model	107
Implications.....	128
Summary and Conclusion	138
APPENDICES	143
A. Participant Interview Starter Questions	143
B. Informed Consent	145
C. SALT Survey Results	147

D. 2008-2009 Principal's Evaluation by Faculty	150
E. SALT Visit to Williams Middle School Report	153
BIBLIOGRAPHY	156

LIST OF TABLES

TABLE	PAGE
Table 1 Study Participants.	48
Table 2 Teacher data (2009-2010)	92

LIST OF FIGURES

FIGURE	PAGE
Figure 1. Model of the Process of Teacher Change, Guskey (1986).	20
Figure 2. Teacher Centered Systemic Reform (TCSR) Model of Educational Reform, Woodbury and Gess-Newsome (2002)	22
Figure 3. Teachers' Way of Perceiving Mathematics Reform, Senger (1988-1989)..	26
Figure 4. A Social Theory of Learning, Wenger (1998)	28, 99
Figure 5. An Adaptation of Wenger's Community of Practice Model	105

CHAPTER 1

INTRODUCTION

My Background

As a school administrator, I work with a wide variety of individuals. Teachers, staff members, parents, and students come from interesting and different backgrounds. Their beliefs about education are incredibly varied. I have become very interested in teachers' beliefs and how teachers change both their beliefs and practices. This research interest in teacher change and teacher beliefs has developed over the past 20 years. In order to understand my interest in these topics, it is important to understand a bit about my background.

Academics, in general, was not something that was valued in my working-class family. For example, there was a clear absence of age-appropriate reading materials for my siblings and me. I do not have any recollection of either of my parents reading for pleasure during my childhood. Family trips were made to theme parks and beaches, not to museums or historic sites.

As a family, we were clearly positioned within the blue-collar, working class. As was perhaps typical of blue-collar families of the era, values of working hard, doing your best, and being a good person were transferred with great effectiveness to my siblings and me. I remember clearly my desire as an adolescent to contribute to my family and society through work. As soon as I was able to, I obtained working papers and began to work in the kitchen of the nursing home where my mother also worked. At that point in my life, when I was in eighth and ninth grade, it was clear that my work at the nursing home was valued at a higher level than my work at school by my

family. I remember specifically being given permission to miss school on a couple of occasions in order to fill in for another employee who was absent. In many ways, I received mixed messages when education and work were involved. Although my parents expected me to do my best and not disappoint them by receiving grades that were failing, it seemed that nearly all other family activities or work responsibilities took precedence over school responsibilities. Overall, when I think back to my parents' early attitudes toward education, I remember them being rather passive. It seemed that they were pleased when I did well on a school assignment and brought home passing report cards, but I would not get scolded for low grades. As long as my grades were passing, they seemed happy with my academic performance.

I began my public schooling experience by attending Head Start during preschool. From there I attended the Central Falls (RI) Public Schools from grade K through graduation. For most of my childhood, I grew up in a single-parent home. I can think of only two teachers in my K-12 experience who worked with me individually to develop my academic skills and interests. It seemed that most teachers felt that as long as I was achieving passing grades they did not have to be too concerned with my academic accomplishments. As I got older, and began to view school as a chore and a requirement, not an exciting place to learn, my grades became worse.

There are two clear memories I have of school that I would later come to understand as being related to teacher expectations and tracking. The first occurred when I was in first grade. I remember meeting with a number of adults who would ask me questions or show me inkblots. I had been referred to special education by my

first grade teacher because of poor academic performance. The special education testing revealed that I did not have the learning disability that was suspected, but suffered from poor vision and being seated in the back of the class. My academic failure was a function of me not being able to see the work on the board. The teacher's attitude toward me changed almost immediately. I began receiving additional help that had not been available before. In addition to being moved to the front of the class, I was also often asked to help out with other projects. I had gone from the forgotten student in the back of the room to teacher's pet. I remember feeling guilty about this new found attention.

The second significant event occurred while I was a high school sophomore when I began to consider what I would do after high school. My sister, a year older than me, had already been thinking about entering the world of work when she graduated from high school. In high school she worked in a physician's office, and her employer indicated that she would be able to work full-time when she finished high school. I, on the other hand, worked a part-time job with no desire to continue in a full-time capacity when I graduated. As a result I began to explore other possibilities. A couple of very good friends of mine and I were discussing our future plans when they indicated that they were planning to go to college. This was the first time that I had engaged in a serious conversation about college with anyone.

Shortly after that conversation I met with my high school guidance counselor. I remember sitting in the guidance counselor's office and discussing what I wanted to do after high school. My suggestion that I wanted to attend college was met with disapproval. The guidance counselor thought I would be better suited to go into

“business.” He “explained” that I was not really the type of student who would succeed in college. The school I attended had six groups; B2 represented the fourth group from the top. Although at the time I might have been a naïve sophomore in high school, I understood that educators, including guidance counselors, were supposed to encourage the academic achievement of their students. This conversation left me confused and angry. I could not understand how my guidance counselor thought he knew me well enough to know whether or not I would be successful in college. At the time this meeting occurred, I had never before met with my guidance counselor. He seemed to draw his conclusion based on the fact that I was placed in a specific group with other students who didn't demonstrate high levels of academic achievement. The fact that I refused, at this point, to do any academic work outside of school did not seem to matter to him. At that point I resolved to attend college. The decision to attend college came from a combination of not having an alternative plan and to prove my guidance counselor wrong.

My Interest in Teacher Change

In 1996 I entered the Master of Public Health program at Boston University because I was interested in learning more about behavior. While studying for my graduate degree, I became very interested in how the behaviors of populations can be changed. This interest was also linked closely with my personal life. My grandmother, with whom I had been very close for most of my childhood, had been diagnosed with a terminal pulmonary disease. The progress of this disease, although terminal, would be slowed if my grandmother made some lifestyle changes. Specifically, she would have to stop smoking. Her choice to smoke or not to smoke would have a direct

impact on the longevity of her life. My grandmother chose to continue smoking; at least it seemed to be a choice. I was fascinated by the idea that, although someone had specific information about how to improve her life, she would choose to ignore it. Throughout my graduate work I explored the motivations and stages of behavior change among populations. This work provided me with a deeper understanding of the theories related to motivations of human behavior and approaches that could be used to modify and change behavior.

While completing my degree I took a position as a teacher within a suburban Boston school system. Almost immediately I began to apply the theories related to behavior change that I had learned during my graduate work into my professional work. I have continued to do so over the course of my career as an educator. Over the past decade I have been a teacher, department head, assistant principal, and principal. Specifically, in my role as principal, I have been able to use my understanding of group behavior to make changes within the culture of the school. It was at this point that my interest in aspects of behavior change and my early experience with grouping practices converged.

The Convergence of Two Interests

At the beginning my career as a principal I was increasingly struck by how significantly grouping practices affected students. This process of realization began for me over the summer of my first year as principal. I was surprised to be contacted via e-mail, telephone, or drop-in visits by many parents who were adamant that their children should be placed in the honors group. Parents wanted to be sure that their children were going to be challenged. Unspoken was their strong desire to keep them

separate from other students who were viewed as "undesirable." Very quickly I learned to articulate the process that we used to group students. That investigation led to a long conversation with one of the guidance counselors in the building, who informed me that we grouped students based primarily on teacher recommendations. Immediately I understood the unfortunate consequences of this practice. For example, I remember one student, "John," who had scored proficient with distinction on the state required standardized test. He was placed in "fundamental" classes. These classes were designed for students who were determined to be "slow" learners.

In an effort to better understand the impact of our grouping practices on students I had a conversation with John. We discussed why his academic achievement levels were so much lower than his standardized testing scores. He informed me that he was bored in school, and since none of his teachers had expected much of him, he simply did as little as possible. At approximately the same time that this conversation occurred, I was required, by a professor, to conduct a literature review of "an issue in education that remained unresolved." It seemed clear that the issue I needed to select was grouping practices. A relatively cursory literature review affirmed both my personal and professional opinion that tracking students based on perceived ability is an inappropriate and ineffective practice.

At about the same time, the principal from the other middle school in town and I approached the central administration about examining the grouping practices within the middle schools. This led to the development of a study committee that reviewed both research and practice related to middle school tracking practices. Ultimately the committee recommended that the schools adopt heterogeneous grouping for students

in English, science, and social studies. Mathematics would continue to be grouped by ability. The committee also determined that the change in grouping practice would be phased in over three years. It would begin in 2007-2008 with grade six students and then include each subsequent grade over the next two years.

It was clear that this grouping change afforded a unique opportunity for research. At that point I believed I would conduct a research study related to the impact of the grouping change on students. Comparing students' academic achievement before and after the grouping change occurred would potentially offer an understanding of the impact. It would also contribute to the significant number of studies that have looked at the impact of grouping practices.

This idea, however, seemed less interesting to me than the impact of this grouping change on the teachers. I was interested in how they would implement this change. How would teachers handle this change if they did not believe in heterogeneous grouping? Would colleagues support each other during this change? If so, what would that support look like? These represented a few of my early questions related to this grouping change.

After continued reflection I realized that I was in an excellent position to merge my two greatest areas of interest: behavior change and grouping practices. It was then that I decided to conduct a study on teacher change in the context of a change in grouping practices at the middle level. This study combined my interest in behavior change and grouping practices and allowed me to use the context of a change in grouping practices to study the change process that teachers undergo during a significant change in school policy. Since grouping practices in education tend to

evoke strong feelings of support or opposition, I felt it would provide an interesting context for the study. The focus on teacher change also allowed me to engage in the study from the perspective of a school leader.

In addition, I was hopeful that this research would provide a better understanding of the process of change that teachers follow when dealing with a change that is not initiated by them. With a better understanding of the impact that such a change has on teachers, we might better understand how to ensure successful implementation of school reform. This would, of course, be critical in our current environment of continuous improvement. In addition, effective preparation for a reform effort might allow us to limit the negative consequences of the change process and enhance the likelihood of success.

Research Purpose

Facilitating changes in teacher practice is a complex and often difficult proposition. The research literature provides guidelines about how to successfully implement school reform. The research literature also provides possible methods to accomplish change in teachers' practice. Overall the concept of teacher change is not well understood. Although change is often demanded in education, there is some evidence that educators are often reluctant to change. A change that results in a modification of instructional practice and core beliefs is even more difficult to implement. This study seeks to understand the impact of a change in grouping practices on teachers' beliefs, attitudes, and practices. It looks at teacher change from both the individual and community perspective, during a significant school reform

effort. It also seeks to understand whether teachers change, or do not change, their beliefs to accommodate changes that they are unable to control.

This study seeks to look at teacher change during the process of implementation of a new grouping pattern, through the social learning theory of Communities of Practice (Wenger, 1998). It provides a unique opportunity to study teacher change during the process of programmatic change (school reform) from the context of both the individual and the community. This study uses the context of a change in grouping practices which often elicits strong reactions, both for and against, among educators. An improved understanding of the process of teacher change will provide educational leaders with guidance as they undertake significant school change.

Justification for the Study

Teacher change, and the necessity to change, is at the core of school improvement. The topic of teacher change, related to a mandated change in grouping practice, was selected due to its importance. If we continue to believe that school reform is the key to school improvement, we must understand the ways that teachers respond during the implementation of a significant change at their school.

The research that has been conducted in the area of teacher change to date has not provided a comprehensive understanding of the dynamics of teacher change. The research has primarily looked at change from an individual teacher perspective and lacks a review from the perspective of a group dealing with a mandated change. Waugh and Punch (1987), summarizing research on teacher receptivity to system change, provides a cogent argument in support of looking beyond the individual teacher perspective when studying change. In identifying the shortcomings of

research on teacher change to that point they say, “the emphasis on the study of individuals in the change process drew attention away from the study of organizations, which, like individuals, also adopt changes” (p. 241).

This study seeks to provide a better understanding of the ways teachers react to school-wide change. The goal of this research is to gain a better understanding of the process that teachers navigate to deal with change. Through this understanding, the hope is that we may more effectively implement school-wide change and reform efforts with greater success. Through the approach and methodologies chosen to complete this study, the following questions will be studied:

- What do teachers say about the change in grouping practices during the implementation process?
- How do teachers’ beliefs influence their actions during the grouping practices implementation process?
- To what extent, and under what conditions does success lead to changes in beliefs, and why?
- What do teachers say about the process of implementation?
- How do teachers discuss their beliefs about grouping practice before and during the implementation of the change?
- What is the interplay and influence of colleagues on each other during the implementation process?

Gaining answers to some of the proposed questions, and others not yet identified, will improve our understanding of teacher change. Through a greater understanding of the process and practices used by teachers as they navigate a newly adopted,

district-driven change, we can better plan and implement school wide reform efforts. This study will also improve our understanding of the relationship of the individual and the group context during a significant change event. This understanding will improve our ability to plan and carry out change within schools.

In Chapter 2, a review of the literature related to student grouping practices and teacher change will be discussed. In addition, a review of Wenger's (1998) social theory of learning, Community of Practice, will be reviewed. In Chapter 3, a review of the methodology and the rationale for conducting a qualitative study are discussed. In Chapter 4, the initial analysis of the data is reviewed and discussed. Finally, in Chapter 5, an extended analysis of the data is conducted. In addition, implications of the results and possible avenues of future research are also shared.

CHAPTER 2

LITERATURE REVIEW AND CONCEPTUAL FRAMEWORK

Introduction

There are three primary fields of research that apply to the proposed study. First is the literature related to the grouping or tracking of students. This literature discusses the benefits and disadvantages of specific grouping patterns and their impact on students. A review of this literature is important as it provides a deeper understanding of the context within which the study was conducted. A change in grouping practices, after all, was the significant school reform that was being implemented at the time of the study. The second area is related to teacher change. This area of the literature provides models of change, an understanding of change as a process, analyses of the ways that teachers respond to change under different conditions, and possible motivations for teachers to change. By reviewing this literature we gain an improved understanding of the change process from the individual teacher's perspective.

The literature related to teacher change, however, focuses overwhelmingly on teacher change from the individual perspective. It does not adequately address the "community" of school members and its impact on teacher change. Since this gap exists within the literature, there is a need to identify a framework that allows us to draw the school's social context into the discussion of change. In the third body of literature, the theory of "Communities of Practice" (Wenger, 1998) will be reviewed.

Literature Related to Tracking/Grouping

As stated, a review of the literature related to student grouping is an important component of this study. This study was conducted with teachers during the implementation of a significant change in grouping practices, which provides an important context of the study. This review, although not exhaustive, provides the key elements of the research that has been conducted in the area of student grouping. Most notable is the continued lack of agreement among researchers about the effectiveness and impact of grouping students by achievement and/or ability.

The practice of tracking has been a long-discussed issue within education. Anne Wheelock describes tracking as a practice that has been in existence in public education for over a century. She points out that tracking came into use when a large number of immigrant children were entering public schools. Tracking was legitimized as a means of sorting those children who had limited preparation for school but who were also perceived to be of lower social status than other children. “Tracking,” she says, “involves categorizing of students according to particular measures of intelligence into distinct groups for the purpose of teaching and learning” (Wheelock, 1992, p. 6).

In addition to tracking, the research discusses the concepts of grouping and defacto tracking. “Grouping” implies some means of grouping students for instruction by ability or achievement so as to reduce their heterogeneity (Slavin, 1987, p. 294). Grouping may take place within an individual classroom or across a group of classrooms. “Defacto tracking” is the inadvertent process by which students remain grouped over a number of classes. As an example, imagine that a middle school

remedial reading class is scheduled for sixth grade students. Due to students' placement in the remedial reading class, they are only available to take math during a specific period. This situation creates a defacto tracking situation in their math class. The research often uses the terms "grouping" and "tracking" interchangeably, although the term "tracking" seems to carry a more negative connotation, since it more typically refers to students being "tracked" into specific classes.

Since their inception, grouping practices have long been debated in education. Some researchers (Kulik and Kulik, 1982, Fiedler, 2002, Tieso, 2003) have found that the practice of grouping by ability is necessary to effectively educate all students. Other researchers (Wheelock, 1992, Oakes, 2005) have found that grouping by ability is harmful to students, both educationally and emotionally, arguing that it serves as nothing more than a means of sorting children by social class. A more extensive review only reveals further support for both sides of the debate. As a result of this lack of a definitive, research-supported approach, there are examples of both types of practices that exist in education.

The literature review resulted in identification of many studies and position papers related to the issue of ability grouping. An early paper, published in 1961 by Ekstrom, articulates the major issue that we continue to contend with today: "One major problem in education has been to find the method of classifying students that would result in the greatest possible gains for the students and, at the same time, facilitate the best teaching techniques" (p. 216). Ekstrom goes on to discuss the debate at that time between those educators who felt that homogenous grouping would strengthen education and those who opposed the idea. There has not been much

movement since that time. Although the issue of grouping has been studied since the turn of the twentieth century, one researcher (Slavin, 1987) lamented, twenty-five years ago, that “there has been little experimental research on ability grouping in the past twenty years, though many fundamental issues concerning the effects of ability grouping on student achievement are yet to be resolved” (p. 349).

Twenty-five years have passed since then, and a literature review finds two specific categories of work on grouping. The first category includes philosophically-based or positional papers about the advantages and disadvantages of grouping strategies. The second category includes meta-analyses that look at the impact of grouping practices on students.

Within the first category of research, opponents of homogenous grouping practices offer five main arguments. Through their research they have found (1) that the practice of grouping is not equitable for poor and minority students, (2) that innovative teaching occurs less in lower ability groups, (3) that students are often stuck [tracked] within their ability group, (4) that teachers have lower expectations of student work, and (5) that the practice of grouping has no impact on the achievement level of students (Anyon, 1980; Oakes, 2005; Wheelock, 1992; Grossman, 1996; and Slavin, 1990). Ray Rist (1970, 2000) was one of the first researchers to identify the self-fulfilling prophecy of tracking. He concluded that students were ability-grouped within a kindergarten class based on factors not related to ability but rather to such factors as their method of dress and cleanliness, parents’ income level, and adherence to expected behavioral norms. Jeannie Oakes (2005) summarizes the concerns of opponents of tracking:

First, students are identified in a rather public way as to their intellectual capabilities and accomplishments and separated into a hierarchical system of groups for instruction. Second, these groups are labeled quite openly and characterized in the minds of teachers and others as being of a certain type – high ability, low achieving, slow, average, and so on. Clearly these groups are not equally valued in the school (p. 3).

By contrast, the proponents of ability grouping believe primarily (1) that ability grouping allows educators to tailor the educational experience for students at each level of ability. This focus, they believe, allows students to have a rich educational experience that meets their specific learning needs. They also believe (2) that student movement will occur as student performance improves, (3) that not grouping is a disservice to both higher and lower ability students, and (4) that there is little evidence to support the idea that grouping can negatively impact a student's self-esteem (Kulik and Kulik, 1982; Marsh and Parker, 1985; Fiedler, 2002; and Tieso, 2003). Haller and Davis (1980) reduced the strength of the anti-grouping contingent with their study that looked at whether socioeconomic status impacts selection of reading groups. They found little support that either teachers' or students' social class played a major role in reading grouping (Haller and Davis, 1980).

A number of the meta-analyses conducted do not provide concrete evidence for or against ability grouping, but the literature review uncovered a number of important pieces of research. A meta-analysis conducted by Kulik and Kulik (1984) included 52 studies. The selected studies included secondary school classrooms, reported data from both grouped and ungrouped classes, and did not include significant

methodological issues. Their results demonstrated that most students gain little by homogenous grouping patterns. However, they did note that gifted and talented students' academic achievement was positively impacted (Kulik and Kulik, 1984). A later study conducted by another key researcher in this debate, Robert Slavin, was a meta-analysis that included 29 studies of elementary school students. The study looked at achievement data from standardized achievement tests of both ability-grouped and heterogeneously-grouped control classes. This study concluded that homogenous grouping patterns had no effect on academic achievement (Slavin, 1990). A third meta-analysis, conducted by Lou, Abrami, Spence, Poulsen, Chambers, and d'Apollonia (1996), looked specifically at within-class grouping. Within-class grouping is the practice of grouping students by ability within an individual classroom (e.g., elementary reading groups). This meta-analysis reviewed more than 500 studies and ultimately included 66 within the analysis. They concluded that within-class grouping was effective in improving academic performance but also required adaptations of instructional methods and materials.

The research in the area of tracking is mixed. Generally those studies that utilized quantitative methods of study have found grouping students to be effective or at a minimum not harmful, while those that employed qualitative methods have found grouping students to be problematic. As a result, there are strong, research-supported arguments for and against grouping students. The research is in agreement that, whether students are grouped or not, all students should be challenged. The disagreement that exists within the topic of grouping makes it a fertile context within which to study teachers during the implementation of a significant change in school

practices. Thus, it was likely that the teachers who would be involved in this study would come to the conversation with wide-ranging beliefs about these practices.

Literature Related to Teacher Change

Teacher change is at the heart of successful reform efforts. The topic of teacher change is incredibly complex. Teacher change, according to Richardson and Placier (2004), has been described “in terms of learning, development, socialization, growth, improvement, implementation of something new or different, cognitive and affective change, and self-study” (p. 905).

Before reviewing literature related to teacher change, it is important to understand the different types of change. The research discusses two types of change: first-order and second-order change. Cuban (1988) describes first-order changes as those that seek to enhance the current structures while seeking to adjust policies or procedures for maximal impact. Examples of first order changes include adopting new text books, changing a school schedule, and articulating curricular standards. Second-order changes are often those associated with deliberate reform efforts. Second-order changes seek to “alter the fundamental ways that organizations are put together because of major dissatisfaction with present arrangements” (Cuban, 1988, p. 93). Second-order change reframes an ongoing problem and provides a new solution to deal with it. Examples of second-order changes include non-graded schools, school-based management, vouchers, and team teaching. Using the definition and description provided by Cuban, changing grouping practices is a second-order change.

Changing people’s behavior has been a long-studied topic in the social sciences. In this chapter, the review of literature related to teacher change will begin

with highlighting theoretical models of teacher change. It will then review studies with findings related to the actual process of change.

An important early model of change was developed by Chin and Benne (1969), who provided a framework to understand three categories of motivation of change in groups. These categories include: empirical-rational, power-coercive, and normative-reeducative. The *empirical-rational* approach relies on idealistic goals and the notion that change is the right thing to do. An example is when we explain to teachers the benefits of a new math program and expect adoption and implementation of the program because it is the right thing to do. The *normative-reeducative* approach relies on the education of individuals to understand and accept the value of change. An example is a school culture that believes that all students can learn. Any new entrants into that culture will view this belief as a norm and likely assimilate the belief as their own. Finally the *power-coercive* approach utilizes rules or orders to effect change (Chin and Benne, 1969). Examples abound in education. The discipline-response system, where specific behaviors result in a disciplinary consequence such as detention, is an example of this approach. All these models are important as we look at teacher change. They provide us with an understanding of the potential factors that lead to teacher change.

Another early theoretical framework for behavior change was described by Bandura (1977). This model posits the idea that behavior change is connected to the belief that one can perform the requisite tasks successfully. Bandura (1977) states that “successful performance is replacing symbolically-based experiences as the principle vehicle of change” (p. 191). In essence the success of implementation is likely to

create a feeling of self-efficacy that then drives the change. Bandura also discusses the importance that cognitive processes have on behavior change; that is to say, the belief that one can successfully implement a particular behavior change impacts the effectiveness of that behavior change.

Other models of change have been connected to the study of the effectiveness of professional development activities. A model proposed by Guskey (1986) provides an example of the normative-reeducative approach discussed by Chin and Benne.

Guskey, looking at professional development programs, discusses a linear connection between staff development (normative-reeducative) and teachers' changes in practices, beliefs, and attitudes (see Figure 1).

Figure 1: A Model of the Process of Teacher Change, Guskey (1986)

This model proposes that the implementation of staff development will lead to changes in classroom activities, that these changes will lead, in turn, to a change in student outcomes, which will result in permanent change in the teachers' beliefs and attitudes. This connects well with Bandura's change theory. Anyone who has conducted staff development, however, understands that this simple model does not adequately represent the relationship between staff development and teacher change. Research has continued to demonstrate that teacher change is a more complex process.

Woodbury and Gess-Newsome (2002) provide a more complex model of teacher change (Figure 2). The Teacher-Centered Systemic Reform model “recognizes the interplay between teachers’ thinking, their backgrounds, and classroom practices, and the contexts of their work as the critical influences on reform” (Woodbury and Gess-Newsome, 2002, p. 772). This model recognizes that the complex relationship of the teacher and her professional context is what determines the willingness, pace, and eventual success of teacher change. The model is complex and difficult to apply as a model of teacher change and, as designed, is a more appropriate model of implementing reform efforts. As seen below, this model includes a multitude of factors, including teacher demographics, teachers’ thinking, and school context, to name a few, that factor into the potential belief change of a teacher.

Figure 2: Teacher-Centered Systemic Reform (TCSR) Model of Educational Reform, Woodbury and Gess-Newsome, 2002, p. 773

Research has demonstrated a strong connection between teachers' behavior while teaching and their personal beliefs (Smylie, 1988; Richardson et al, 1991; Woodbury and Gess-Newsome, 2002; Wood et al, 1991). For example, it stands to

reason that if a teacher does not believe a new math program adopted by her district will be effective the teacher is likely not to implement the program with the greatest fidelity. A study by Richardson, Anders, Tidwell, and Lloyd (1991) studied the connection between personal beliefs and classroom practices. Utilizing a beliefs-interview technique, they interviewed 39 teachers to gain an understanding of the teachers' beliefs around reading comprehension. Later classroom visits demonstrated that the beliefs of teachers were related to classroom practices. Only one of the study participant's beliefs did not coincide with classroom practices. The authors attributed this instance to the fact that the teacher was in the process of changing both her beliefs and her practices. The researchers found that all of the other study participants' beliefs coincided with their classroom practices. They also determined that changes in beliefs precede changes in instructional practices, in apparent opposition to Bandura and Guskey's belief that changes in practice precede changes in belief.

A number of studies have looked at the actual process of teacher change. These studies attempt to understand and articulate the process that teachers go through as they change both their beliefs and behaviors. A case study involving an in-depth sample of one, conducted by Wood, Cobb, and Yackel (1991), documented how the subject changed her behavior and teaching practice. The process of change outlined in the study began with the teacher dealing with an internal conflict between her typical practices and those practices encouraged by a new approach. The teacher's decisions to make changes in her practice were reinforced as she began meeting with success, apparently supporting Bandura's (1977) theory. The success of the teacher's experimentation led to a more permanent change in instructional practice. The

researchers concluded that teacher change is followed by successful implementation of new practices, also confirming previous studies by Guskey (1986) and Fullan (1985).

A 4-year longitudinal case study, also with a sample of one, conducted by Hunsaker and Johnson (1992), focused on changes in instruction in the areas of reading and writing. This study involved one first-grade teacher who had entered into graduate work. Data collection for the first two years included observations, followed by narrative accounts written by the researcher. These accounts were checked by the participant for accuracy. The participant then began to write additional information into the researcher's text. There were a number of interesting findings in this study. Significantly, the teacher was interested in professional growth. Evidence of this was provided in early narrative descriptions written by both the researcher and the teacher. In addition, the teacher's involvement in a graduate program required that the teacher conduct a number of specific classroom activities. As the teacher began to meet success by implementing these activities, it provided motivation to continue experimenting. This study also confirms Bandura's theory.

A third possible model that also seems to build on and confirm Bandura's theory involved eight Hong Kong secondary teachers, developing a cyclical model of teacher change (Pennington, 1995). This study, which lasted for 18 months and utilized teacher diaries as a primary data source, looked specifically at the adoption of new methods of teaching process writing. Teachers in the study implemented three units related to process writing. The researcher found that during the first unit, teachers were focused on the "how-to" of the implementation of the new approach. During the second unit, as teachers became more comfortable with the "how-to," they

began to focus more on the interactions between teacher and students. Finally, during the third unit, teachers were “more focused on the meaning of the new forms of interaction for their own teaching, as they tried to fit changes in their way of teaching and the emerging forms of classroom interaction into their teaching system” (Pennington, 1995, p. 713). In other words, teachers examined and implemented the methods they used for instruction in more conceptual and creative ways.

This research led to the development of a teacher change cycle. Pennington (1995) proposes that teacher change follows a general path across three areas: procedural, interpersonal, and conceptual. As teachers became more comfortable with each stage of change they move, fairly predictably, to the next.

Another study looked at the change process by studying three mathematics teachers as they moved to implement a program of mathematics reform (Senger, 98-99). This study, which took place over a school year, found that teachers’ primary beliefs did not change easily, but secondary beliefs did change. These secondary beliefs included what constitutes good math teaching, while primary beliefs included items such as the value of education. In addition, and perhaps most interesting, this study found that teacher change has a recursive nature; that is, teachers may make small changes and revert back to previous practices before again attempting to change (Senger, 98-99). The model developed by this study is included as Figure 3: Teacher’s Way of Perceiving Mathematics Reform. The model shows teacher change as a recursive and multidirectional process.

Figure 3: Teacher’s way of perceiving mathematics reform. Senger, 1988-1999, p. 211

While the research related to teacher change is broad, the research reviewed here provides an overview of the concepts that are understood as related to teacher change. There continue to be, however, contradictions within the literature. The reviewed literature has shown that modifications in practice that are successful may lead to changes in beliefs (Bandura, 1977; Wood et al, 1991; Hunsaker and Johnston, 1992), that change is non-linear and recursive (Senger, 1998-1999), that change is linear and fairly predictable (Guskey, 1986; Pennington, 1991), and that change is complex and contextual (Woodbury and Gess-Newsome, 1992).

Conceptual Framework

The literature related to teacher change is at the core of what is important for this study. It provides us with an important summary of what we know and understand about teacher change. The teacher change literature, however, is limiting. Nearly all of the research reviewed uses the individual teacher to provide an understanding of teacher change. Largely, the broader social context of the workplace (school) is missing. The theory of “Communities of Practice” provides us with a framework to integrate the social context and expand our understanding of change to include both the individual teacher *and* the community context to better understand teacher change. It is this understanding of the community context that has been missing from the change literature.

As a sociocultural theory of learning, Communities of Practice is a very complex notion. An understanding is made easier, however, by reviewing a definition. The definition of Communities of Practice offered here was written sometime after Wenger’s 1998 landmark publication, *Communities of Practice: Learning, Meaning, and Identity*. Wenger, McDermott, and Snyder (2002) defined Communities of Practice as “groups of people who share a concern, a set of problems, or a passion about a topic, and who deepen their knowledge and expertise in this area by interacting on an ongoing basis” (p. 4).

The framework below, adapted from Wenger’s (1998) figure “A Social Theory of Learning,” provides a good starting point to understand the theory of Communities of Practice articulated by Wenger. Figure 4 shows learning as the focal point of the theory, with four key concepts directly connected to learning: (1) community, (2)

meaning, (3) practice, and (4) identity. Each of the four concepts is critical to positioning learning as a sociocultural phenomenon. In addition to the four concepts being connected to learning, they are also connected to each other. Wenger (1998) describes each of the four concepts connected to learning in terms of each other (e.g., practice as meaning, practice as identity). In doing so he provides a connection between the four elements that expands our thinking of the concept of learning beyond an isolated, individual event to an event that considers the context and interplay of the four components identified by Wenger.

Figure 4: A Social Theory of Learning, Wenger (1998), p. 5

1. Community.

Community is clearly a key concept in Communities of Practice. Wenger identifies three dimensions of community: mutual engagement, joint enterprise, and shared repertoire. Mutual engagement, as a dimension of community, defines community. Without a group of individuals working toward a common goal, mutual engagement does not exist. The second characteristic of community, joint enterprise, refers to the development of the community working toward a negotiated goal that creates mutual accountability among participants. The third characteristic of community is shared repertoire. Shared repertoire refers to the elements within a community of practice that belong to that community. Examples of these elements include "routines, words, tools, ways of doing things, stories, gestures, symbols, genres, actions, or concepts that the community has produced or adopted in the course of its existence, in which have become part of its practice" (Wenger, 1998, p. 83).

2. Meaning.

In discussing meaning, Wenger refers to *negotiation of meaning* as an important component of his argument that social participation is intrinsic to learning. The negotiation of meaning is an active, ongoing process within the community of practice. Wenger uses the term negotiation of meaning to "very generally characterize the process by which we experience the world in our engagement in it as meaningful" (1998, p.53). In other words, as members of a community of practice work together to formulate and enact shared purposes, their practice acquires new meaning. Negotiation of meaning can be thought of as a process that takes place by an individual or individuals within a community of practice who complete activities that

may be similar or parallel to other experiences. The determination of what things mean and the processes that will be followed within a community, the group norms, are determined by the community.

This coincides nicely with the act of teaching. Each day a teacher walks into the classroom with the same expectation that they will work with students to educate them. The methods, activities, and experiences that they plan, however, differ from day to day, hour to hour, and minute to minute. The context of a district-wide change in grouping practices from homogeneous to heterogeneous also provides fertile ground to attach the concept of negotiation of meaning. Teachers still have the same number of students they have had in the past, but in the new context the students are regrouped, with all potential changes in outcomes and pedagogy that implies. Within the context of this study, teachers would need to negotiate a new meaning to teaching in the new heterogeneous setting.

3. Practice.

Practice is also a key component of Wenger's (1998) Communities of Practice. In defining practice he says it is "a way of talking about the shared historical and social resources, frameworks, and perspectives that can sustain mutual engagement in action" (p. 5). Wenger is referring to the norms of a community and the activities that have been developed within that community. He continues his explanation of practice by indicating that practice includes: "the language, tools, documents, images, symbols, well-defined roles, specified criteria, codified procedures, regulations, and contracts that various practices make explicit for a variety of purposes" (p. 47). In other words it is the community's way of "doing."

4. Identity.

As a component of learning, identity provides an important connection between the theories that have looked at individual teacher change (e.g. Guskey (1986), Woodbury and Gess-Newsome (1992), and Senger (1988-1989)) and within the conception of Communities of Practice. The concept of identity, according to Wenger, refers to both the individual and the social context: how the individual understands herself and how she is understood by others within the community. In using identity in this way, Wenger is attempting to avoid a dichotomy between the individual and the community of practice. Identity serves as a “pivot between the social and the individual, so that each can be talked about in terms of the other” (Wenger, p. 145).

A focus on identity provides us with the opportunity to look at the participation or non-participation of an individual within a community, but more meaningfully at the specific ways in which the individual and the community affect each other. Wenger identifies five trajectories of identity within a community of practice: peripheral, inbound, insider, boundary, and outbound. In using the term “trajectory” he highlights the direction of an individual’s participation within the community and the impact of that participation on their community identity.

Extending the Model of Communities of Practice

Since the introduction of the model of Communities of Practice in the education literature, there has been much work done to expand the model and to apply it to a variety of areas of study. Most germane to the context of my study is the work of Karin Tusting (2005). In her work she looks at extending the concept of language

within Wenger's model of Communities of Practice. She provides a cogent argument for increasing the importance of language within the theory of Communities of Practice, which she feels plays too minor a role within Wenger's model.

In her argument she says, "Wenger does not draw out ideas about the relationship between language and meaning making more generally, beyond stating that meaning making cannot be reduced to language alone" (Tusting, p. 39-40, 2005). She says that although meaning-making does not only include language, language plays an important and key role within meaning-making. As one piece of evidence she points to Wenger's discussion of joint repertoires. In his discussion of joint repertoires he identifies a list of elements. These elements, according to Tusting, include items that can "be either partly or entirely linguistic in nature" (Tusting, p. 40, 2005).

This extension of Wenger's work is an important addition in the context of my study. It provides the opportunity to analyze the language used in discussions related to grouping practices, teachers' readiness for change, and teachers' support system. Increasing the significance of language within the theory of Communities of Practice, as Tusting does, makes discourse a central element in the study.

The Communities of Practice concept, however, does not completely fit within the frame of this study. One potential issue, as recognized by Printy (2008), is that the theory of Communities of Practice does not "isolate intentional learning efforts from the naturally occurring learning embedded within the day to day practice of teachers" (p. 189). That is, it does not explicitly differentiate between deliberate learning (e.g., professional development on differentiated instruction) and that which is informal (e.g., teachers sharing an effective instructional practice during lunch). The change in

grouping practices that took place was planned and included “deliberate learning” (professional development) as well as the informal, incidental learning that occurred through participation in the community. We will therefore need to keep this distinction in mind as we consider such factors as community, meaning, practice, and identity, since the dynamics of self-concept and role are among the most unintentional and subtle forces at work.

Connection of Communities of Practice to My Study

The theory presented by Wenger around Communities of Practice and the extension of the concept offered by Tusting allow for the examination of both the individual and the collective, within the context of a community, with language at the core. It includes the understanding and examination of the deliberate actions and also those that are tacit. I anticipate that the impact of the community experience, social connections, and the ensuing support and discussion will influence individual practice in multiple ways, and that those changes will be evident in both teaching practices and speech acts.

CHAPTER 3

METHODOLOGY

Overview

This study seeks to better understand the impact that a school district-driven change has on teachers. It specifically seeks to identify how a teacher's beliefs and practices might change as a result of a change being implemented out of her control. As is the case with any researcher, my decision of which methodology to choose was derived from the questions I posed. This chapter describes the decisions that I made regarding data collection methods. It also provides an overview of the study participants and study setting.

The research methods selected resulted from my seeking answers to the following questions:

- What do teachers say about a change in student grouping practices during the implementation process?
- How do teachers' beliefs influence their actions during the grouping practices implementation process?
- To what extent, and under what conditions, does successful implementation of a change lead to lasting changes in beliefs, and why?
- How do teachers statements about their beliefs about grouping practices change before and during the implementation of the change?
- What is the interplay and influence of colleagues' attitudes and actions on each other during the implementation process?

Given that my goal was to look into what goes on inside the minds of teachers as they respond to and make sense of a significant institutional change, this study requires the use of a qualitative methodology to effectively explore the questions posed. I will provide a rationale to support my choice of methodology. I will then provide an overview of the study location, participants, and procedures.

Qualitative Research

An educational researcher will generally choose one of two types of research methods when conducting a study: qualitative or quantitative. Each method has both advantages and disadvantages in relation to answering research questions. Creswell (2003) offers an understanding of the differences between qualitative and quantitative research. He suggests that in quantitative research the researcher will use identified research methods to answer a *specific* question or to *test* a theory. In contrast, through the use of qualitative research the researcher seeks to better *understand* a concept or phenomenon through *exploration*. In qualitative research a researcher “states research questions, not objectives or hypotheses” (p. 105). Qualitative research is effective in developing a deeper understanding or hypothesis of the topic under study. Each approach, qualitative and quantitative, is connected to particular methods or strategies of inquiry. For quantitative studies this generally includes experimental designs, control groups, and surveys. For qualitative studies this may include narratives, phenomenologies, ethnographies, grounded theories, and case studies.

In this study, the research questions and topic determined the appropriate path of method selection (Creswell, 2003). First, I determined the topic of the study and the questions I wanted to answer. Then I selected a methodological approach that would

allow me to effectively answer those questions. Qualitative research "implies an emphasis on the qualities [as opposed to quantities] of entries... that are not experimentally examined or measured in terms of quantity, amount, intensity, or frequency" (Denzin and Lincoln, 2000, p. 8). Since my goal was to better understand an often neglected dimension of school reform, the perspective of the teachers doing the actual implementation, both individually and collectively, a qualitative study allowed me to effectively explore answers to my questions in order to better understand the impact a district-driven change has on teachers' beliefs and practices.

The decision about the type of methodology and data collection methods that would be used was heavily influenced by research studies of similar questions. Researchers on teacher change and communities of practice frequently use qualitative methods of inquiry. This, of course, makes sense given the types of questions that the qualitative researcher tries to answer, questions of interpretation, affective response, and meaning-making. The development of a model of change, or the evaluation of the impact that professional development has on a teacher's beliefs, understanding, motivation, and behavior, is most effectively studied using qualitative methods.

This study also draws heavily on research related to student grouping practices. The published studies are based on both qualitative and quantitative methods of research. Again, the methods selected are chosen based on the question or hypothesis under study. Generally, the research in the area of grouping practices that sought to determine the academic impact on students was researched using quantitative methods of study. In this research specific questions were asked that could be answered quantitatively (e.g., "Which grouping model, homogenous or heterogeneous, had the

greatest impact on student achievement in mathematics”?). In contrast the researchers studying grouping practices and who were interested in the overall impact of the grouping change on students (e.g., their feelings about groupings, factors that influenced student placement by teachers) has typically been studied by using qualitative methods.

Case Study Research

In this study I seek to better understand the impact that a district-driven change, student grouping practices, has on teachers’ attitudes, beliefs, and behaviors. I used a case study method to answer my research questions. Case studies, as defined by Cresswell (2003), provide the opportunity for the researcher to explore deeply an “event, an activity, a process, or one or more individuals” (p.15). Due to the exploratory nature of the study, a case study approach is the most appropriate framework within which to conduct the study. According to Merriam (1998),

A case study design is employed to gain an in-depth understanding of the situation and meaning for those involved. The interest is in the process rather than the outcomes, in context rather than a specific variable, in discovery rather than confirmation. Insights from case studies can directly influence policy, practice, and future research. (p.19)

Yin (2009) provides additional support for the selection of the case study method as the preferred approach for this study. He identifies a number of “features” of case study research:

1. A case study is an empirical inquiry that

- investigates a contemporary phenomenon in depth and within its real-life context, especially when
- the boundaries between phenomenon and context are not clearly evident
- copes with the technically distinctive situation in which there will be many more variables of interest than data points, and as one result
- relies on multiple sources of evidence, with data needing to converge in a triangulating fashion, and as another result
- benefits from the prior development of theoretical propositions to guide data collection and analysis. (p.18)

An important characteristic of case studies is that the participants, teachers in this instance, are connected to each other by time and activity. In this study, the teachers were all staff members at the same middle school. During the study period, they all experienced the impact of a change in grouping practices and dealt with the impact of this change on their beliefs and teaching practice.

Data Collection

In an attempt to answer the research questions, I used three specific data collection methods: qualitative interviewing, classroom observations, and field notes. The use of three different collection methods provided a more complete picture of the phenomenon under study. Each method of data collection yielded data that was analyzed and used to answer the research questions. Each of the three data collection methods is described below in more detail.

Qualitative Interviews.

Interviewing has been identified as one of the most important and valuable methods of data collection in case study research (Yin, 2009). Interviewing allows a researcher to ask questions and understand the personal responses of the individuals who are living the experience under study. As a result, interviewing provides the researcher second-hand access to first-hand experience. Seidman (2006) states that “if a researcher’s goal...is to understand the meaning people involved in education make of their experience, then interviewing provides a necessary, if not always completely sufficient, avenue of inquiry” (p. 11). Seidman goes on to say that “as a method of inquiry, interviewing is most consistent with people’s ability to make meaning [construct meaning] through language” (p. 14).

The literature on methodology describes a number of types of qualitative interviews. Rubin and Rubin (1995), for example, identify four different types of interviews: topical oral histories, life histories, evaluation interviews, and focus group interviews (p. 27). In each type of these interviews the researcher is focused on gathering data in a specific way. For example, life histories focus on the experiences of individuals versus the experiences of a group, while focus group interviews use a group of individuals during the interview process to discuss a topic of interest.

The literature also suggests a number of advantages of qualitative interviews. Among these is the ability of interviewees to provide historical information for the researcher to control lines of questioning (Seidman, 2006). Interviews are also useful when the topic being studied cannot be observed directly (Cresswell, 2003). Perhaps more important than the reasons identified above, the decision to select qualitative

interviewing as a method for my study was due to the types of data that result from this methodological approach. As described by Rubin and Rubin (1995): “from qualitative interviews, researchers obtain thick descriptions of a cultural or topical arena” (p. 56). It is these thick descriptions that provide the data necessary to effectively understand the impact grouping changes had on teachers within the middle school under study.

In addition to the types of qualitative interviews, there are also a number of styles of interviews. Each style, according to the research, has specific benefits and disadvantages. Some styles of interviews include: the structured interview, the open-ended or semi-structured interview, and phenomenological interviewing. In a structured interview the researcher asks each interviewee the same set of predetermined, structured questions. According to Fontana and Frey (2000), the interviewer "records the responses according to a coding scheme that has already been established by the project director or research supervisor" (p. 649). While this method has some advantages, for the purpose of my study, this style of interviewing did not provide the necessary flexibility for me to explore additional topics or responses that study participants expressed in interviews.

Another type of interview described by Seidman (2006), phenomenological interviewing, provides a three-interview series approach for interviewing. In this approach the researcher uses the first interview as an opportunity to ascertain a focused life history of the interviewee. The second interview provides the researcher the opportunity to gather specific details on the experience under study. The third interview provides the opportunity for participants to reflect on the "meaning" of their

experience. This approach has the advantages of yielding thicker description of individual teacher's reasoning and psychology, but is less well-suited to understanding the intersubjective dynamics of community of practice. Further, given the researcher's familiarity with the study setting, its history, and members, this method of interviewing would likely reveal information and experiences already known.

The open-ended or semi-structured interview provides an opportunity for the researcher to ask questions that connect to topics of interest or those that are raised during the interview. During the interview itself the researcher has flexibility to ask clarifying questions or to follow up on insights or facts revealed by the interviewee. Given the complex interplay of teacher beliefs, practices, individual, and community, this type of interview was the most appropriate for this study and was used to collect interview data.

I believe that there were two major benefits of selecting semi-structured interviews as a research method. First is the flexibility that this approach provided. Using a "semi-structured" design, I was able to adapt questions and topics to follow-up on revealing and relevant statements by the study participants. This structure also provided participants with the freedom to explore feelings and thoughts that they felt were important and relevant. Second, this approach was more likely to build engagement in the study and the topic that may not have existed in the presence of a rigid, standardized list of questions, and it was less intrusive than a phenomenological approach.

Although a semi-structured interview method was selected, interviews that were conducted began with a similar set of starter questions (Appendix A). The

identified questions were asked of all ten participants during the interview that was conducted. The interviews were then each transcribed and coded for themes.

Classroom Observations.

Direct classroom observations are useful for two primary reasons. First, they provide an opportunity for the researcher to see the practice of the teacher outside of the context of the individual interview. Since the study seeks to better understand teacher change in beliefs and practices, the classroom setting provides a first-hand understanding of teacher practice and, possibly, of a change in teacher practice. Second, collecting data from classroom observations, and comparing it to the statements made during individual interviews provides possible assistance in triangulating the findings of the study, particularly in trying to understand the relationship between what teachers do and how they interpret what they do.

During the 2009-2010 school year, 38 classroom observations were conducted of study participants. Each of the observations was unannounced. This included a minimum of three observations and a maximum of five observations per participant. Since I served as both the researcher for this study and the building principal, regular classroom observations were a part of my typical work to supervise instruction. Observation notes were written following each classroom observation and were included as part of the broader field notes described below. The notes included summaries of the events that took place during the observation. Although a summary of the class observed was written, more detailed observation notes were created when the activities or statements in class connected to the study.

Field Notes.

As stated, in this research study I attempt to better understand the impact of student grouping changes on teacher attitudes, beliefs, and practices. Field notes were written by the researcher to capture experiences, situations, and observations that were seen during the data collection phase. Field notes were an important data set as I sought this understanding, allowing me to spontaneously record and reflect on unanticipated observations and their meaning. In supporting the use of fieldnotes, Emerson, Fretz, and Shaw (1995) write the following:

We see fieldnotes as providing the primary means for deeper appreciation of how field researchers come to grasp and interpret the activities and concerns of others. In this respect, fieldnotes offer subtle and complex understandings of these others' lives, routines, and meanings (p.13).

In addition to conducting interviews and classroom observations, I also wrote field notes throughout the study. These notes provided an opportunity to capture discussions, interactions, and events that occurred during the study period. In particular, I documented events that related to the area under study: teacher change and student grouping practices. Field notes differed from classroom observation notes in that they were often the outcome of participant-observation activities. For example, notes following a team meeting were written to capture statements teachers made regarding the upcoming and ongoing change in grouping practices.

Field notes, along with classroom observations and individual semi-structured interviews, assisted in triangulating my findings. Field notes were beneficial to the research process because they “provide[d] a distinctive resource for preserving

experience close to the moment of occurrence and, hence, for deepening reflection upon and understanding those experiences” (Emerson, Fretz, and Shaw, 1995, p. 13). Field notes were written as soon as possible following a relevant interaction with a study participant. Relevancy was determined at the time of the event by the researcher. At a minimum, field notes were written once each week to summarize the week’s events, as related to the study.

Design of the Study

Setting.

Town of Adams.

The town of Adams sits at the northern border of a New England state. Adams includes a total population of just over 31,000 people. Adams was incorporated in the mid-1700s and, for decades, included two distinct population densities. The southern end of the town had been the location of a number of mills and mill villages that prospered during the Industrial Revolution. The northern end of the Town was primarily used for farming. These early uses have impacted development through the years and resulted in differences between the southern and northern areas of town. Today the southern end of town includes smaller residential lots with many multifamily houses, while the northern town includes larger land parcels with mostly single-family houses. The town is also somewhat divided from both an economic and racial perspective. The southern end of town tends to present a wider range of economic and racial diversity than does the wealthier northern end of town.

Data from the 2000 census showed that the racial makeup of the town included 96.74% White, 0.57% African American, 0.08% Native American, 0.83% Asian,

0.03% Pacific Islander, and 0.84% from other races. Approximately 2.1% of the population identified themselves as Hispanic or Latino. The state has a median household income of \$53,243, while the town had a median household income of \$63,194 (US Census Bureau, 2000 Census).¹

Adams Public Schools.

The Adams Public School district includes five elementary schools serving students pre-K through five, two middle schools serving students in grades six through eight, and one high school serving students in grades nine through twelve. The district student population is approximately 5000 students. Students are assigned to their elementary school based on neighborhood, with a few exceptions. The neighborhood elementary schools are feeders to the middle schools and send students to one of the two middle schools. All middle school students are sent to a single district high school. Due to the neighborhood school model, and the differences that exist between the northern and southern parts of the town, the middle schools fairly represent the differences between the northern and southern ends of town relative to economic and cultural diversity.

Williams Middle School.

Williams Middle School is a single story brick structure with architectural details consistent with the time of its construction, 1968. The building is nestled within a neighborhood in the southern end of the town of Adams. The exterior of the building is surrounded on two sides by a parking lot with an access road circling the building. There's also a small field on the right-hand side of the driveway of the school

¹ Although the 2010 census had been completed at the time of this writing, data relative to income and other information were not yet available.

property. The interior of the building is worn but clean and functional. The halls are narrow with lockers on either side. The building is a square with a courtyard in the middle and two extensions off the main square. The building includes 39 typical classrooms.² There are also an additional eight rooms that are smaller than typical size. Of the 39 classrooms five are currently used as science rooms. The classrooms are small in comparison to current standards for square footage, but sufficient. Overall the building is showing its age but has been well-maintained and functional.

Williams Middle School is one of two middle schools in Adams. It was originally built to serve students in K-8. The burgeoning population in town a couple of years later resulted in Williams Middle School, then known as South Middle School, serving students in grades six through eight. Due to continuing population growth in Adams, in 1970 a second middle school, Garfield Middle School, was constructed in town. To this day both middle schools continue to serve students in grades six through eight.

Assignment to middle school is determined based on which elementary school a student attended. As a result of the history of the development of Adams, the two middle schools serve different student populations. Williams Middle School, according to data obtained from the National Center for Education Statistics, had a population of 544 students during the 2008-2009 school year. During this year Williams Middle School had 37.3% of students who received free or reduced lunch. In addition, the district's middle level English Language Learners program was also housed within Williams Middle School so that it would be closer to the population it

² Typical is used here to indicate a classroom size that would accommodate 25 to 30 students.

services. Williams Middle School is also the location of the district middle-level behavior-disordered program.

Garfield Middle School is located at the northern end of town, historically dominated by farmland, and now is the more affluent section of town. During the 2008-2009 school year Garfield Middle School had a student population of 649. During that year 5.5% of students received free or reduced lunch services. Programs for English language learner or services for students identified as behaviorally disordered did not exist at Garfield Middle School.

Participants.

The participants of the study included teachers in grades six, seven, and eight from Williams Middle School. In total, ten teachers agreed to participate in the study and read and signed the Informed Consent Form (Appendix B) that outlined participation. All of the participants were teachers who had achieved Professional Teacher Status.³ All of the participants were female, with a range of teaching experience from 4 years to 32 years at Williams Middle School. Some participants had additional years of teaching experience in other school settings (public and private), with one having served as a teaching assistant at Williams before becoming a teacher.

The District policy for teacher evaluation required that teachers with professional teacher status be formally observed and evaluated once every three years. None of the study participants were scheduled for their formal evaluation during the school year when this study was conducted. This was an important component of the study, as I felt a teacher with professional status who was also not being evaluated

³ Professional Teacher Status is an acknowledgment of having completed three years of service in the district. It equates to tenure.

would be more willing to be honest and open during the interviews. Table 3.1 below identifies the study participants, grade taught, subjects taught, and years of service. At the time of the study there were twenty teachers, grades 6-8, who taught English, science, or social studies. Math teachers were excluded from the study since math would continue to be grouped homogeneously in one of four levels. Of the twenty, three were ineligible because they had not yet attain professional teacher status. Six others were ineligible for the study because they were scheduled to be formally evaluated during the school year that the study took place. One teacher declined to participate.

Table 1: Study Participants

Participant	Grade(s) Taught	Subject(s) Taught	Years of Service
Suzanne	6	English	13
Joy	6	Science	32
Shelley	6	Social Studies	5
Monique	7	English	8
Theresa	7	Social Studies	7
Margaret	7	Science	17
Kelley	7	Science	14
Michelle	8	English/Social Studies	10
Caitlyn	8	Social Studies	12
Kathy	8	English	14

Method of Data Analysis

As mentioned, the data for this study came from three sources: participant interviews, classroom observations, and field notes. Miles and Huberman (1994) provide a framework for conducting data analysis. This framework includes data reduction, data display, and conclusion drawing and verification. This framework provided an effective method of analysis to answer the stated research questions.

Data reduction is the process of “selecting, focusing, simplifying, abstracting, and transforming the data that appear in the written-up field notes or transcriptions” (Miles and Huberman, 1984, p. 10). Data reduction occurs throughout a project. In the design of the project, the research questions establish decision points related to which data to collect. During the data collection phase, as the researcher is writing field notes or classroom observation notes, relevant components of the experience are captured while others are discarded.

Data display is an important part of data analysis in Miles and Huberman’s (1984) framework. They describe the benefits of data display as its ability to effectively represent large quantities of collected data in an accessible and useable format. This process also provides some protection against misidentifying a significant event. They also recognize that putting together a data display is also data reduction, as the researcher makes decisions about how to organize and display the data.

The third component of Miles and Huberman’s approach is conclusion drawing and verification. This process occurs concurrent with the data reduction and display. It is the essential process of understanding what the data reveals and

confirming this through the process of verification. Similar to the other two components discussed, conclusion drawing and verification are also data reduction methods.

The data analysis for this study used the three components provided by Miles and Huberman (1984). The transcribed interviews, classroom observations, and field notes were carefully reviewed and coded. The coding of data was conducted using Miles and Haberman's (1984) "Start List of Codes" (p. 59) as a guide. The data collected were analyzed by first conducting coding. Through this process, data distillation occurred. The data were then reviewed from both the individual teacher perspective, grade-level perspective, and school perspective. The data were reviewed to identify what teachers reported about the change in grouping practices, the connection between their stated beliefs and classroom behaviors, stated changes in beliefs during the implementation of the change in grouping practices, and the interplay and influence between colleagues. This was intended to provide the researcher with a deeper understanding of the individual and community process that teachers navigated during the change process.

Potential Limitations

This study, as with any study, includes some possible limitations. While it is impossible to create a study without limitations, the researcher has attempted to identify and attenuate them. I have identified a number of potential limitations to this study. Each limitation is explained below.

Perhaps the most significant limitation is the potential generalizability of this study. This study reviews the change process experienced by a group of teachers at a

middle school during a specific span of time. The intent of this study is not to generalize its findings to a larger population of teachers who are dealing with school-wide change. The purpose is to explore the process of teacher change in the context of a district-driven change in grouping practices. Yin (2009) provides clarification on the issue of generalizability when a case study approach is used. He writes, “case studies, like experiments, are generalizable to theoretical propositions and not to populations or universes” (p. 15). In this study, I seek to better understand teacher change and hope that the findings will have some impact on improving our understanding of the process that teachers move through as they assimilate a school-wide change.

There has been evidence that effective and important research can be conducted by an individual who is also a member within the community being researched. Cochran-Smith and Lytle (1993), as summarized by Burton and Seidl (2005), discuss teacher research within their classrooms: “the nature and source of the teachers’ questions, the theoretical frames teachers bring to inquiry, the practical and theoretical utility of what is learned, and the ownership of the research itself distinguishes teacher research from other forms of educational research” (p. 205). Others have cited the potential benefits of teacher-led research and teachers’ unique position since “teachers can act from their intense, daily relationships and use them to develop a sense of ongoing context” (Fecho and Allen, 2005, p.214).

In the present study, a potentially more serious limitation of the researcher being a member of the community existed. The researcher was also the principal of Williams Middle School at the time of data collection. Since the study participants were teachers at Williams Middle School, the role of the researcher posed some

potential risks to participants in the study. These risks emanated from two areas: the supervisory relationship of the researcher and the authenticity of the data collected during interviews.

The participants were in a subordinate role since supervision and evaluation was the responsibility of the researcher/principal. This reporting relationship may have caused potential participants to feel obligated to participate in the study. In addition, the potential participants may have been concerned about ramifications for non-participation or, if they participated, for statements or beliefs that did not coincide with their impressions of the purpose of the study or as they relate to the researcher's role as principal of the school.

In addition to selecting participants who attained professional status, this potential limitation was addressed by minimizing the formal processes associated with the supervisory relationship. Specifically, during the study period the researcher/principal did not conduct a formal teacher evaluation of study participants. During the timeframe of data collection, none of the study participants were scheduled for a formal observation. All potential participants volunteered to participate and completed an informed consent form (Appendix B) to do so.

The second area of concern is the reliability of the data from participants who are supervised by the researcher. The concern is that potential participants may not participate in an honest way because of concerns about ramifications or damage to the relationship between the principal and teacher. The school culture at Williams Middle School minimized this as a potential concern since there was a culture of collaboration and effective communication established. The school's leader uses a typical feedback

loop to engage faculty members in conversations about a variety of issues including: how the school was being managed, changes necessary for improvement, and progress updates when new practices and programs were implemented. This feedback loop included both formal and informal communication to solicit feedback from faculty and staff about school practices. Formally, this occurred through faculty and curriculum meetings, school improvement team meetings, common planning time meetings, and meetings of the principal's advisory committee. Informally this occurred through conversations with individual or small groups of educators, through email, or through participation in electronic surveys.

Further, the school principal/researcher worked for four years to develop an atmosphere of collaborative leadership. This was evidenced through a variety of decision making bodies in which faculty members, including potential study participants, took an active part. There was also evidence of this collaborative climate in the state-wide survey (Appendix C) results for Williams Middle School from the 2006-2007 school year and in the results of the principal's evaluation conducted by the faculty (Appendix D). During the winter of 2008, the school participated in a state visit that provided additional evidence of a collaborative school environment (Appendix E). In the recently released 2008-2009 visiting team report, the 2007-2008 state-wide survey, and the 2008-2009 principal's evaluation, faculty members indicated a high level of collaboration and communication between faculty and building administrators.

Conclusion

Chapter 3 has provided an overview of the methods used to conduct this study. The chosen methods were selected to assist in answering the research questions associated with this study. It also provided information about the research site and study participants. Chapter 4 will focus on the study findings.

CHAPTER 4

FINDINGS AND INITIAL ANALYSIS

Organization of Chapter 4

Chapter 4 is designed to provide findings and an initial, “pre-theoretical” analysis of the study. A more conceptual analysis, using the communities of practice framework will occur in Chapter 5. Chapter 4 is broadly organized into three sections:

1. Introduction and Background
 - a. Summary of the Study
 - b. Data Sources and Participants
2. Study Findings
 - a. General Findings and Initial Analysis
 - b. Findings by Individual Teacher
3. Conclusion

1. Introduction and Background

a. Summary of Study.

This study focused on examining the ways in which teachers deal with top-down changes in student grouping patterns made by school administrators. Specifically, the study examined the process that middle-level teachers went through in understanding and dealing with a mandated change from homogeneous to heterogeneous grouping in all subjects except mathematics. This chapter presents the study findings from three data sources: interviews, classroom observations, and field notes. The data were reviewed and themes distilled from the data.

b. Data Sources and Participants.

Data Sources.

The study relied on three data sources: individual interviews, classroom observations, and field notes. A primary data source for this study was interviews with the ten study participants, all of whom were teachers in grades 6-8 at Williams Middle School. Since the grouping change was phased in over time, the teachers in each grade had different levels of experience with the change. At the time of the study, teachers in grade six were experiencing their third year, grade seven teachers their second, and grade eight teachers their first year of this change. There were a few exceptions involving those teachers who had been assigned to teach a different grade during the study period.

The findings of this study also include the data collected through classroom observations conducted between February and June, 2010. Each participant was observed for a minimum of three lessons. The study also relied on field notes as a data source. Field notes were written at least once weekly, but more often as the circumstances required. Field notes of team meetings, faculty or curriculum meetings, individual teacher meetings, and other events were kept.

Analysis of the data elicited a number of findings related to the study questions. These findings were the result of a multi-step data analysis that began with a review of the three data sources (interviews, classroom observations, and field notes) to identify overarching themes. Once possible findings were identified, the data were reviewed again to further identify and “test” the findings. Finally, a third, more thorough review of the data was conducted to identify the nuances related to the

themes that could be found within the data. This third review is the focus of Chapter 5.

Participants.

The study was conducted at Williams Middle School. Participants in the study included ten teachers who taught English, science, or social studies to students in grades 6-8. The study included data collected from both classroom observations and field notes. As a result, some members of the Williams Middle School faculty who were not study participants were included within classroom observations and field notes. The table below provides an overview of the teachers on each team and the subject they taught. It also indicates those who participated in the study.

Table 4.1: Team Members and Study Participants (Participants are underlined)

Team 6A	Subject Taught	Team 6B	Subject Taught
<u>Suzanne</u>	English	Holly	English
Beth	Math	Ruby	Math
Kerri	Science	<u>Joy</u>	Science
<u>Shelley</u>	Social Studies	Matt	Social Studies
Tina	Special Education	Judy	Special Education
Team 7A	Subject Taught	Team 7B	Subject Taught
<u>Monique</u>	English	Magda	English
Chris	Math	Amanda	Math
<u>Margaret</u>	Science	<u>Kelley</u>	Science
<u>Theresa</u>	Social Studies	Jackie	Social Studies
Cindy	Special Education	Cassie	Special Education
Team 8A	Subject Taught	Team 8B	Subject Taught
Kris	English	<u>Kate</u>	English
<u>Michelle</u>	English/Social Studies	<u>Caitlyn</u>	Math
Kathy	Math/Science	Kathy	Science
Shannon	Science	Jennifer	Social Studies
Emily	Special Education	Kerri	Special Education

Table 4.1 outlines the six, five-member teams at Williams Middle School at the time of this study. To provide the reader with knowledge of the study participants,

a brief profile of each participant is provided below. The profiles are organized by the number of years of experience with the grouping change (i.e., one, two, or three).

First-year Adopters.

Caitlyn, Kate, and Margaret experienced the changed grouping practices for the first time during the course of the study. Caitlyn (social studies) and Kate (English) taught grade eight on the same team, while Margaret (grade seven science) had been a grade 8 teacher previously. Although Caitlyn and Kate taught on the same team, they had markedly different teaching styles. Caitlyn was often optimistic about student performance and, as we will see, was looking forward to, with some reservations, the change in grouping practices before it was implemented. Caitlyn often participated in other school activities, such as the Williams School Improvement Team and strategic planning activities. She also chaired a committee in preparation for a state visit.

Kate, an experienced English teacher, was often assigned to the honors level classes due to what was perceived as her high expectations for student achievement. She had the highest quarterly and end-of-year failure rates among all teachers at Williams Middle School. Kate participated in requisite school activities (e.g., faculty and curriculum meetings) and led the development of the grade 8 English curriculum.

Margaret, who had worked on the same team as Kate and Caitlyn in previous years, was teaching in grade seven by her choice because she preferred the topics taught in the grade 7 curriculum. Margaret was a former Milken Award winner and served as team leader on her new grade 7 team.

Second-year Adopters.

Monique, Theresa, Michelle, and Kelley were engaged in their second year of implementation of the new grouping practices at the time of the study. Monique (English) and Theresa (social studies) had served on the same grade 7 team for at least five years prior to the study. Monique was a reflective, collaborative member of the faculty. She was regularly willing to participate on committees or engage in activities to assist in school improvement. She chaired a committee in preparation for a state education department visit. She was also a member of the School Improvement Team and led the development of the grade 7 English curriculum. She was, as we will see, apprehensive about the change in grouping practices but willing to work hard to make it work.

Theresa had been a teaching assistant prior to getting appointed as a full-time social studies teacher. Theresa was a quiet faculty member. She would not volunteer her engagement in other school activities, but she would participate if asked. She and Monique were close professionally.

Michelle (English/social studies) and Kelley (math/science) taught on the same grade 8 team at the time of the study. Prior to teaching in grade 8, they had taught as a two-member grade 7 team for a number of years. Both participated in a wide variety of school activities and worked closely together. Neither had wanted to move to teach in grade 8 but expressed that they would prefer to continue working together if they had a choice.

Third-year Adopters.

Three grade six teachers implemented the grouping change for the third year during the time of the study. Suzanne (English), Shelley (social studies), and Joy

(science) had been grade six teachers for a number of years. Suzanne and Shelley had worked on the same grade 6 team for three years at the time of the study. Shelley was a relatively new teacher (four years of experience). Although she was a recent graduate from college, we will see that she was hesitant to change the grouping practices. Suzanne was an experienced teacher who actively participated in school improvement efforts in the school. She co-chaired the Williams School Improvement Team and was a key member of the planning committee that prepared for the site visit by the state department of education.

Joy (science) had been a grade six teacher for many years. Certified in elementary education, she was considered highly qualified because of her experience teaching all subjects. Joy was an active participant in school improvement efforts. She was also a member of a district committee that reviewed middle school grouping practices. As we will see, she initially joined the committee to protect the status quo.

2. Initial Findings

a. General Findings and Initial Analysis.

A number of research questions were asked at the outset of this study. Through the data collection and analysis, a number of conclusions can be drawn about the topic of teacher change. In this section, each of the research questions is discussed and initial findings are shared, based on the available data.

What do teachers say about the change in grouping practices during the implementation process?

The change in grouping practices at this school was significant for teachers. Students at Williams Middle School had been homogenously grouped for most of the

school's history. Each of the study participants was interviewed during the third year of implementation of the change in grouping practices. During this time participants were in their first, second, or third year of implementation.

There were some common themes among teachers when they discussed grouping practices during the implementation process. In general, teacher comments were positive about the change in grouping practices. One teacher, Suzanne (year 3) stated that she did not believe the change in grouping practice was effective, after indicating that she had been positive about the change prior to implementation. The other nine participants all described a positive belief in the effectiveness of the change in grouping practices after implementation. The common area of concern for these teachers, however, was for those students who were high achievers. The teachers felt that it was difficult or impossible to challenge those learners in a heterogeneously grouped classroom.

The data analysis showed three general categories of teacher statements related to the change in grouping practices. These categories were applied to statements made about the planned change before implementation and then again after implementation. Five of the ten participating teachers made statements that demonstrated they were more positive about the change in grouping practices during implementation than they had been prior to implementation. Three teachers maintained the same opinion of the grouping practices, while only two were less positive about the grouping practices after implementation.

These results were revealing, since after implementation most of the teachers were more positive about the change than they had been prior to implementation. We

hypothesize that there were a number of factors that led to these teachers' positive perspectives on the grouping change. Certainly, the impact of other colleagues and the Community of Practice on their experiences was an important factor in their success, and this impact will be discussed in some detail in Chapter 5. We should also consider their "readiness to change" as a predictor of change and for potential success.

Specifically, most teachers (7 out of the 10 participants) were either neutral or positive after implementation of the grouping practices. At the very least, a method to assess teachers' readiness to change would have assisted in the successful implementation of this school reform effort.

How do teachers' beliefs influence their actions during the grouping practices implementation process?

Unfortunately this was an inadequately explored question. In planning the study, the use of individual interviews along with classroom observation and field notes was expected to provide data to allow a response to this question. After conducting the study and reviewing the available data, however, the question remains unanswered. The data from the classroom observations did not provide a connection between beliefs and practices as expected, since most of the lessons observed did not demonstrate instructional behaviors that could be directly connected to teacher beliefs. Instead, the classroom observations revealed teaching behaviors that were similar to those that could have been observed prior to change in grouping practices. A change in research methods might have better assisted in answering this question.

Specifically, it would have been helpful to have conducted classroom observations and interviews prior to the implementation of the grouping change. That, paired with an

increased number of classroom observations after implementation, would likely have provided the necessary data to effectively answer the question. Conducting observations prior to implementation of the grouping change, however, was not part of the plan for this study.

To what extent and under what conditions does success lead to changes in beliefs, and why?

Data available from individual interviews were used to answer this question. During the interviews teachers were asked to share their beliefs about the new grouping practices and to what extent their beliefs about the grouping change had changed from those held prior to implementation.

The results were revealing. Many of the teachers readily accepted the change in grouping practices prior to implementation. Upon reflection, it was clear that the experiences of teachers who had already implemented the change influenced their peers' perspective and beliefs. In most cases, teachers watched their colleagues during the implementation process and took their cues from them. When their colleagues were successful, they felt that they could be successful. The reverse was also true: when a teacher watched her colleagues struggling with the change in grouping practices, she felt that she too would struggle with it. We will return to this concept and a deeper analysis in Chapter 5.

Interestingly, it seemed that teachers' individual success was not necessarily a prerequisite for changing beliefs. Instead it seemed that the success (or failure) of colleagues allowed teachers to experience the changes, and success, vicariously. Those teachers who talked with their colleagues about the change were better prepared

and more accepting of the change than those who did not indicate that they had worked with their colleagues.

What do teachers say about the process of implementation?

The interviews and field notes reinforced some themes related to what teachers said about the process of implementation. In general, teachers in year one of the implementation were less comfortable and less optimistic about the change than those who had more experience with it.

Teachers did not readily identify the professional development that was offered as supporting of their implementation of the grouping change. They did, however, identify each other as supportive during the change process. They talked about the level of success their colleagues were experiencing and how that impacted their beliefs about their level of success. Teachers also talked about how colleagues helped them understand what to expect during the implementation process.

How do teachers discuss their beliefs about grouping practices before and during the implementation of the change?

Of the ten teachers involved in the study, three indicated that they had had a negative impression about the impending change in grouping practices. When asked to explain why, they cited concerns for their ability to successfully implement the change. In addition, those teachers identified a concern with the ability to challenge high level learners in the context of a heterogeneously grouped classroom.

Four other participants were neutral in their initial beliefs about the grouping change. They indicated that they saw the benefits of the change but had concerns

similar to those of the teachers who worried about being able to challenge high level learners.

Three participants were positive about the change prior to implementation. They identified a number of reasons why they believed that the change in grouping practices would improve students' education. Included within these was the belief that struggling learners would benefit from higher expectations of faculty. Struggling learners would also be exposed to the grade-level curriculum, which, according to these faculty members, would improve educational outcomes.

After implementation, a number of faculty members changed their impression of the new grouping practices. While two of the faculty members who were positive about the change prior to implementation remained positive, one became neutral about the change. When asked why she had changed her impression, she provided reasons related to her teaching effectiveness with a homogenously grouped classroom. Specifically, she identified her relative ability to challenge high level learners within a heterogeneously grouped classroom as a barrier to success.

One other teacher began feeling neutral about the grouping change before implementation and then reported feeling negative about the change after implementation. When asked to describe this change, she indicated that she did not feel that the change was fair to students. She indicated that her higher achieving students were not being challenged, while her struggling learners were being left behind.

Another participant did not change her beliefs about the grouping changes and continued to feel neutral about homogenous grouping when it was implemented.

The remaining five participants had an improved impression of the change in grouping practices from their opinion prior to implementation. These teachers talked about the effectiveness of the new grouping model. In particular, they said that they felt that the new grouping model provided better support for struggling students.

What is the interplay and influence of colleagues on each other during the implementation process?

The findings of the study in relation to this question are the most interesting and revealing. Preliminary findings will be discussed now, with an extended analysis, in Chapter 5. As has been described, there were many examples of teachers who had witnessed their colleagues implement the new grouping change. In other cases, teachers who were preparing for the change in grouping practices contacted teachers who had already implemented the change for advice. One participant in particular, Joy, had broad positive influence among her colleagues. Joy significantly impacted the environment and assisted with implementation of the change in grouping practices. Joy's influence and impact on the change in grouping practices will be further analyzed in chapter 5.

The engagement of teachers within their school community is a central factor in school reform. It was through this engagement (observing colleagues, having discussions) that two goals were accomplished. First, teachers often relied on one another in preparation for the upcoming grouping change in their grade. They used their colleagues, who had already experienced this change, as resources to assist them. Second was the ongoing support they received from each other as they faced this change. Throughout the implementation of the change in grouping practices, teachers

talked with their colleagues to check the progress of the change, ask questions, seek advice, and offer support. This was an important element within the function of this Community of Practice, and it had a significant impact on the implementation.

b. Findings by Individual Teacher.

As mentioned, the grouping change had been in place for three years.

Generally, teachers in grade six had been teaching in the new groupings format for nearly three years, grade seven teachers for nearly two years, and grade eight teachers for almost one year. There were, however, some staffing moves that resulted in some teachers having more or fewer years in the new grouping model than their grade-level colleagues. Presenting the findings by teacher may provide some additional information relative to the length of experience in this grouping pattern and teachers' opinions about it.

During the individual interviews a number of topics were discussed. Although the interviews were semi-structured, each participant was asked the following questions:

- Please think back to when the school committee made the decision to change the grouping practices at the middle school. Please share in detail your recollection about your beliefs and opinions of the grouping practices change.
- Now that you have been living with the changed grouping practice for (1, 2, or 3) years, please describe your current opinion and beliefs about the new grouping practice.
- Please share your impression of any advantages or disadvantages of the new grouping practice compared to the former grouping practice.

In addition to the interviews conducted, field notes and classroom observations provided important data related to the study questions. Data related to interview questions is presented first, followed by relevant field notes and a summary of the classroom observations conducted.

Experiences of Teachers in Year One of Implementation.

There were three teachers who were teaching within the changed grouping pattern for the first time when this study was conducted: Caitlyn, Margaret, and Kate.

Caitlyn, Social Studies, Grade 8.

Caitlyn is a social studies teacher with a decade of service to Williams Middle School. Prior to teaching at Williams, she worked at a private school that had grouped heterogeneously. Caitlyn's recollections, shared during an interview on April 30, 2010, of her opinions and beliefs about the change in grouping practices, were similar to those of many of the study participants.

"I was nervous about it a little bit. I think it is probably easier for me than let's say a math or an English teacher because of the reading levels, and I tended to always try to do the same thing across the board even if I did it at a different pace. I wasn't too upset about it because I figured it would work itself out, like everything else" (April 30, 2010).

Caitlin was asked to share her beliefs and opinions about the grouping practices since implemented. Again, she shared opinions that were similar to those of other study participants. During the eighth month of implementation, she said:

"I think it is going ok. I still have mixed opinions, but I feel like it can be very good. There are a few things that I don't like about it, but overall I think it's

good for the average. It's the top ten and low ten percent that it's not good for them... I think kids that get the short end of that the most are the very high kids and the very low students. I will give them tons of extra opportunities, and out of the 95 students I have only three or four take advantage of it" (April 30, 2010).

During the interview Caitlyn was asked to share her opinions of both the advantages and disadvantages of the grouping practices. Caitlyn indicated that she had worked in a private school that had grouped heterogeneously and was relying on her previous experience to successfully acclimate to the new grouping change. During the interview, her candid replies echoed a common theme among study participants.

In general, Caitlyn was concerned about the students who were either struggling learners or very high-end learners. She did not feel as though the new grouping practices could effectively meet the needs of the full range of students in her classes. Ironically, she also indicated that the former grouping practice, which included three levels, had the same problem: it could not effectively meet the needs of all learners.

Three classroom observations of Caitlyn were conducted. During the first observation she was leading a review of material for an upcoming quiz. Students decided what material needed to be reviewed by asking questions. Many students in the class sat passively and did not participate in the review. During the second observation, the class was watching an educational video on the American Revolution. There were no requirements for students other than to watch the video. During the third observation, the teacher began with a verbal overview of the day's lesson plan.

The plan for the day was to complete the video that began a few days earlier on the American Revolution. As was the case with the first observation, students were simply required to watch the video.

Margaret, Science, Grade 7.

Margaret, a grade seven science teacher, is also an experienced teacher with more than 15 years of experience in the Adams Public Schools. Margaret had been a grade 8 science teacher during that time, but during the 2009-2010 school year she was moved to grade 7. Although her colleagues in grade seven were experiencing their second year of the grouping change, this was Margaret's first year.

When asked to recall her opinions and beliefs about the grouping change, she stated:

"I wasn't really looking forward to the change before it happened, but I knew I would learn to live with it. I have had fundamental groups [the lowest of the three academic groups] for a long time and think that it worked really well for them. Having also had honors, on the other side of that, I didn't think this change would be very good. I think the lower kids do get an advantage of being with other kids. They see more, they know they're expected to do more, but the honors kids, I felt that they would be left behind a bit" (Interview with Margaret, March 1, 2010).

Margaret was also asked to share her opinions and beliefs about the grouping practices now that she had some experienced with it. She said:

"I think that I am getting used to it. I like that I am able to group in different ways. I don't always have the same level working together. I like that. I also

like that I have a co-teacher this year for the first time⁴; this has helped a lot because she knows how to get lower kids [to be successful], and to give me strategies to help those kids stay with the average kids, and she helps to differentiate that way” (Interview with Margaret, March 1, 2010).

Margaret was also asked to share her opinions related to the advantages and disadvantages of the grouping change. She, like Caitlyn, shared that she was concerned about the impact of the change in grouping practices on the high achieving students. She recognized that having students grouped heterogeneously allowed high achieving students to become “peer helpers.”

There were five observations of Margaret conducted. During the first observation, students were working in small, pre-determined groups and answering questions related to the milkweed bugs that the class was studying. Students in these groups were grouped by ability level, as was confirmed by the teacher. Students were recording a variety of data. During the second and third observations students worked independently. In one class they were reading a chapter from their text book and taking notes on key information. While this was taking place, the teacher was conferencing with students individually to clarify work that a student had missed or work that was handed in that had not met teacher expectations. In the next class they were responding to a question that was written on the board in their science notebooks. During the fourth observation, students were preparing for a quiz, and the teacher was facilitating a review. The review was conducted with the teacher asking a question

⁴ Co-teaching, the practice of pairing a regular education and special education teacher in the same classroom, had been a practice at Williams Middle School since September 2006. At that time, a special educator was assigned to each team. Often, because of the service requirements of special education students, special educators would work in ELA or math classrooms. This scenario may explain Margaret describing having a special educator in her class for this first time.

and calling on a student to answer. Students selected to answer the questions asked by the teacher were those who raised their hands first. The last observation included students moving from whole-group to individual activities. The class was reading information about the milkweed bugs that they were studying. After reading the information, students individually observed their milkweed bug habitat and cataloged required information.

Margaret also talked about the implementation of the change and her reliance on teachers in other grades that had experience with it. “I knew it was coming to grade 8. I didn’t believe that it would go well.” Margaret was also asked about how the professional development in differentiated instruction may have assisted with the implementation. She replied, “I don’t know that what I do is differentiating, but it seems to work for most kids.”

Kate, English/Language Arts, Grade 8.

Kate is a grade 8 ELA teacher with 14 years of teaching experience at Williams Middle School. Kate shared that she was absolutely opposed to the change in grouping practices when she learned of it. “I knew that this change would not be good for students. It was unfair to my honors students; fundamental students would bring them down” (Interview with Kate, March 9, 2010). She did indicate that she was “confident [she] could do a great job with all of the students.” She explained that since she taught many novels during the year, she was very worried about which novels she would teach. She did not know how she would find a novel that was appropriate for all of the levels in her classes. Finally, she recalled her concern about how she would test all of the students: “I’d have to test them all at the same time.

What do I do with the fundamental students? How do I modify for them for the test, while I didn't modify for other students? It isn't fair" (Interview with Kate, March 9, 2010).

Kate was asked to think about her feelings and opinions of the grouping change that she was experiencing. She spoke at length about her feelings now that she was experiencing the change:

"It is not as bad as I thought. The kids go with Kerri [special educator] for support and for the modified test, not just her kids [special education students], but any kids that were struggling. It wasn't very easy to give them a different form of the test. I was in a little bit of a panic, not that I don't know how to do it. It was like, I am going to give each kid a different test without the other kids and, 'well, that's not fair that they are taking a different test,' and that has not happened at all with students noticing. Well, I'm sure that they noticed, but they haven't said anything about students getting a different form of the test" (Interview with Kate, March 9, 2010).

Kate continued that she thought the change was better than she expected because of some advantages that she had not anticipated. She talked about the unanticipated benefit of improved student behavior. She explained that this included the behavior of the honors kids. "They have not been as chatty." She also explained that the grouping change was better for the students who would have been placed in a fundamental grouping in the former model:

"I think that the fundamental kids are getting access to the information or questions that they might not have heard before, even if they don't completely

understand it. I think that this is important because they should be approached with higher level questions, and I don't think a lot of teachers would do that when they were grouped in the fundamental class together" (Interview with Kate, March 9, 2010).

Kate did share during the interview that, if she was making the decision, she would have students grouped by ability in both math and ELA. She talked about the fact that in science and social studies students all use the same text, whereas in ELA the teacher can choose different texts depending on student ability. She also indicated that she thought "math could also be taught in heterogeneous grouping, since it should be easier to change the level of difficulty of the problems that students are working on."

Four observations of Kate were conducted. During the first observation, students were reviewing a book that was read in class. The teacher was asking comprehension questions and calling on the first student who raised his/her hand. During the second and third observations the special education teacher, Kerri, was also in the room. Students were working on the daily edit in one class. Kerri was circulating around the room to check student progress, regardless of whether or not they were special education students. During the next observation students were in small groups, and they watched an extended video clip of a TV series. A review of the groups showed that students who received special education services were put into small groups together, while students who did not receive services were put together. While students were answering questions related to the TV clip, the special education teacher worked specifically with the two groups of special education students. Kate

worked with the regular education students in the classroom. The final observation included the introduction of a new unit of instruction. During this introduction Kate asked a series of questions related to previous units of study.

Finally, when asked about implementation, Kate presented a unique view of the implementation of the practice. She clarified during the interview that she did not think the change would work or be good for students, but she said, “I am confident that I can do a great job with all of the students, but the high level learners are being held back by the slower learners.” When asked what assistance she received to prepare for the change, she reported. “When grade 6 first started they had a difficult time, but they actually loved it even though it was a huge challenge; grade 7 teachers talked about how hard it was. Neither grade really gave me any help or advice, though” (Interview with Kate, March 9, 2010).

Experiences of Teachers in Year Two of Implementation.

There were four teachers who were teaching within the changed grouping practice for the second year during the time of this study: Monique, Theresa, Michelle, and Kelley.

Monique, Theresa, and Kelly were grade seven teachers during the 2008-2009 school year. Michelle had been a grade seven teacher in 2008-2009, but was a grade eight teacher in 2009-2010. As was the case with teachers experiencing the changes for the first year, these teachers were also asked questions related to the three areas previously stated.

Monique, English/Language Arts, Grade 7.

Monique was asked to think back to when the decision was made to change the grouping practices at Williams Middle School. She recalled that she was “somewhat positive” about the upcoming change. She stated that she thought “that the honors groups work well, but the fundamental and average groups aren’t doing anything spectacular for kids” (Interview with Monique, May 28, 2010). She also indicated that the change in grouping practices would be a challenge for her, but that it would be worth it because “it will likely be worth it for our students.” Finally, however, she admitted that she was

“very apprehensive, and I am not sure how I am going to meet the needs of all students, since there will be so many different levels in her classes. I am also the sage on the stage, so I think it will be difficult for me to give up control and use the differentiated grouping strategies that we learned about. I guess overall I am nervous but excited about the change” (Interview with Monique, May 28, 2010).

At the time of the interview, Monique was nearing the end of her second year of experience with the new grouping practice. Overall she felt that the change to the new grouping practice was a positive one. She felt she had struggled significantly over the two years, but the struggle improved her teaching practice. She did express continued doubt about the effectiveness of the changed grouping practices for all students: “I really worry about the top level students.”

When asked to identify the advantages and disadvantages of the grouping practices, she reiterated her concern about high performing students:

“The only disadvantage that I see is for the top level kids. I do feel like they will seek out information no matter who is in front of them, but I am not sure that the way we group is fair to all of our students” (Interview with Monique, May 28, 2010).

There were four classroom observations conducted of Monique. In the first observation, the class was reviewing an upcoming assessment. The teacher asked a question and students volunteered to answer. In the second observation, the class was discussing a novel they were reading. The teacher led the discussion by asking a question to solicit student responses. To reinforce the points made by students, the teacher would often pick a passage from the novel and read it aloud to the class. During the next observation students were completing a daily edit in their daily editing notebook. When they were done, the class discussed the sentences and the corrections that needed to be made. During the last observation the teacher used a book that was being read to assist students in their understanding of literary devices (e.g., simile and metaphor). Many students were not engaged in the activity and were unclear about what they should be doing.

In reflecting on how she prepared for the change, she indicated that she relied on teachers in grade 6 for help. She also indicated that the professional developed by the district was helpful. She said, “I found the differentiating workshop we had over the summer very helpful. It was during the workshop that I felt better because some of the things that she taught us were things that I was already doing” (Interview with Monique, 5/28/10). Interestingly, although Monique recognized the benefit of the

summer workshop on differentiation, she clarified that she thought her work with the grade 6 teachers was much more helpful.

Theresa, Social Studies, Grade 7.

Theresa was asked to recall her opinions and beliefs about the grouping change prior to implementation. Theresa recalled that she had no idea how it would work: “I honestly didn’t know how I was going to be able to teach the same subject to what I still viewed as three different groups” (Interview with Theresa, 5/19/10). She indicated that she would have preferred to continue grouping the way the school had in the past, but mostly because she needed someone to help show her how to teach in a heterogeneous classroom.

Theresa talked about her own professional development since she began teaching within the changed model: “I think that I am better at it. I think that I am better able to modify things for the very low group.” She also discussed her concern about her ability to continue to challenge the high achieving students. “Because they don’t need much, I probably don’t do a very good job challenging them yet.”

Theresa identified an advantage of the new grouping practice that was echoed by a number of her colleagues. She talked about how her expectations of students’ ability had changed as a result of the changed model.

“My expectation walking into a class was somewhat determined by the level. For instance, I did not have very high expectations of my fundamental groups. When I started working in the heterogeneous model, I mean, well, I couldn’t just have the whole class categorized in a certain way. I had to really think

about each student and what they were capable of” (Interview with Theresa, May 19, 2010).

She indicated that she thought there were benefits to the new way of grouping: “I think that it just gives more confidence, and a lot of their [the lower achieving students’] problems are a lack of confidence.” Theresa also articulated another benefit that was shared by a number of study participants. “I think my expectations for lower achieving students has changed. I was selling them short. They are able to do much more than I expected, and I wouldn’t have known that if we didn’t change the grouping model.”

She also indicated that the change in grouping practices benefits traditionally lower achieving students, but higher achieving students were probably not well served.

There were three observations conducted of Theresa. During the first observation the entire class was engaged in a teacher-led whole-group discussion. As the teacher provided information, students were expected to write notes based on the teacher's lecture with the teacher providing cues about what students should be writing down. During the second observation students were engaged in a review of material by playing a bingo game. Student engagement was high during this activity, and all students were participating. During the third observation the class conducted a review of material that had been studied. The teacher used an overhead projector and pointed to specific information that students should understand. In this review students were called on to answer the teacher’s questions.

Michelle, English/Language Arts and Social Studies, Grade 8.

Michelle was a grade seven teacher during the 2008-2009 school year. She was moved to grade eight for the 2009-2010 school year. Although teaching at two different grades, Michelle was in the second year of implementation of the new grouping practices. Michelle was also asked to reflect upon her thoughts and feelings when she learned of the proposed change to the grouping practices. She reported that she was “very open to the idea at the time.” When asked to explain a little about why she was open to the idea, she shared her prior experience teaching at Williams Middle School. For a number of years she had taught grade seven as a member of a two-person team. She taught English and social studies, while her teammate, Kathy, taught science and math.

“Kathy and I, for whatever reason, only ever had the fundamental groups. It might have been because we were the second team to come into the seventh grade; we had the low class, always. We never, ever had the upper classes. The classes were called ‘fundamental’ at the time. Once we also had an average group, but they were low-average. We saw those kids trapped in a room with no other role models of being anything better, and they just kind of stewed in their own juice. They never got any further. They never reached anymore, no matter how many opportunities we placed before them”

(Interview with Michelle, 4/5/10).

Michelle was asked to share her experience with the grouping practices during her second year of instruction. She admitted that the change in grade for her probably slowed down her development and comfort with the new grouping practices. She said

that she was “finding it very hard; those upper tier kids, I just don’t feel like I am reaching them. When I work harder to try and reach them, it seems like I am neglecting my struggling students.”

Although Michelle recognized her continued struggle with the new grouping practices, especially given her change in grade, she indicated that she felt that the changed grouping practice was the best thing for students. She indicated that she would not change the way we grouped. She did worry that “this is a very time-consuming process, and my fear is that by the time I can get there, they are going to switch it back.”

Three observations were conducted of Michelle in the classroom. During the first observation students were grouped in dyads. Students were given a question to answer and worked together with their partner to answer that question. The teacher recognized that there was some confusion about the activity among students. She stopped the activity and clarified the instructions for students. During the second observation students were organized in small groups and were engaged in discussion about a teacher-approved topic. This activity included expectations for learning within the timeframe that was allotted. The final observation had students again organized into small groups. Each group was engaged and active but working on different activities. One group was preparing to give a speech, another group was watching a video, and a third group was conducting research on the computer. The topics they were studying were selected by each group and approved by the teacher. Based on a discussion with the teacher, and as was observed, students were grouped heterogeneously.

Kelley, Science, Grade 7.

Kelley had taught both grades 7 and 8 in the past. At the time of the study, Kelley was teaching in grade 7 for the second year. Kelley recalled looking forward to the change in grouping practices. She had always felt that students grouped in the fundamental classes were “missing out.” She admitted that she was nervous about having all of three levels in the same classroom. She was most concerned about the high-level learners: “I think it’s the gifted students that make me nervous. I have never had the opportunity to teach the gifted students” (Interview with Kelley, May 3, 2010).

In reflecting on her opinion of the proposed change at the time, Kelley reported that she was looking forward to the change in grouping practices. She thought it would be good for the “lower level learners,” but she was concerned about those students who learned at higher levels. Throughout her conversations about grouping practices, Kelley referred to those students who were in the honors level as “gifted.”

After two years of working within the changed grouping model, Kelley felt comfortable with heterogeneous grouping. However, she continued to express concern about the high-level learners: “I expected my low-level learners to come in and I was ready for them, but I still see those gifted kids kind of sitting back, and they do a lot of waiting.” Her concerns about the grouping practices always related to higher-levels students. At some length, she described her concern:

“Personally, I think there should be a separate group for the 15% [of high level learners] because I do see the lower-level students working up to the level actually maybe even exceeding the level that I thought they would. I don’t feel

that is true with the gifted students. What I have seen, which is a really good thing, is that I have my low-level students and I'd say okay this is what we are going to do today, but now I probably take a step back. Unfortunately in the old model we were stuck within the box and thought they could only do certain things, and they can actually do a lot more" (Interview with Kelley, May 3, 2010).

When asked what she thought the advantages and disadvantages of the heterogeneous grouping practices were, she identified her continued concern with high-level learners. "I just think there needs to be a class for the 15% of students who are gifted."

There were five observations conducted of Kelley. During the first observation, students were engaged in small-group, collaborative-learning activities. Each group included three or four students. Students were grouped into mixed abilities. This was noted, as there were special education students in each of the groups within the classroom. During the second observation students were watching a video. The teacher expected students to pay attention to the video and did not articulate any other expectation. During the third observation students were working independently on their habitat projects or definitions. While most students were on task, some students seemed to be struggling with the instructions of the activity. Of the students who were not engaged in the activity, most were special education students.

During the fourth observation small groups of students were presenting to their classmates. Students were presenting an animal that was included within the habitat they had designed. The teacher instructed the audience to make sure that they were

courteous during the presentations. During the fifth observation students went outside and explored a small brook that ran through the school property. She instructed students to look for a variety of organisms that might live near or in the water. This activity was an extension of the habitat project that students had completed and already presented to their classmates. She indicated that students were divided into pairs and were expected to look for organisms in the small ecosystem. The teacher allowed students to select their partners for this activity.

Experiences of Teachers in Year Three of Implementation.

There were three participants of the study who were experiencing their third year of implementation of the new grouping practices. Shelley, Suzanne, and Joy were all grade six teachers throughout the three years of the implementation of the change. They, along with their grade six colleagues, had the most experience in the school with heterogeneous grouping. As was the case with other study participants, they were all asked to reflect upon their feelings and thoughts when the change in grouping practices was announced. They were also asked to talk about their experiences over the three years and whether they would make any changes to the grouping practices employed at Williams Middle school. Finally, they were asked to talk about their perceptions of the advantages and disadvantages of the current grouping model.

Shelley, Social Studies, Grade 6.

Shelley was a relatively new teacher at the time of the study, having served at Williams Middle School for five years. When asked what helped her prepare for the change, she identified her college preparation program. She said she was “ready to

teach in the changed grouping model because that is the way that I was trained.” She was asked to think about the school’s move from homogenous to heterogeneous grouping. She responded that, at the time, she was excited. She said that she had felt that her college training, which included a lot of work on differentiated instruction, was being wasted in the homogenous groups. She had been taking college-level classes and saw a benefit to moving to heterogeneous grouping. She talked about student behavior being problematic in the former grouping model: “The behaviors can be challenging. The old model took struggling students and put them together in one class, and it was really hard to keep them focused and on task” (Interview with Shelley, 3/15/2010).

When she talked about the new grouping model, Shelley continued to be positive about the changes that were made. Shelley identified the strongest benefit of the model as being related to improving student behavior. She expressed her ongoing concern for meeting students’ needs. Specifically, she expressed concern for the high-level learners whose needs were not necessarily being well met in the new model. Finally, she talked about how she used to continue to group the students in her class based on the math level they were assigned. In discussing her practice now, she said, “I do see them as, you know, a whole class. They all learn the same objectives and then go from there” (Interview with Shelley, 3/15/2010).

There were four observations conducted of Shelley. During the first observation, all the students were reading from a text-book and completing a fill-in-the-blank worksheet. Students were all engaged in the activity, while the teacher monitored the class from her desk. During the second observation the teacher led the

class in a review of previously-learned material for an upcoming quiz. Students did not have the opportunity to ask questions during this activity. During the third observation, the teacher provided information to students and expected them to write down the information into their study guides. All students were engaged in the required activity. During the final observation, the students were watching a video related to content they were studying. They were expected to pay attention while watching the video, but there were no other activities they needed to engage in.

Suzanne, English/Language Arts, Grade 6.

Suzanne is a grade six English teacher with 13 years of experience. Some of her teaching experience had been in a private school. Suzanne reported that she “didn’t feel any negativity toward the new grouping practices.” She shared her experience at the private school where she taught for two years, where students were grouped heterogeneously. She said that she felt the teachers were well-prepared for the change with the training they received on differentiated instruction. She also talked about her teammate, Shelley, who was relatively new to teaching and had taken some additional classes in differentiating instruction. Suzanne recognized Shelley as a resource.

Suzanne was asked what she thought of heterogeneous grouping, now that it had been in place for three years. She responded that she would prefer homogenous grouping. “Right now I would say homogeneous grouping... with all of the levels in a classroom, I am just not comfortable with differentiating my instruction” (Interview with Suzanne, 4/8/2011). When she was asked to expand on her feelings about the grouping change, she was non-committal, stating, “I could go either way, I guess. I

would say ‘yippee the old way is coming back’, or I could keep working to get this thing to work” (4/8/2011).

Suzanne did recognize advantages to the current grouping practices. She recognized the student interactions, “between levels,” as being both an advantage and disadvantage. She talked about the level of disruption that was caused by a few students who would have been grouped together in the former model. “Some of these students are just so disruptive they impact the learning of others.” She also recognized the positive interactions that students had. “I have seen students who, I think if we were grouped differently, may not have been friends with one another.”

Three observations were conducted of Suzanne. During the first observation, students worked in small groups and engaged in an activity where they were reviewing literary devices. Students were allowed to determine their groups for the activity. In general, students were grouped heterogeneously. In the second observation the teacher conducted a whole-group activity where she provided instructions to students. There was a lack of clarity of the purpose of the activity and what specifically students should be doing when the activity began. During the third observation students were engaged in an individual assessment. After a brief discussion with the teacher it was determined that all students would receive the same assessment regardless of their level of ability or proficiency.

When asked about how she prepared for the change she indicated that she prepared for the change by doing a lot of work herself. She discussed her work in looking at different novels and leveled readers. She talked about how she prepared lessons to get ready for the change. Absent from the conversation was any discussion

of work with her teammates to prepare or any benefit derived from the professional development.

Joy, Science, Grade 6.

Joy was the most experienced teacher who participated in the study. As mentioned, Joy was involved early with the planning and discussions of the grouping practices used by the middle schools. She identified herself as an early skeptic, who was initially “totally against this.” She believed that a change in grouping practices would be fine for typical learners, but both struggling and exceptional learners would not benefit from the change.

After experiencing the grouping change for three years, Joy reported that she “really like[s] heterogeneous grouping.” She admits that she did not feel like it was going to work until after the first year. The first year, as she reports, there was too much work to be done, and teachers spent time trying to differentiate everything, until they realized that they did not have to do so. She shared the benefits that she was seeing with struggling learners. Specifically, she indicated that mixed-groups add a lot to the classroom that benefits all learners, including advanced students who seemed to be working harder than they had under the previous grouping method.

Joy was also asked to identify what she perceived to be the advantages and disadvantages of heterogeneous grouping over the former model. She identified the change in teacher expectations as a real advantage. “I think we really underestimated what students in our fundamental group could do. I have been surprised at how much they can do, and I can’t imagine going back to the other model... I think I now have a thinking classroom.” She also talked about the classroom climate benefits of the new

grouping model. She indicated that the classroom environment was much more positive since all of the students who have “behavior problems” were not in the same classroom. Joy did not see any disadvantages to the grouping model that was currently in place. She acknowledged that some of her colleagues think that it would be beneficial to have a high level track, but she disagreed. When asked about her beliefs about the grouping change, she claimed, “I have always believed in the change, but I became a true believer after my second year.” She indicated that it was during the second year that she felt she had acclimated to the change and was providing a better differentiated experience that helped to meet the needs of all students.

There were four observations conducted of Joy. During the first observation, the teacher led the entire class in a group review of science concepts that were being studied. During this activity students were expected to identify information that they would then share with the rest of the class. All students were engaged in the activity and participated. During the next observation students in the classroom moved through a variety of grouping formats from small group to whole group and finally back to small group. During the whole-group portion of instruction, the teacher provided a question-and-answer period that allowed students to assess their understanding of the material being taught. Students were engaged throughout the lesson. During the third observation students received direction about a group assignment from the teacher. During the directions the teacher provided clarity about the expectations for the assignment. Students were assigned into groups of three or four based on achievement level, as confirmed by the teacher. This was evidenced by a group of her special education students being assigned to work together. A second

group of students included two special education students and two other students who were struggling academically. The fourth observation included both Joy and the special educator, Judy. Students worked in small groups and were engaged in practice of concepts that had been previously taught. Students seemed to be divided into homogeneous groups. Special education students were again clustered into two groups. Students with similar academic profiles were also grouped together. Students making acceptable academic progress comprised the remaining groups.

Finally, she was asked to identify what she did to prepare for the change in grouping practices. She began by sharing her attitude prior to the change. “First of all you have to have a positive outlook on it. If you’re not going to be into it, then forget it.” She also highlighted the importance of her team in struggling with the change together. “You have to believe that you as an individual, and then your team of teachers, is going to make or break the model.” Joy continued to talk about the importance of the team working on this together by describing how a team member would try something and share it, whether or not it worked. Joy did not discuss her participation in the summer workshop on differentiated instruction during the interview.

Summary of Beliefs and Practices

The summaries of individual teachers’ beliefs, which were taken from interviews, provide us with an improved understanding of teachers’ recollections of their feelings related to the change in grouping practices before, during, and after implementation. Classroom observations were also conducted during the data collection period, and teachers were asked to discuss their perceptions of the

advantages and disadvantages of the heterogeneous grouping practices. This section will summarize the findings presented above and connect them to teacher beliefs and behaviors. The goal is to provide some clarity on whether teacher beliefs precede changes in behavior, teacher behaviors change prior to beliefs, or some combination of the two. A more detailed, theoretical analysis will be presented in Chapter 5.

For most of the ten participants, there was significant uncertainty prior to implementation of the changed grouping practices. Five of the ten teachers indicated that they were concerned about the change prior to implementation, while two teachers were opposed to the change. Regardless of when they implemented the change, and regardless of their experience in seeing their colleagues experience the change, the primary concern they expressed was that the heterogeneous groups did not adequately challenge the highest-achieving students. The concern was similar, whether they had been the first, second, or last implementers of the change. There were, however, differences in their overall opinions about the changed grouping practice based on the amount of experience in the new grouping model. Teachers in their first year of implementation, for example, reported that they continued to feel unsure about the grouping change, while the majority of teachers in the second year (3 out of 4) and third year (2 out of 3) reported feeling positively about the new grouping practices.

In examining the change that occurred, as reported during the interviews, there were some interesting findings. Seven out of ten teachers changed their opinion of the grouping practices. Of the three teachers whose beliefs and opinions did not change, two (Michelle and Shelley) had remained positive about the change before and after implementation. One teacher, Kelley, remained neutral about the change in grouping

practice, reporting that prior to implementation she was “looking forward to the change but doubted that it would meet all students’ needs.” After implementation she reported that she was still concerned about the ability of the grouping change to meet all students’ needs.

The table below outlines the data for each teacher and provides a rating of their opinions and beliefs about the grouping change before and after implementation. Teachers who expressed a positive belief about the grouping change are represented by a “+,” while teachers who expressed disagreement with the grouping change are represented by a “-,” Finally teachers who expressed neutral comments or ambiguous beliefs about the grouping change is represented by a “/.”

Table 2: Teacher Beliefs Before and During Grouping Change

Teachers in Year One of Grouping Change Implementation			
Teacher Name	Subject	Belief Prior to Implementation	Belief During Implementation
Caitlyn	Social Studies	+	/
Margaret	Science	-	/
Kate	English	-	/
Teachers in Year Two of Grouping Change Implementation			
Monique	English	/	+
Theresa	Social Studies	/	+
Michelle	English/Social Studies	+	+
Kelley	Science	/	/
Teachers in Year Three of Grouping Change Implementation			
Shelley	Social Studies	+	+
Suzanne	English	/	-
Joy	Science	-	+

As a component of data collection, thirty-eight observations were conducted of the ten study participants. During these observations, which were between 10 and 50 minutes in length, notes were taken to capture: the activity that was taking place;

teacher behavior; student action; and grouping patterns. All of the observations were conducted during the implementation phase of the grouping change. It was, therefore, impossible to determine objectively whether or not the instructional activities of a participant had changed.

The data obtained from the observations was thoroughly reviewed. Of particular interest were the grouping patterns that existed within the observed classes. When, during an observation, students were in groups, the determination was made if students were grouped heterogeneously or homogeneously as directed by the teacher. In a couple of instances students were able to select their group members.

During the 38 observations, there were nine instances of student groups noted that were distinct from whole-group interactions. Of those, five were homogeneous student groups, two were heterogeneous student groups, and two were student-selected groups. In looking more closely at the data, instances of homogeneous grouping occurred in the classrooms of teachers whether they had one, two, or three years of experience. These data, of course, should be considered within the larger context of the study. Since the number of study participants and observations was relatively small (ten and thirty-eight respectively), we must proceed with caution in drawing conclusions of this observational data.

Conclusion

The findings and initial analysis presented here has focused on reviewing the data and reconciling the findings in relation to the questions that were established at the outset of the study. In addition, data from individual study participants was

presented. The data analysis provided some interesting and useful findings. These findings include:

- Participants were overall positive about the change in grouping practices but continued to be concerned about their ability to challenge accelerated learners, but felt that the change would benefit struggling students.
- Participants with more experience in the changed model were more positive about the effectiveness of the model.
- Participants relied on each other, particularly Joy, to assist in their preparation and implementation of the change in grouping practices (to be discussed in depth in Chapter 5).
- The majority of participants (9 out of 10) reported that they were more positive about the grouping change after implementation.
- Teacher change was non-linear and recursive.

A significant benefit of conducting a qualitative study is flexibility. In the review of the data the researcher is free to analyze and interpret the data from multiple lenses, some of which may be determined after the initial analysis of the data is conducted. In this study, the initial questions provided an effective starting point. Through a thorough and disciplined review of the data, a number of other findings were identified. In addition, the data provided a compelling incentive to review other theories and frameworks that would assist in further explaining the phenomenon under study. In Chapter 5, I will expand upon the findings and use other frameworks to draw further conclusions from the data.

CHAPTER 5

EXTENDED DISCUSSION, CONCLUSIONS, AND IMPLICATIONS

Introduction

This chapter will provide an extended analysis of the findings as well as conclusions and implications of the study, utilizing an expanded version of Wenger's Community of Practice Model. It is divided into sections as follows:

1. Summary
2. An Adaptation of Wenger's Model
 - a. Review of Community of Practice
 - b. The Adapted Model
 - i. Dialectics of Experiential Learning
 - ii. Dialectics of Community of Practice
 - iii. Dialectics of Community of Innovation
 - iv. Dialectics of Professional Development
3. Extended Analysis (Using the Adapted Model)
 - a. Teacher Change as a Recursive, Dialectical Process
 - b. Williams Middle School as a Community of Practice
 - c. Williams Middle School as a Community of Innovation
 - d. Limitation of Planned Professional Development
4. Implications
 - a. For Practice
 - b. For Future Research

5. Summary and Conclusion

1. Summary of the Study

Teacher change is at the heart of school reform. Without changing the beliefs and practices of the professionals who are closest to students, reform efforts are likely to fail. In the past, understanding teacher change has proven somewhat elusive for two reasons. First, researchers have come to understand that a variety of complex factors play a part in determining how changes in teachers' attitudes, beliefs, and practices affect student learning. A review of alternative models of teacher change (Chapter 2), which have typically been framed from an individual perspective, showed a number of theories that appear to conflict with one another. Most teacher change theories indicate one of three paths: that changes in teacher beliefs precede changes in practices, that changes in practice precede changes in teacher beliefs, or that change in both beliefs and practices is nonlinear and recursive. The second reason teacher change has been difficult to understand is that it always takes place in the context of a community. The difficulty in understanding this contextuality is complicated by the multiple dynamics at play within both the individual teacher and the community as a whole.

This study aimed at gaining a better understanding of teachers' responses to a mandated change in grouping practices. Initially, two areas of literature were consulted, one on grouping practices and the other on teacher change, to assist in positioning this study within the existing research. This research was reviewed and summarized in chapter 2. Once this initial literature review had been completed, it became clear that many of the models of teacher change were developed based on an

individualistic look at the change process. That is to say, these models of teacher change looked at the process of change as something that occurs individually, often without any mention of the possible impact that interactions with other professionals or the school context might have. Once this weakness in the literature was identified, a social theory of learning, Communities of Practice (Wenger, 1998), was added to the literature review. Inclusion of the Communities of Practice framework provided an opportunity to look at teacher change from both an individual and a group perspective, and, more importantly, to make inferences about the interaction between the two.

The study used a qualitative approach to answer its research questions. Data were collected from individual interviews, classroom observations, and field notes. Once collected, the data were reviewed and the data reduction completed, as outlined in the framework provided by Miles and Huberman (1994) and summarized in Chapter 4. This preliminary analysis yielded five findings:

- Participants continued to be concerned about their ability to challenge accelerated learners but felt that the change to heterogeneous grouping was benefiting struggling students.
- Participants who had more experience with heterogeneous grouping were more positive about the effectiveness of the model.
- Participants relied on each other, particularly Joy, to assist in their implementation of the change in grouping practices.
- The majority of participants (9 out of 10) reported that they were more positive about the grouping change after implementation.

- Changes in the participants' beliefs and practices were non-linear and recursive.

2. An Adaptation of Wenger's Model

a. Review of Community of Practice

The theory of "Communities of Practice," pictured in Wenger's graphic model below (Figure 4), provides this study with an additional framework to examine the collective experience of teachers at Williams Middle School as they underwent a change in grouping practices. Communities of Practice, according to Wenger and Snyder (2000), are "groups of people informally bound together by shared expertise and passion for a joint enterprise" (p. 139). It is a social theory of learning that includes four key components: meaning, practice, community, and identity. It is the shared experience and interaction of individuals within a community that facilitates learning and, therefore, defines a community as a community of practice.

Figure 4: A Social Theory of Learning, Wenger (1998), p. 5

Each of these four components is critical to understanding learning as a sociocultural activity.

1. Meaning.

As mentioned, the concept of “meaning” within communities of practice is critical. Wenger (1998) describes the importance of the negotiation of meaning, especially when we are engaged in activities that we are interested in and care about (p. 52). Negotiation of meaning refers to the learning that flows out of the interaction between individuals who are engaged in the same task. Such interactions can be as simple as eating lunch with colleagues or as complicated as a multi-step workshop spread out over the duration of the implementation of a new program. The key

identifier is that community members collaboratively discuss and negotiate shared purposes, understandings, and commitments.

2. *Practice.*

Wenger describes practice as a concept that “connotes doing, but not just doing in and of itself. It is doing in a historical and social context that gives structure and meaning to what we do” (Wenger, 1998, p. 72). Further explaining practice he adds, “it also includes the language, tools, documents, images, symbols, and well-defined roles, specified criteria... subtle cues, untold rules of thumb, recognizable intuitions, and shared world views” (p. 73). As an example, within the context of schools, practice is the way in which a school reports progress, or uses a common writing rubric.

3. *Community*

As described in Chapter 2, the Concept of *Community* includes three dimensions of community: mutual engagement, joint enterprise, and shared repertoire. Each of the dimensions of Community is important in explaining this key concept. Mutual engagement refers to a group of people (community) working toward a common goal. In the case of this study, the common goal was the assimilation of a new grouping practice. Joint enterprise refers to the development of the community working toward a negotiated goal that creates mutual accountability among participants. Finally, the third characteristic of community is shared repertoire refers to the elements within a community of practice that belong to that community. Examples of these elements include "routines, words, tools, ways of doing things, stories, gestures, symbols, genres, actions, or concepts that the community has produced or

adopted in the course of its existence, in which have become part of its practice" (Wenger, 1998, p. 83).

4. *Identity.*

The concept of *identity* within communities of practice focuses on the relationship between the individual and the collective, since no one forms a sense of identity apart from some community to which they belong and with which they interact. As mentioned in Chapter 2, the focus of the research on teacher change has been on individual teachers rather than on school-wide or grade-level change. For the most part, existing research has missed the possible influence of, and connection to, an individual with their learning community. Wenger describes the concept of identity within communities of practice as “a pivot between the social and the individual, so that each can be talked about in terms of the other. It avoids a simplistic individual-social dichotomy without doing away with the distinction” (Wenger, 1998, p. 145). He positions the concept of identity in “social terms...not denying individuality but viewing the very definition of individuality as something that is part of the practices of a specific community” (p. 146). This perspective on identity is helpful in allowing us to look at both the individual and collective perspective during the change process.

In his explanation of the theory of Communities of Practice, Wenger (1998) describes each of these four concepts in terms of each other (e.g., practice as meaning, practice as identity). Although not clearly defined in the graphic, Wenger provides a connection between the four elements that broadens our thinking of the concept of learning beyond an isolated, individual event, to an event that considers the context and interplay of the four components.

b. The Adapted Model

Although the model depicted in Figure 4 is helpful in understanding the factors at play when a district-driven change is implemented, it leaves too many unanswered questions having to do primarily with the *interrelationships* between teachers' beliefs, practices, relationships in a community of practice, and professional identities as agents of change and innovation. These four components – belief, practice, membership, and identity – correspond to the four-part organizing framework of Wenger's Community of Practice model: meaning, practice, community, and identity. The following discussion will focus on the dynamic or “dialectical” interrelationships between these four components. In so doing, it lends support to Wenger's belief that it is the interrelationships between the four components that are most important in understanding how communities of practice function and can be improved.

The Community of Practice model, as graphically depicted by Wenger in Figure 4, is titled: “Components of a Social Theory of Learning: An Initial Inventory.” In titling the figure this way, Wenger has left open the possibility that the model could be expanded and developed to provide increased specificity and application.

In reviewing this figure within the context of this study, we see that there are limitations to the figure's portrayal of some of the key components of the interaction of teachers within the Community of Practice at Williams Middle School. To begin, learning, as presented by Wenger, is a broad concept that lacks concrete directionality and purpose. Changing the central concept from “learning” to “School Improvement and Teacher Development” provides a more specific application of the model. With

this change the central concept becomes improving the school and developing the teachers professionally.

More importantly, in Wenger's original model, the four key concepts – meaning, practice, community, and identity – each have a direct connection to learning but not to each other. Yet Wenger himself has suggested that the elements of the model are “deeply connected and mutually defining... [and that one] could switch any of the four peripheral components with learning... and the figure would make sense” (p. 5). The figure as originally presented, however, does not readily lend itself to this conception. Yet the unexplored potential of his model for explaining and enhancing communities of practice may lie precisely in such connections: between meaning and practice, practice and community, community and identity, and identity and meaning.

Each of these four connections will be discussed in light of the present study shortly. But first, although a full justification is beyond the scope of this dissertation, let me briefly explain why I have chosen to call these connections “dialectical.”

One of the most basic yet suggestive findings of this study's initial analysis (Chapter 4) was that teacher change is not, as suggested by previous research, a linear process, where either beliefs follow practices or practices follow beliefs. Rather, the data suggest that teacher change is non-linear and recursive, with beliefs and practices mutually influencing each other. Following John Dewey's (1944), Jean Piaget's (1972), and Vygotsky's (1978) interactionist notions of thinking as problem-solving, learning involves a back-and-forth movement between theorizing and trying out, re-theorizing, and re-trying out. In other words, it operates according to a “dialogical” or “dialectical” interaction of doing and reflecting. In Wenger's model this dialectical

interaction would correspond to the relationship between meaning and practice, practice and meaning.

Similarly, another basic finding of the initial analysis (Chapter 4) was that teachers' perception of the change in their beliefs and practices was inseparable from their reliance on and interaction with each other. Again, following Dewey (1944), this mutual reliance (even where, as we will see, the most experienced and innovative of the participating teachers was the most influential) occurred in the context of a perceived community of practitioners. In other words, changes in practice occurred through a dialogue or dialectic between individual teachers and their professional community, thereby supporting the notion of Community of Practice.

Figure 5: An Adaptation of Wenger's Community of Practice Model

Extending this line of reasoning, Figure 5 includes a number of additions and changes that assist in explaining the phenomenon of the Community of Practice (as well as the higher-functioning phenomenon of a Community of Innovation, to be discussed shortly) that was found at Williams Middle School. Arrows in the new graphic have been added to connect the concepts of learning as they relate to the four core ideas (meaning, practice, community, and identity) directly, as opposed to only through the central construct (learning). In addition to the arrows, concepts

connecting reflecting and doing, doing and belonging, belonging and becoming, and becoming and reflecting have been added. Each of these concepts is described below.

i. Dialectics of Experiential Learning.

In Wenger's original figure, meaning was attached to "learning as experience." In the adapted model, the terminology has been changed to "learning as reflecting" – the idea being that meaning-making occurs through the dialectical interaction between doing and reflecting on one's experience. The literature on teacher change that was reviewed demonstrated the importance of reflection in meaning making. These combined concepts are experiential in nature, where doing and reflecting dynamically interact.

ii. Dialectics of a Community of Practice.

Similarly, the arrows that now connect learning as doing with learning as belonging depict the dialectical relationship between someone "belonging" to a community and the "practices" that the members of that community have collectively negotiated. For example, the members of Williams Middle School who "lived through" the grouping change had a shared experience that connected them with each other and with the community. The shared negotiation of meanings and practices that resulted created a sense of belonging among the community members that could not be replicated or substituted by experiences from members outside the community.

iii. Dialectics of a Community of Innovation.

The identity of an individual within a community is not only connected to and influenced by their belonging to that community, it constitutes the foundation for both collective and individual growth or "becoming." Research in the area of assimilation

of new teachers to their school environment affirms this notion (Cole, 1991; Flores, 2006). As defined by Coakes and Smith (2007), a “Community of Innovation” is not simply a community of practice, but a highly functioning, creative, and empowered community of practice. In order to rise to a community of innovation, it is necessary that members of the community of practice not only have a strong sense of belonging to the community and an identity within the community that fosters improvement; it is also necessary that collectively and individually they have the autonomy to develop professionally and personally in a self-chosen direction.

iv. Dialectics of Professional Development.

The goal of professional development is to change beliefs and practices and thereby to produce lasting change and improvement. If this is to occur, each member of the community must “reflect” upon their practice and seek improvements. The initial impetus for this change can be intrinsic or extrinsic (as in the present study), but for teachers to develop professionally, their reflections must be congruent with their sense of themselves as continuously growing, as being in a state of “becoming.” The consequences of not attending to the role of reflection in the process of professional growth will, I hope, become more evident in what follows.

3. Extended Analysis of the Adapted Model

a. Teacher Change as a Recursive, Dialectical Process

A number of the research questions looked at teachers’ beliefs and attitudes about grouping practices. Specifically, the study sought to answer the following questions:

- What do teachers say about the change in grouping practices during the implementation process?
- How do teachers discuss their beliefs about grouping practice before and during the implementation of the change?

As mentioned, the research literature in this area provides support for three possible paths of change. Different researchers support the concept that beliefs either precede change, that change precedes beliefs, or that the change process is nonlinear and recursive. Based on the data from this study, the theory of the recursive nature of change is supported, with further analysis suggesting that belief and practice interact dialectically.

Overall, the data showed that most teachers' beliefs held prior to implementation changed after implementation. Eight out of the ten study participants stated that their beliefs about the grouping change prior to the study were different after they were engaged in the study. Two teachers made statements about their beliefs about the grouping change that were similar both before the grouping change began and after they were immersed in the change (see Table 4.2).

It was expected that classroom observations would be helpful in determining teacher practice and how it corresponded to beliefs. Unfortunately, the data from classroom observations was less helpful than hoped, as it revealed typical instructional practices that did not demonstrate a significant shift in teaching practice for any teacher.

There was, however, one shift in practice that was noted: improved implementation of co-teaching. In particular, in classes with a special educator and

regular education teacher, the teachers shared the responsibility of teaching the whole class, whereas in the past the regular education teacher was typically the lead teacher, with the special educator providing support primarily to the students with special needs. Field notes of one such instance suggest that the two teachers' spontaneous adaptations to the new grouping model arose in part from a combination of beliefs and innovative practice.

As I enter the classroom students are working in groups of three or four. After looking at the students, it seems that they are grouped based on academic performance; students I know to be struggling learners and who are on IEPs are grouped together, while students who perform above average academically are also grouped together. Both the English teacher, Holly, and the special education teacher, Judy, are working with all the groups... Each student is assigned a task (e.g., note taker, fact checker). Judy is working at the moment with the above average learners for a few minutes. As she leaves the groups she approaches me.

I ask for more details about the activity and how she and Holly decided which group they would work with. She responds by saying, "We didn't decide. Today I introduced the activity and then we each work with groups as they ask for help."

As I left the class I could not help but think that this was an example of an exemplary co-teaching situation that I would like to replicate throughout the building. It demonstrates the fluidity with which I would like to see our

special education faculty work with regular education teachers (Observation Notes, March 17, 2010).

This change in co-teaching practice may provide some insight into the larger processes at work, as it seems to have relied on both a shared belief in the achievement possibilities of all students and a shared practice resulting from past and present experience. In other words, it would seem that neither this shared belief nor the school-wide change in grouping practices (nor the camaraderie between these two teachers) by themselves led to the improvement in co-teaching. Rather, the two factors – beliefs and practices – seem to have reinforced and impacted each other. Whether that is the case or not, it is clear that, in this study, change did not follow a fixed path with one component simply following another. Instead, we see that teacher change potentially has as many paths as there are individuals within the organization. To speculate further would require longer-term data collection guided by the kind of dialectical, interactionist model advanced, for example, by Dewey (1944).

There was, however, another interesting observation related to the interaction between reflection and practice in teacher change. This involved whether teacher change was an individualistic, first-hand, or community, surrogated phenomenon. The data that were reviewed identified two paths by which teachers changed their beliefs: directly, through first-hand experience with the new grouping model, and indirectly, through hearing about the successes of their colleagues. In the latter cases, colleagues acted as surrogates for changes in both beliefs and practice. Although additional exploration is necessary, within the community of practice at Williams Middle School, change in beliefs seems to have occurred both through first-hand experience and

reflection and as a result of colleagues' experiences and reflections. It is specifically to the dialectical interaction between practice and community that we now turn.

b. Williams Middle School as a Community of Practice.

The interconnectedness of individuals in a professional community provides a different lens for viewing the phenomenon of teacher change. In the data, there were many examples of colleagues working together both to understand the implications of the new grouping practices and to re-conceptualize their practice, and these data strongly support the idea that Williams Middle School was a Community of Practice, one of the unanticipated findings of this study.

An exchange that took place during a team meeting provides an example of how this group of educators discussed and worked out an understanding of the concept of differentiated instruction, which is crucial to supporting all students in heterogeneous classrooms.

“I don’t understand what we mean by differentiated instruction,” stated Chris.

“It is when you plan a lesson but provide supports to struggling students,” replied Theresa.

Margaret shared her understanding: “I think that it is more than that. I think that it is about planning a lesson but also providing multiple ways to demonstrate proficiency. For example, if I am asking students to explain the scientific process, I could provide them with a number of ways to demonstrate that they know and understand the scientific process. Some students might conduct a presentation and explain it; others might create a poster board.”

The conversation continued for approximately 15 minutes. During that time each of the members of the team discussed their understanding of the concept of differentiated instruction. Monique suggested that Chris, who was struggling more than the others with the idea, talk with Joy about it. She also suggested that Chris might want to observe Joy teach a class (Field Notes, March 2, 2010).

This example demonstrates the give and take during a team meeting in relation to the active “negotiation of meaning” related to differentiated instruction. The team members discussed, at some length, the concept of differentiated instruction and worked together to come to a shared understanding of its meaning. They further supported the efforts of a less-confident member to get a handle on both its theory and practice by suggesting that he consult with a respected senior faculty member. Although differentiated instruction is not a new concept in education, or to the faculty members of Williams Middle Schools, it took on a renewed sense of importance as a result of the grouping change that was implemented. The team discussed differentiated instruction in a collegial manner at this team meeting and at least one other.

Another example of the school’s status as a community of practice shows a teacher speaking to her own class specifically about the collegial practice that existed at Williams Middle School:

“Okay, you guys. We are going to do the cooperative learning activity that Theresa [team social studies teacher] helped me with.” Monique continues to explain the procedures for the cooperative learning activity. After a few

minutes all of the students are working and have been assigned roles on the teams (e.g., team leader, timekeeper, note taker) and Monique comes over to talk with me. “Theresa has been great at helping me do this.” (Observation Notes, April 1, 2010).

The data reveal myriad similar examples of study participants discussing their work within the context of community, regularly using words like “we,” “community,” “teamwork,” and “shared responsibility.” There was an acknowledgement of the shared work that needed to be completed. For example, at a grade 6 team meeting, the participants were discussing the need to work together (joint enterprise) to support learners. The team meeting included all members of the team: Joy (science), Ruby (math), Holly (ELA), Matt (social studies), and Judy (special education). The field notes written during data collection describe a typical interaction:

The team meeting began with an agenda item that included the names of a number of students who were already in danger of failing Quarter Three in one or more of their classes. Before beginning the agenda, the team leader, Joy, made a statement, “The work we are doing with these kids is important. It is also important that we work together to make sure that we do the best we can for them. If we are going to be successful it is going to take all of us, including Judy [special educator], to work with all of our students” (Field Notes, March 1, 2010).

During the individual interviews and within the field notes, there were many similar comments that seemed to support the notion that the teachers at Williams

Middle School viewed themselves as a community of practice. Here are a number of such statements made by teachers during the study:

- “We worked together to figure it out.”
- “I really relied on Joy to help me understand what I was supposed to be doing.”
- “We were in this together, and we were determined to make it work.”
- “The training we received was not that helpful, but after talking with Joy, I had a better understanding of how to differentiate instruction.”
- “I like the grouping change. I feel like we are working together as a school to provide the best education for all of our students.”

There is one study participant, Kate, who may seem to potentially weaken the argument that Williams Middle School is a Community of Practice. I think it is important to provide a broader impression of Kate. As the principal of the school, I had the opportunity to work with Kate for three years before the study took place. As mentioned, Kate was an active participant in the school who took on projects and other responsibilities when asked. For example, she provided leadership in the development of a school-wide writing rubric. She did not, however, fit the typical profile of a full-participant within the Community of Practice.

Most notable was the differences between Kate and her colleagues in a variety of areas. It was typical that Kate had a higher failure rate than other ELA teachers. She also often commented on having higher expectations than other teachers in the school. Although she was a respected educator within the school, she was on the periphery with her practices.

An examination of the concept of “trajectories” related to identity within the Community of Practice model reveals that Kate represents an individual with a peripheral trajectory. Wenger (1998) says peripheral trajectories “never lead to full participation... provide a kind of access to a community and its practice” (p. 154). about members who have

The examples provided are helpful in understanding the context of Williams Middle School at the time of the study. The examples provided, including Kate’s participation within the Community of Practice, provide a strong foundation to support the notion that Williams Middle School was a community of practice, as defined by Wenger.

c. Williams Middle School as a Community of Innovation.

The concept of Communities of Innovation (Coakes and Smith, 2007) is an extension of communities of practice that provides us with a better understanding of the roles of individuals within a community. Although this concept was originally applied in the field of business, I believe it is pertinent to the study conducted at Williams Middle School.

A community of innovation, according to Coakes and Smith (2007), is a specific form of a community of practice. Conceptually, it is a community of practice that has the ability to innovate. Coakes and Smith posit that it is within a community of innovation that corporate entrepreneurship, and therefore continued competitive advantage and business success, will occur. They indicate that communities of innovation “depend on the qualities of the relationship between people” (Coakes and

Smith, 2007, p.76). They also indicate that socialization of individuals within the community (mutual engagement) is a vital component of innovation.

A Community of Innovation is more dynamic and creative than a typical community of practice in that it allows for and encourages the continued development of “innovative” practices. This expanded concept by itself, however, does not provide much depth to our understanding of the community of practice at Williams Middle School until we add a key concept that Coakes and Smith (2007) describe as “champions of innovation.” Citing the framework put forth by Rogers (1995), Coakes and Smith assert that “champions of innovation” fall into two categories: innovators and early adopters. *Innovators*, asserts Rogers (1995), “are gate keepers in the flow of new ideas into the social system,” while *early adopters* are individuals who “decrease uncertainty about a new idea by adopting it and by then conveying a subjective evaluation to near-peers” (p. 78).

Coakes and Smith further sort community members into three additional categories: early majority, late majority, and laggards. According to Coakes and Smith, these three groups together typically comprise about 83% of a community of innovation. Individuals within these three groups are influenced to support an idea or adopt a practice by the 17% who make up the innovator and early adopter groups. Members of the community tend to be most influenced by those members of the community who comprise the group that chronologically precedes the group to which they belong. In cases where those first engaged in a change in policy and practice assume the role of innovators, they in turn influence early adopters, who influence the

early majority, who then influence the late adopters, who finally influence the laggards.

Due both to the way the grouping change was implemented and faculty members involved at Williams Middle School, there is a strong connection between the model presented here and the activities that took place. As mentioned, the change in grouping practices began in grade six and was implemented in grades seven and eight over the two subsequent years. The first group of teachers affected by this change taught English, science, and social studies in grade six. According to the concept of Communities of Innovation, these grade six teachers would likely influence the social climate within the school, particularly if one or more of them assumed the role of innovator or early adopter. As discussed in Chapter 2, the model presented by Benne and Chin (1969) specifies three approaches that impact group behavior: empirical-rational, power-coercive, and normative-reeducative. As related to the model presented by Coakes and Smith, the normative-reeducative is the most applicable to this study. Chin and Benne's model highlights the impact of "social norms" on behavior. When connected with the Coakes and Smith model, the innovator and early adopters become key figures in shifting the norms within a community. In doing so, they impact the level of success and enthusiasm with which a community approaches a new practice or change.

Among the study participants, there was one teacher who assumed the role of an innovator in the change in grouping practices.

The Innovator.

Joy is an experienced teacher. At the time of the study, she had taught for thirty-two years in the Adams Public Schools. For nearly thirty years she had taught at Williams Middle School. After teaching special education for fifteen years she became a grade six teacher, since which time she has taught English, reading, social studies, and science. At the time of the study she was teaching science full-time.

Prior to the decision to change grouping practices, the Adams Public Schools formed a committee to study grouping practices at the middle level. The committee, which met over a period of several months, included the district assistant superintendent, the principals from both middle schools, faculty from both middle schools, and parents. Joy was a faculty member on the committee. She was placed on the committee by the building principal specifically because of her reluctance to change. Her disagreement with the idea of looking at changing grouping practices was shared privately with the principal after a School Improvement Team meeting, of which she was a member, where the idea of conducting a review of middle school grouping practices was first raised.

During an interview conducted for this study Joy was asked to describe her feelings about changing the middle school grouping practices. She remarked:

“I was absolutely, totally against it. I did not feel that a change would benefit either population [struggling learners or accelerated learners]. I personally felt that we would be teaching to the average student and that would be the end of it, and neither end would get the kind of challenge they required” (Interview with Joy, April 5, 2010).

During the same interview, I asked Joy to share her current opinion of the grouping change after it had been in place for three years. She was asked to comment on how her opinion changed over time and what factors might have influenced her opinion. She responded:

“Many things have changed since then. I really do like heterogeneous grouping right now. I feel a lot of it is due to the professional development we were given prior to going into this. We had it [the training] on teaming. We had it on differentiation. We had it on strategies to activate your class and to summarize your class. And all of those things helped. The first year was horrible. We were excellent at teaming that year, but we just felt overwhelmed” (Interview with Joy, April 5, 2010.)

Joy’s feelings and opinions about a change in grouping practices changed significantly from the beginning of the change process (as a committee member) to full implementation. Joy was asked when her change in opinion about grouping practices occurred. She reported that she thought that the shift to accepting and agreeing with a change in grouping practices happened slowly over time. She identified her involvement on the committee, which included reviewing research on grouping practices and visiting a school that had de-tracked, along with the professional development on differentiated instruction, as important factors in facilitating this shift in thinking.

Joy was the most experienced teacher at Williams Middle School. Throughout the study, during both interviews and team observations, she was perceived and mentioned as a resource by the other teachers. Michelle said,

“We had regular conversations with grade six teachers, specifically Joy.

Because I was close with that team I heard all about their frustrations in the beginning... not having enough time to do it all... we saw a lot of negativity at first, and that made us slightly fearful because we knew it was coming to us next... they then started talking about how great the change was, and we felt better and more confident to begin” (Interview with Michelle, April 4, 2010).

Other faculty members also mentioned the influence of the experience of the grade six teachers as they began implementation of the new grouping practices. But Joy was mentioned specifically as a resource and someone who helped other teachers become more comfortable with the impending change.

Theresa, a grade seven social studies teacher, shared during an interview that she “didn’t know what to expect” about the change. She also shared that she had used Joy as a resource when the change was coming to grade seven.

“Joy is who I spoke with primarily. I even sat in, not as often as I wanted to, but still, on a few classes to see how it worked. She was my go-to person... She’s [Joy] obviously exceptional, so I knew if anyone, you know, that could do it, she could” (Interview with Theresa, May 19, 2010).

Another teacher, Monique, talked about her reluctance to implement the grouping change and how her attitude began to change as a result of Joy’s influence:

“I spoke with a lot of parents of honors students who again felt that their kids were now not going to be challenged and not going to be pushed to try harder and to reach those higher expectations and felt that being in with the average and fundamental students it was going to bring their kids down... It was only

after conversations with Joy and other grade six teachers, and with some conversations with professors at Rhode Island College and a little research on my own, that I started to think differently about it” (Interview with Monique, May 28, 2010).

During a visit to Jackie’s (grade 7 social studies) classroom, Jackie and I were discussing the academic achievement of students on her team. Field notes from March 15, 2010 and March 24, 2010 capture the discussion:

Jackie shared with me that she was very frustrated with the lack of academic achievement of students on her team. She and her team no longer understood whether the grouping change was a good thing for students. During the conversation I asked her what she was doing to try to solve this problem. She responded by saying that she was going to meet with Joy and talk about the issues that they [her team] were having with students. She knew that they had struggled during their first year of implementation and thought they might have the answers (Field Notes, March 15, 2010).

A week after this discussion, I sought out Jackie to find out about her meeting with Joy.

Jackie described the meeting with Joy as “incredibly helpful.” She shared that Joy helped her feel better about what she and her team were doing to support students. She felt that they were on the right track and needed to keep doing things to support students. “You know, Joy is amazing,” she said (Field Notes, March 24, 2010).

Finally, in a team meeting, of which Joy was the team leader, there was a discussion about the new grouping practices. The team included Joy, Holly, Ruby, Matt, and Judy.

The beginning of the meeting began with a question from Matt. He asked, “How do I deal with all of these levels in my class?”

Joy, Holly, and Judy began to answer simultaneously. Both Holly and Judy stopped and allowed Joy to respond.

Joy’s response included “designing a lesson to meet all students’ needs.” Matt became increasingly frustrated. Finally he blurted out, “Joy, just tell me what you do so that I can copy it...you clearly have this figured out and I don’t, so just tell me.”

At that point Joy suggested that Matt observe her class or she could help Matt in his class. After this exchange the team meeting progressed to talk about the students of concern (Field Notes, March 30, 2010).

During the interview with Joy, she talked about how she would get questions from the other teachers after the first year of implementation. She would spend time talking with the teachers and asking them about what they were doing in their classrooms and making what she hoped would be helpful suggestions. She reported that, most of the time, teachers were doing exactly what would help when the grouping practices changed; they just had not realized it. They did not yet see themselves as innovators but needed Joy to point that out to them, after which they proceeded with more confidence.

From the above it is apparent that Joy would not have had her status as an innovator without being recognized as such by her less innovative, near-peers. In other words, both she and they mutually ascribed to her the *identity* of leader, innovator, and go-to person. This mutual and spontaneous ascription of a professional identity to the most innovative member of the Williams Middle School community of practice can be seen as an example of the dialectical interaction between community and identity, or between learning as belonging and learning as becoming. Through their collegial interactions with Joy, the other participants not only gained confidence but began to see themselves as developing professionals (whether or not they acted accordingly).

Leaders, of course, must have followers and people who acknowledge their own reliance on the leaders' expertise and wisdom, as is evident in the interviews and field notes just cited. In any community of practice, however, it is always possible for there to be one or more members who resist the influence of both leaders and followers. Both Rogers (1995) and Coakes and Smith (2007) would seem to ascribe such resisters the status or identity of "laggards," a construct that implies an eventual willingness to change with the group. Yet one of the study's participants, Kate, seems instead to have adopted an identity that ran counter to the consensus of the rest of the group:

"I don't think this grouping change is going to work. It might be fine for the average students, but for the high level learners I don't think it will work. I know that my team and other teachers in the school think this is the best thing,

and I have tried to have an open mind, but I just don't think it will work"

(Interview with Kate, March 9, 2010).

This quotation, and others like it, is especially interesting because Kate discusses her personal, contrary view of the grouping change *in community terms*. That is, she voices her "individual" opinion about the grouping changes, states her understanding of how other teachers feel about the change, then disagrees with the "community's." Her willingness to try to go along with the mandate notwithstanding, she articulates a self-concept that is *intentionally* contrary to that of the larger group. Thus, even in a case where she disagreed with the communal consensus, Kate, whom I am tempted to call an "outlier," nonetheless assumed a professional identity that required the full community to give it context and meaning.

The finding that Williams, at the time of the study, fits the criteria of a Community of Innovation is, perhaps, the most exciting finding of this study. A Community of Innovation is an extension of the framework of Community of Practice. Within the framework of Community of Innovation is the concept of a Champion of Innovation. Champions of innovation and early adopters are individuals or group of individuals within an organization, typically around 17 % according to Coakes and Smith (2007), who help to create changes in practices or activities that improve the success of the organization. The identification of Joy as a champion of innovation provided a unique and totally unexpected finding within the study.

To date, the model of Community of Innovation is firmly situated within the for-profit business world, not the education world. Although not primarily an educational concept, this model can nevertheless provide educational leaders with an

important perspective and is therefore useful when applied to an educational setting. It also provides greater clarity around the concept that an individual teacher, or small group of teachers, can assist in ensuring the success of a school reform effort. In particular, the identification of the individuals in a school who could be classified as innovators, or at the very least early adopters, could prove useful for building principals supporting positive school change. Innovators within a community serve as gatekeepers of new ideas and practices, as facilitators of community engagement, and as ad hoc leaders who persuade and assist their near-peers in the creative implementation of school reform.

Innovators, of course, are individuals with initiative and, perhaps, leadership qualities, and it is doubtful how effectively an organization could develop in individuals these seemingly native qualities. At the least, however, they could identify and, more importantly, nurture and appropriately “utilize” them. (Any effort to exploit the leadership qualities of a natural innovator would almost certainly be self-defeating, as autonomy is a precondition of their being innovators in the first place.) The ways in which organizational leaders perceive, categorize, and support team members is central to professional development, the subject of the next section.

d. Limitations of Planned Professional Development.

The Adams School District planned and implemented professional development to support teachers prior to the first year of the implementation of the grouping change. Professional development opportunities were also available to teachers each year of the three years of implementation. The summer prior to the first year of implementation, grade 6 teachers were invited to participate in a differentiated

instruction professional development experience. This model was offered each of the three years prior to implementation. Formal professional development was completed prior to the beginning of the data collection for this study. Teachers in grade six had the opportunity to participate in professional development on differentiated instruction during the summer preceding implementation of the new grouping practice. They also participated in professional development during the first year of implementation.

As a component of the individual interviews with study participants, each teacher was asked to describe what they did or found to be helpful in preparing for the grouping change. Although there were some comments made by participants about the professional development that was offered, most of these comments had to do with opportunities of which the participants had availed themselves at the local teachers college, and those comments were neutral at best. (e.g., “The training we received was not that helpful, but after talking with Joy, I had a better understanding of how to differentiate instruction.”) Otherwise, the absence of comments from most participants was obvious. Indeed, among all the participants, only (self-motivated) Joy spoke of the professional development she received from the Adams School District as having actually helped her to understand and creatively implement the change to heterogeneous grouping, and this creativity would seem to have more to do with her own commitment and inquisitive nature than with any attempt by the district intentionally to nurture these qualities.

It is typical, perhaps even predictable, that administrators prepare for a new practice, program, or initiative through professional development for teachers. If professional development is not paired with a new initiative it can often become a

reason for teachers to resist changes. On the one hand, teachers may get the idea that since they were not specifically trained in a new program they are incapable of effective implementation. On the other, they may think that, since the administration did not see fit to enlist their participation as planners and innovators, they are not respected as professionals and they accordingly adopt a rebellious attitude. While there is no evidence to suggest this latter response among any of the participants (except possibly Kate), the evidence clearly supports the former response. Given that the district made several professional development opportunities available, it is surprising that this professional development seemed to have so little impact on supporting teachers.

Building and district leaders often plan formalized professional development to support the implementation of a new initiative. That was true in this case. The response to the professional development offered in preparation for the change in grouping practices in this study might give us reason to reconsider the automatic response of providing such training, if not of providing professional development itself.

Although this study did not specifically assess the benefits of the district-planned professional development to prepare teachers for the grouping change, following the Adapted COP model outlined at the outset of this chapter, a few speculative remarks do seem warranted. In the context of the adapted model, professional development is the avenue by which individuals are supported in their efforts not merely to implement mandated policies but to grow as professionals. Put differently, and in direct reference to Figure 5, professional development would seem

to entail the nexus of *learning as reflecting* and *learning as becoming*, wherein teachers refine their understanding of a particular reform effort in the context of their own ongoing growth. In the present study, however, the only teacher to approach the change in grouping practices in this way was Joy, and she did so by her own initiative. Indeed, William Middle School's status as a community of innovation would seem to have little to do with the district's intentional efforts at professional development and everything to do with Joy's self-conceived and communally-reinforced identity as an innovator.

4. Implications

This extended analysis has confirmed that Williams Middle School was a Community of Practice, as defined by Wenger, at the time of the study. This is an important finding in that it allows us to view teacher change through the lenses of both the individual and the community perspective. In general, this broader perspective on teacher change has been absent from the research literature, since to date most research studies on teacher change have focused on the change of the individual teacher. Without this finding, we might continue to view the topic under study, teacher change, as an individual enterprise without connection to the context of the school. With this finding, however, we are able to review teacher change from both an individual and community perspective.

a. Implications for Practice

i. Community of Practice (COP)

As discussed throughout the study, the use of the COP model in the field of education provides a more complex and comprehensive view of the school than do

more linear models. It allows for a dual focus on both individuals within the school and the collective of the school community and, as such, may be more useful to school leaders than more one-dimensional models. In the absence of the sort of interactive, dialectical framework that the COP model provides, school administrators might continue to take a less realistic, more static view of faculty. The COP model thus provides a more helpful framework to think about the collective and the individual simultaneously. When connected to Coakes and Smith's model of a Community of Innovation, and adapted to the more dialectical, "adapted" model presented here, the resulting framework has potential as a leadership tool. If well understood, it provides the opportunity for a building leader or district leadership to support school reform efforts by leveraging the Community of Practice within the school and facilitating its evolution into a Community of Innovation.

The perspective of Community of Practice is also important for practitioners. Wenger's model of Community of Practice is often used within the business world. In this context it has moved beyond a merely theoretical model of social learning and has been put into practice. (In a 2002 publication by Wenger, McDermott, and Snyder, the authors provide a practical guide to cultivate a community of practice.)

In the field of education, however, there has been a lack of a model or framework to help school building leaders understand the dynamics at play in an organization. The notion of Professional Learning Communities, a well-known construct in education, has been present in the literature for a long time and is seen by many as a key component in education reform. There are many publications that provide a roadmap to develop Professional Learning Communities (Dufour, Eaker,

and Dufour, 2008; Veneables, 2011). PLC's have focused on the development of teacher collaboration to improve student learning. This is, of course, a critically important goal. However, it lacks a big-picture understanding of the school as a community of practice. I believe that the PLC model does not go far enough in enhancing building leaders' understanding of the school community. Using the proposed Adapted Model of a Community of Practice presented here allows us to dig deeper into the strengths and weaknesses of an organization.

ii. Community of Innovation

Similarly, the Community of Innovation model highlights for educational leaders the importance of recognizing, supporting, and using innovators and early adopters within the organization to effect school improvement. It also provides a possible roadmap to assist in school improvement by leveraging the work of innovators within the school. Perhaps the most difficult component in putting this model into practice is identifying, or better yet, nurturing innovators within the organization. Although the Community of Innovation concept provides a useful framework, it does not by itself assist educational leaders in identifying and cultivating innovation.

In this study, Joy was a very experienced teacher who had worked at Williams Middle School for 30 years. She initially disagreed with the proposed changes in grouping practice. However, through her participation in the change process she became a strong advocate for the change. It was unclear in these early stages, and through much of the study, that she was so significantly impacting her colleagues during the change process.

The data, however, clearly reveal that Williams Middle School benefited from Joy as an innovator. From the data it is reasonable to say that she had an unequivocally significant impact on most of the other study participants. Intentionally or not, she used her experience and credibility among the faculty to assist in the effective implementation of the grouping change. It is important for school leaders to understand which of the teachers within a building are or have the potential for “becoming,” or growing into, innovators who can individually or collectively lead the fostering of collaborative change with their colleagues.

The literature in education has not completely missed this idea. In fact, there are a number of models that come close to explaining the social dynamics within an organization. For example, Whitaker, Whitaker, and Lumpa (2009) wrote a book about motivating and inspiring teachers. In this book, they utilize Burr’s (1993) three categories of teachers: superstars, backbones, and mediocres, which I believe are self-explanatory. Whitaker *et al* used these labels to describe the value of teachers within the organization. The labels somewhat align with the labels identified by Coakes and Smith’s in their model: innovators, early adopters, late adopters, and laggards.

It is not hard to see the application of Whitaker’s use of superstars, backbones, and mediocres to describe teacher performance within preexisting conditions. The Coakes and Smith model, however, is more specific in its identification of those individuals who, in a climate of *change*, are “innovators” and therefore likely to aid in the improvement of the organization in terms of new concepts and practices. The Coakes and Smith model also recognizes the significant impact that these individuals have on others within the organization. They are described as the individuals who

have significant control within an organization to determine which new initiatives or behaviors will be adopted more broadly.

The difference between the categories described by Whitaker et. al. and the Coakes and Smith model may seem an insignificant one that merely labels different groups of teachers differently. But the present study suggests that the difference is more important than that. The Community of Innovation model of Coakes and Smith recognizes that “innovators” have a great deal of control over the organization and the activities with which they engage. It recognizes that innovators are initiators of change who impact the behaviors of early adopters, that early adopters influence late adopters, and that the pull of the organization eventually pulls in the laggards. The Community of Innovation model also differs in that it postulates that innovation is a creative endeavor driven by a relatively small percentage of individuals who, if properly supported and encouraged, could serve as models of professional growth and inventiveness for their colleagues. With proper understanding and application, the ideal would be to foster as many collaborative innovators in a community of practice as is realistically possible.

As do most educational reforms, the change in grouping practices which comprised the topic of investigation of the present study represents a time when teachers did not have any viable choice but to modify their practice in accordance with district or school policy. In more typical school change, the adoption of a new math program, for example, teachers tend to have more capacity within their classrooms to resist implementation. By contrast, in this study, once the grouping model had shifted to a particular grade, a teacher had little option but to go along with the change. That

is, teachers found themselves in a situation where they fundamentally had to accommodate their practice to district policy. Perhaps the willingness of teachers to indicate their agreement with the change in grouping practices was more a function of their understanding that they could not resist than a reflective endorsement of heterogeneous grouping. Informally, this is what the data suggest.

b. Implications for Future Research

Even a completed study typically elicits more questions than it provides answers. While there was some improved clarity of understanding brought to some of the questions of this study, there were others that were not answered, or that had answers that proved insufficient to improving our understanding. After reviewing the findings and implications, I believe that there are a number of possible areas for future research. These areas include schools as communities of practice, schools as communities of innovation, the dialectics of teacher change, and the dialectics of professional development.

i. Schools as Communities of Practice.

The Communities of Practice framework has been firmly seated within the for-profit business context. Its application to the educational environment, specifically to the educational environment as a context of ongoing reform, has been limited. The concept of Communities of Practice in schools provides a clear area for future research. Within this social theory of learning, the communities of practice model accounts for a level of complexity and interdependence that is missing from many educational models. It provides building and district leaders a broader understanding of the social dynamics at play within a school.

This study used Communities of Practice as a lens to look at teacher change from both an individual and group perspective. Conducting research that further examines the use of Communities of Practices as a framework for schools would be useful. Furthermore, testing and expanding upon the adapted model presented here may provide a new model for educational reformers to use as they move towards identifying, implementing, and sustaining school reform.

A specific area of Community of Practice that should be examined is the component of *identity*. Within Wenger's (1998) explanation of identity, he articulates five trajectories of participation in the community that influence the identity of community members. This study did not gain any understanding of the influence of one's identity on the willingness (or unwillingness) to change practice, but the contrary examples of Joy (the innovator) and Kate (the outlier) are suggestive of the importance of further research into the concept of identity and how it functions within a community and as factor in reflection. I believe that this dimension of the Adapted Model of a Community of Practice provides an interesting and potentially fertile area of study. School reformers are often required to change the foundational practices of teachers within a school. An improved understanding of the dialectic of individual and social identity of community members would provide assistance with this important task.

ii. Schools as Communities of Innovation.

The identification of an Innovator within this study was both exciting and unexpected. I believe that it may be the most meaningful finding of this study; a highly experienced and dedicated teacher was not initially committed to or in favor of

the grouping change but proved to be a most powerful influence on her colleagues in its support. Such influence, however, was situational and dependent on the personalities involved and is thus not replicable in the social scientific sense, at least without further study of the dynamics involved.

Future research should look at this concept of innovators within schools. There are two approaches to looking at this concept within schools that I believe would be helpful. First is the development of a framework to identify innovators within schools. Such identification is likely strongly connected to the deeper exploration of *identity* that was previously mentioned, where a teacher's professional identity or sense of becoming interacts dialectically with both their *belonging* to a community of practice and their personal *reflections* on the meaning of their practice. With the development of a framework to identify innovators, a building leader's understanding of the influence they might wield would assist in the implementation of school change, new initiatives, and school reform. More importantly, it has the potential for empowering the community of practice as whole to "become" a community of innovation.

A related purpose for which to conduct research would be to gain a better understanding of the power and influence of innovators. In this study it was clear that Joy influenced her colleagues. That influence, which was positive in this case, manifested itself in other teachers being more confident in their own ability to implement the change, perhaps even to do so creatively. It is unclear, however, exactly what the power of influence that Joy had on her colleagues was. Were her actions influential only on those who were "on the fence"? Or did she have significant enough influence to move a colleague from their disagreement with the change to their

agreement? More importantly, did her model and guidance in fact lead to more innovative practice on the part of her junior colleagues, and, if so, how?

Further study in this area is important to improving our understanding of school reform. Some questions that research in this area might ask include: How can innovators be identified in schools? How can we assess the relative power of their influence? What strategies or practices can be implemented to assist in gaining their support for school reform, and, better yet, to serve as leaders, models, and mentors to faculty with less initiative and propensity to attend to their own growth? What is more influential in influencing change within schools, the actions of innovators or professional development? Can the development of innovators be cultivated within and across a community of practice?

iii. The Dialectics of Teacher Change.

This study was primarily interested in the concept of teacher change during the implementation of a change in grouping practices. The research revealed multiple perspectives on the process of teacher change. This study adds to the teacher change literature, but it does not provide conclusive evidence of a particular path of teacher change. The available research, as referenced, often looked at teacher change as an individual process and did not include the possible influence of colleagues or context. This study was a departure from that typical path in that it looked at teacher change within the context of a Community of Practice.

Continuing to research teacher change is critical to our understanding of the process of change. This research needs to focus on continuing to unravel the complex concept of teacher change. An improved understanding of the process and the

development of a widely accepted model is necessary. With the development of a model, we could move to the development of practices and leader behaviors that successfully facilitate change among teachers.

iv. The Dialectics of Professional Development.

Formalized professional development was a component of the Adams Public Schools implementation plan. Specifically, teachers had the opportunity to participate in professional development in the area of differentiated instruction. The belief was that professional development in the area of differentiated instruction would support the improvement of teacher skills as they were preparing to implement a change in grouping practices.

The data from the study were nearly completely absent of any mention of the formalized professional development being a factor that assisted teachers' preparation for the grouping change. There are, of course, many factors that may have contributed to this lack of stated impact. Poor and ineffective professional development certainly comes to mind as a possible reason the professional development did not strongly impact the teachers in this study. There were also no data specifically collected that sought to understand the benefit of the professional development that was offered. Yet schools spend a significant amount of resources on professional development. It is also often pointed to as the activity that will assist in facilitating change among teachers.

Future research should continue to examine the impact of formalized professional development. It should look at the relative "power" that formalized professional development has in changing, not just superficial instructional practices

or teacher behaviors but, more significantly, teachers' capacity for and opportunities to reflect on their practice and to grow as professionals. An improved understanding of effective structures of professional development in helping teachers to reflect and grow is essential if we are to continue to improve the quality of our schools. It is also essential to understand for building and district leaders as they plan and implement professional development activities to engage schools in school reform. Finally, the effectiveness and relative power of formalized professional development as a possible means by which to foster an ongoing community of innovation should be examined.

The experiences of Joy may provide an interesting case to examine. Joy was a member of the district-created committee that examined the middle school grouping practices. As a member of the committee she reviewed research on grouping practices and was able to visit schools where heterogeneous grouping practices were in place. These experiences were not part of the deliberate, planned professional development that teachers received in preparation for this change. It would be interesting to better understand how Joy's involvement in these early activities influenced her beliefs and actions as the change was implemented. The dialectic between professional development and the role of "innovator" may also be fruitful.

5. Summary and Conclusion

The purpose of this study was to explore teacher change. Specifically, this study looked at teacher change within the context of a district-driven change of the grouping change at a middle school. This study provided a unique look at teacher change because the change impacted all teachers at a grade over successive years until it was fully implemented. The district-driven change in grouping practices also

provided fertile ground for a study. The research literature on grouping practices remains an area of disagreement. The topic, grouping practices, also often evokes strong responses from faculty.

The study used a qualitative framework to study questions about teacher change. It looked at teacher change, somewhat uniquely, from both an individual and community perspective. In drawing in the community perspective, the social theory of learning, Community of Practice, was engaged to provide a conceptual framework for the study. Data was collected using three methods: individual interviews, classroom observations, and field notes. Ten teachers involved in the study were interviewed. The interview questions included questions about teachers' beliefs prior to and during the grouping change. Questions related to teachers' preparation for the grouping change were also asked.

Data collected from the study was reviewed and reduced. Through this process, there were five initial findings of the study. These findings included:

- Participants continued to be concerned about their ability to challenge accelerated learners, but felt that the change was benefiting struggling students.
- Participants who had more experience with heterogeneous grouping were more positive about the effectiveness of the model.
- Participants relied on each other, particularly Joy, to assist in their implementation of the change in grouping practices.
- The majority of participants (9 out of 10) reported that they were more positive about the grouping change after implementation.

- Teacher change in non-linear and recursive.

In addition, a further analysis of the data was conducted and expanded the findings to include:

(1) Teacher change is recursive and non-linear. In the review of teacher change literature, there were a number of models of change that were reviewed. The models that were reviewed showed that teacher change followed one of three paths. Some models identified a change in beliefs that preceded a change in practices. Other models revealed a change in practices that was then followed by a change in beliefs. Finally, a model identified that change was recursive and non-linear (Senger, 98-99). The data revealed that teacher change at Williams Middle School was recursive and non-linear. It also revealed that teachers may make changes based on first-hand or surrogated experiences.

(2) Williams Middle School was a Community of Practice at the time of the study. This was a useful finding because it allowed us to examine teacher change from both an individual teacher and group perspective. As has been mentioned, much of the research on teacher change has examined the change process of individual teachers. The confirmation that Williams was a Community of Practice allowed for the review of change through both an individual and group perspective. The model presented by Wenger was adapted to provide for greater inclusion and flexibility in explaining the Community of Practice model identified at Williams Middle School. This became an important perspective as the impact of teachers on each other during the grouping practice change was identified as a factor in teacher change.

(3) Williams Middle School was a Community of Innovation and an Innovator was identified among the faculty who participated in the study. After identifying that Williams Middle School was a Community of Practice, the interplay among faculty was reviewed. In conducting that review, an extension of Community of Practice, Community of Innovation, was identified as a useful model in explaining the presence of a change agent (innovator) among the study participants.

(4) The formalized professional development offered was not identified as a factor that assisted teachers' preparation for the change in grouping practices. Throughout the data there was only one instance where a teacher identified the professional development offered as helpful. The absence of identification of the professional development as a support for teachers during the change in grouping practices raises key questions for school administrators.

The change process is wonderfully complex. This study, along with others that have been completed, provides us with a better understanding of the possible factors at play to impact change among teachers. This study does not provide an easily followed framework for change for educational leaders to follow. A framework of change was not an intended outcome of the study.

In the end, this study represents the combination of two passions of this researcher: teacher change and grouping practices. It provides us with a better understanding of teacher change within the context of a district-driven change in

grouping practices. The study uncovered interesting findings that will add to the research literature available and provides next steps for future research.

APPENDIX A

Participant Interviews

Starter Questions

1. What are your beliefs about grouping practices? Where do you think those beliefs came from?
2. What do you like most about teaching? What do you find the most challenging about teaching?
3. Thinking back, what was your feeling about the district's initial discussion about changing middle school grouping practices? What do you think contributed to that feeling?
4. When the decision to change the grouping practice was finalized, what did you think about the proposed grouping practice?
5. What did you do to prepare yourself for the grouping changes?
6. Of the activities you participated in, what one thing do you think best prepared you for the grouping changes?
7. Has your opinion of grouping practices changed since the change was approved? How did it change? Why do you think that it changed?
8. When do you think your opinion of grouping practices changed? Or What impact did the change in grouping practices have on your opinion?
9. Talk about your experience over this school year. Please provide as many details as possible.
10. If you could make the decision for the district, how would you group middle school students?

11. Has this change in grouping practices change your instructional planning or practices? If yes, please explain.
12. Tell me a little about your teaching background (number of years, grades, subjects taught)?

APPENDIX B

INFORMED CONSENT DOCUMENT

Rhode Island College

Teacher change through the adoption of a new grouping strategy.

You are being asked to participate in a research study about changing instructional practices in the context of grouping changes. You were selected as a possible participant because you are a teacher at the *Williams* Middle School. Please read this form and ask any questions that you may have before agreeing to be in the research.

Researchers at Rhode Island College are conducting this study.

Background Information

The purpose of this research is to examine the change in teacher practice as a result of the change in grouping strategies from homogenous to heterogeneous of students.

Procedures

If you agree to be a participant in this research, we would ask you to do the following things:

Participate in multiple one on one interviews over the next 10 months. These interviews would be audio taped and transcribed.

Risks and Benefits to Being in the Study

Potential Risk

The questions asked during the interview will be professional in nature. There may be questions related to your professional work that you would may be uncomfortable answering. As a participant in this study you will have the right to refuse to answer any question(s) that you do not wish to answer. You also retain the right to withdraw from participation in the study at any time.

Potential Benefits

This study aims to better understand the factors related to the change in practice experienced in your position over the past school year. A better understanding of these factors will provide us with the ability to predict the success or failure of a change in practice based on the factors uncovered during this study. In the end this will provide leaders with the opportunity to effectively engage schools in the change process.

Compensation

There is no compensation provided for participants of this study.

Confidentiality

The records of this research will be kept private. In any sort of report we might publish, we will not include any information that will make it possible to identify a participant. Research records will be kept in a locked file, and access will be limited to the researchers, the college review board responsible for protecting human participants, regulatory agencies. The original data, which includes the audio tape, will be destroyed within seven years of completion of the study.

Voluntary Nature of the Study

Your participation is voluntary. If you choose not to participate, it will not affect your current or future relations with the College or with the Williams Middle School. There is no penalty or loss of benefits for not participating or for discontinuing your participation.

You will be provided with any significant new findings that develop during the course of the research that may make you decide that you want to stop participating.

Contacts and Questions

The researchers conducting this study are *Mr. Armand Pires and Dr. David Brell*. You may ask any questions you have now. If you have any questions later, you may contact them at (401) 474-7969.

If the researchers cannot be reached, or if you would like to talk to someone other than the researcher(s) about (1) concerns regarding this study, (2) research participant rights, (3) research-related injuries, or (4) other human subjects issues, please contact Christine Marco, Rhode Island College Committee on Human Participants in Research at (401) 456-8753 or write: Christine Marco, c/o Rhode Island College Committee on Human Participants in Research at Office of Research and Grants Administration, Roberts Hall, 600 Mount Pleasant Avenue, Providence, RI 02908.

You will be given a copy of this form for your records.

Statement of Consent

I have read the above information. I have received answers to the questions I have asked. I consent to participate in this research. I am at least 18 years of age.

This consent is null and void after October, 2010.

Print Name of Participant: _____

Signature of Participant: _____ Date: _____

APPENDIX C

SALT SURVEY RESULTS Williams* Middle School-2007-2008

INVOLVEMENT IN DECISION MAKING

Question: Please indicate the extent to which you agree or disagree that each statement describes your job.

Notes:

*Scale score is obtained by the average response to each item on the scale.

©Copyright 2008, National Center on Public Education and Prevention, Rock Island, IL, Robert O. Feiner, Ph.D., (author). Do not duplicate without permission.

SCHOOL WORK CLIMATE

Question: Please indicate how often each of the following statements is true about your school.

Notes:

*Scale score is obtained by the average response to each item on the scale.

©Copyright 2008, National Center on Public Education and Prevention, Rock Island, IL, Robert O. Feiner, Ph.D., (author). Do not duplicate without permission.

2007-2008 TEACHER REPORTS OF BARRIERS TO IMPLEMENTATION OF THE REFORM INITIATIVE

Teachers were asked to indicate whether the following issues presented problems when implementing the initiative that is the focus of this self-study. If a school has not begun implementation of these reforms, teachers were asked to indicate the extent to which they expected that each issue would present a problem when they began implementation. (Numbers in this and next tables show the percentage.)

	Not a problem	Minor problem	Moderate problem	Major problem
School and Teacher Readiness and/or Resources				
Lack of support from building administrators	83	13	0	4
Lack of support from teachers and/or other staff	65	30	0	4
Lack of training for teachers	13	65	13	9
Lack of materials and resources necessary for adequate implementation	14	27	32	27
Questions and/or doubts you have regarding the effectiveness of the educational practices involved	52	39	9	0
Lack of a developed curriculum	52	30	13	4
Lack of adequate team planning time	48	35	13	4
Lack of school schedule flexibility for regrouping students or modifying the length of periods	21	50	17	12
Lack of time necessary for adequate planning and/or implementation	17	39	26	17
Lack of adequate professional development time for staff	18	32	27	23
Lack of clear expectations for teachers and/or a well developed vision about what is involved in this initiative	48	26	22	4
Degree to which teachers were involved in, or supportive of, the decision to join and implement this initiative	57	35	9	0
Inadequate professional development offerings and/or opportunities	27	45	27	0
Lack of information for teachers about the reform and/or what is expected	43	39	17	0
Difficulties in obtaining release time for planning and/or professional development	26	39	26	9
Lack of opportunities for preparation and professional development on state or national standards in your area (if applicable)	35	35	20	10

©Copyright 2008, National Center on Public Education and Prevention, Rock Island, IL, Robert D. Feiner, Ph.D., (author). Do not duplicate without permission.

APPEXDIX D

2008-2009 Principal's Evaluation by Faculty

The following results are excerpted from the Principal Feedback survey of Armand Pires, Middle School Principal. It includes excerpted questions and response rates.

3. This person encourages innovation to improve teaching and successful learning for every student.

1=never 0.0%
2=rarely 0.0%
3=occasionally 9.1%
4=frequently 18.2%
5=almost always 72.7%
6=not applicable 0.0%

9. This person supports the ideas and views offered by team members to resolve problems and improve learning.

1=never 0.0%
2=rarely 5.0%
3=occasionally 10.0%
4=frequently 25.0%
5=almost always 60.0%
6=not applicable 0.0%

10. This person encourages others to share ideas and opinions regarding improved teaching and learning.

1=never 0.0%
2=rarely 4.8%
3=occasionally 9.5%
4=frequently 14.3%
5=almost always 76.2%
6=not applicable 0.0%

11. This person seeks input from team members regarding ideas to improve learning.

1=never 0.0%
2=rarely 4.5%
3=occasionally 9.1%
4=frequently 36.4%
5=almost always 50.0%
6=not applicable 0.0%

15. This person seeks additional information about issues and events relevant to school and its mission.

1=never 0.0%
2=rarely 0.0%
3=occasionally 0.0%
4=frequently 15.0%
5=almost always 85.0%
6=not applicable 0.0%

16. This person asks follow-up questions to clarify information.

1=never 0.0%
2=rarely 4.5%
3=occasionally 9.1%
4=frequently 18.2%
5=almost always 72.7%
6=not applicable 0.0%

23. This person is approachable and willing to listen to others' opinions and ideas.

1=never 4.5%
2=rarely 9.1%
3=occasionally 9.1%
4=frequently 18.2%
5=almost always 59.1%
6=not applicable 0.0%

24. I am comfortable sharing my disagreement with this person.

1=never 9.1%
2=rarely 9.1%
3=occasionally 18.2%
4=frequently 9.1%
5=almost always 54.5%
6=not applicable 0.0%

APPENDIX E

SALT Visit to Williams Middle School Report

2008-2009

6. FINDINGS ON SCHOOL SUPPORT FOR LEARNING AND

Still, additional supports are necessary to adequately meet students' needs. Students who struggle with mathematics lack adequate support. Students and teachers alike would benefit from an increase in communication with reading specialists regarding student needs and content area approaches to reading. An increase in the use of differentiation practices across the curriculum, as well as the recognition that differentiation includes the challenge of students who have a firm grasp of knowledge and concepts, would promote the learning of all students across the curriculum. *(following students, observing classes, meeting with the school improvement team, students, school and district administrators and parents, talking with students, teachers and school administrators, reviewing completed and ongoing student work, discussing student work with teachers, reviewing classroom assessments, reviewing school improvement plan, reviewing district and school policies and practices, Middle School self-study report)*

Students with special needs have a wide array of support. Every team includes a special educator and teacher assistants to benefit both regular and special education students. Strong co-teaching practices exist, and others are emerging. In the best co-teaching situations, teaching takes place in unison and appears seamless. Teachers in self-contained settings are dedicated to and advocate for meeting the social-emotional, life skill and academic needs of their students. *(following students, observing classes, meeting with the school improvement team, students, school and district administrators and parents, talking with students, teachers and school administrators)*

Changes in scheduling have resulted in a beneficial increase in instructional time for core area subjects. Additionally, foreign language is now available to students who previously did not have access. However, there have been unintended consequences of these changes—students are enrolled in extra academic enrichment classes that are unnecessary; students have a limited choice in Unified Arts; and split and extended teams result in a modification and disruption of important middle school philosophies. *(following students, observing classes, meeting with the school improvement team, students, school and district administrators and parents, talking with students, teachers and school administrators, reviewing school improvement plan, reviewing district and school policies and practices)*

Advisory is effective for some students and not at all effective for others. Students in effective advisories engage in discussions around scenarios that relate to real life dilemmas. Students are engaged in the discussions, and advisors assist them in making connections between these scenarios and the expectations of the school, the Magic Traits and their own life experiences. Unfortunately, some advisories have limited discussion with only a few participants. The time spent in these advisories amounts to another period to complete homework, read a book and informally socialize with their peers. An extensive advisory binder exists and supports effective practices, but it is not utilized school-wide. *(following students, observing classes, meeting with the school improvement team, students, school and district administrators and parents, talking with students, teachers and school administrators, reviewing school improvement plan, reviewing district and school policies and practices, Middle School self-study report)*

Similarly, Academic Enrichment classes are both effective and ineffective. On-team enrichment classes are generally well utilized for extra support, completion of homework and group projects. Many students need this extra support and find it beneficial. In other enrichment classes, predominately off-team academic enrichments, students do not always bring work to do and instead spend the time socializing. While opportunities exist for students to participate in band and use the library and the computer lab, some students need more enrichment activities. Additionally, due to scheduling challenges, some students may have two academic enrichment classes and an advisory period on the same day. Others, who would benefit, may not have an academic enrichment period for an entire semester. *(following students, observing classes, observing the school outside of the classroom, meeting with the school improvement team, students, school and district administrators and parents, talking with students, teachers and school administrators, reviewing completed and ongoing student work, discussing student work with teachers, reviewing district and school policies and practices, Middle School self-study report)*

Teachers and administrators report that professional development has been provided in differentiation, Six-traits, advisory and PBIS. Even so, implementation is inconsistent. Administrators acknowledge that a boost to reinvigorate enthusiasm and an increase in monitoring of implementation are necessary. *(following students, observing classes, meeting with the school improvement team, students, school and district administrators and parents, talking with students, teachers and school administrators, reviewing district and school policies and practices, reviewing professional development activities, Middle School self-study report)*

Curriculum guides do not align with recent initiatives and are somewhat open to interpretation. This allows teachers to emphasize some parts of the curriculum and miss others, resulting in learning gaps for students. *(following students, observing classes, meeting with the school improvement team and school and district administrators, talking with teachers and school administrators, reviewing district and school policies and practices, reviewing the Curriculum Guide binder)*

Commendations for Middle School

- Safe, supportive school climate
- Commitment to effective communication
- Many effective student supports
- Effective co-teaching
- An increase in core academic time

Recommendations for Middle School

- Look for means of supporting students who struggle with math.
- Find ways for reading specialists to provide support and strategies to teachers.
- Ensure an increase in the use of differentiation techniques for the benefit of all students.
- Evaluate and address the unintentional consequences of schedule revisions.
- Monitor the effectiveness of Academic Enrichment and Advisory.

Monitor and ensure the delivery of curriculum expectations.

Refresh and monitor the implementation of professional development in PBIS, Differentiated Instruction, Six-Traits and Advisory.

Make use of the expertise at Middle School to encourage the growth of successful practices in co-teaching, writing and reading.

Continue your commitment to increasing inclusive services.

Provide professional development, and implement student-centered, inquiry-based approaches to learning.

Recommendations for

School District

Revisit curriculum guides to ensure clarity of instructional expectations and inclusion of recent initiatives.

Provide support to Middle School in the delivery, implementation and monitoring of professional development.

Assist and support Middle School in examining the unintended consequences of schedule changes.

BIBLIOGRAPHY

- Anyon, J. (1980). Social class and the hidden curriculum of work. *Journal of Education*, 162(1), 67-92
- Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavior change. *Psychological Review*, 84(2), 191-215.
- Burton, F and Seidl, B. (2005). Teacher researcher projects: From the elementary school teacher's perspective. In Flood, J., Lapp, D., Squire, J. & Jensen, J. *Methods of research on teaching the English language arts*. Mahwah, NJ: Lawrence Erlbaum; pp. 195-209.
- Chin, R. & Benne, K. (1969). General strategies in effecting change in human systems. In W. Bennis, K. Benne, & R. Chin (Eds.) *The planning of change* (2nd ed., pp 32-59). New York: Holt, Rinehart & Winston.
- Coakes, E. and Smith, P. (2007). Developing communities of innovation by identifying innovation champions. *The International Journal of Knowledge and Organizational Learning Management*, 14(1), 74-85.
- Cole, A.L. (1991). Relationships and the workplace: Doing what comes Naturally? *Teaching and Teacher Education*, 7, 415-426.
- Creswell, J. (2003). Research design: Qualitative, quantitative, and mixed methods approaches (2nd ed.) Thousand Oaks, California: Sage Publications
- Cuban, L (1988). Constancy and change in schools (1880's to the present). In P. Jackson (Ed.) *Contributing to educational change: Perspectives on research and practice* (pp. 85-105), Berkeley, California: McCutchan
- Dewey, J. (1944). *Democracy and education*. New York: The Free Press

- Duffy, C. & Roehler, L. (1986). Constraints on teacher change. *Journal of Teacher Education*, 37, 55-58.
- Ekstrom, R. B. (1961). Experimental studies of homogenous grouping: A critical review. *The School Review*, 69(2), 216-226.
- Emerson, R., Fretz, R., & Shaw, L. (1995). *Writing ethnographic fieldnotes*. Chicago, IL: The University of Chicago Press.
- Fecho, B. and Allen, J. (2005) Teacher inquiry into literacy, social justice, and power. In Flood, J., Lapp, D., Squire, J. & Jensen, J. *Methods of research on teaching the English language arts*. Mahwah, NJ: Lawrence Erlbaum; pp. 195-209.
- Fiedler, E.D., Lange, R.E., & Winebrenne, S. (2002). In search of reality: unraveling the myths about tracking, ability grouping, and the gifted. *Roeper Review*, 24(3), 108-111.
- Flores, M.A. (2006). Being a novice teacher in two different settings: Struggles, continuities and discontinuities. *Teachers College Record*, 108(10), 2021-2052.
- Fullan, M. (1985). Change processes and strategies at the local level. *Elementary School Journal*, 85, 391-421.
- Fullan, M. (2007). *The new meaning of educational change* (3rd ed.) New York: Teacher's College Press
- Grossman, B. (1996). *How should we group to achieve excellence with equity?* Washington, DC: National Center to Improve the Tools of Educators.
- Guskey, T. (1986). Staff development and the process of teacher change. *Educational Researcher*, 15(5), 5-12.

- Haller, E.J. & Davis, S.A. (1980). Does socioeconomic status bias the assignment of elementary school students to reading groups? *American Educational Research Journal*, 17(4), 409-418.
- Hunsaker, L., & Johnston, M. (1992). Teacher under construction: A collaborative case study of teacher change. *American Educational Research Journal*, 29(2), 350-372.
- Ingram, H., & Schneider, A. (1991). The choice of target populations. *Administration and Society*, 23(3), 333-356.
- Kulik, C.L., & Kulik, J.A. (1984). Effects of ability grouping on elementary school pupils: a meta-analysis of evaluation findings. *American Educational Research Journal*, 19, 415-428.
- Laroque, L. (1986). Policy implementation in a school district: A multiperspective approach. *Canadian Journal of Education/Revue Canadienne de l'Education*, 11 (4), 486-508.
- Leithwood, K., Steinbach, R. & Jantzi, D. (2002). School leadership and teachers' motivation to implement accountability practices. *Educational Administration Quarterly*, 38 (1), 94-119.
- Lou, Y, Abrami, P., Spence, J., Poulsen, C., Chambers, B., d'Apollonia, S. (1996). Within-class grouping: A meta-analysis. *Review of Educational Research*, 66(4), 423-458.
- Merriam, S. (1998). *Qualitative research and case study applications in education*. San Fransico, CA: Jossey-Bass Publishers.

- Miles, M. and Huberman, A. (1984). *Qualitative data analysis: A sourcebook for new methods*. Thousand Oaks, CA: Sage Publications.
- National Association of Secondary School Principals (2007). NASSP Board Position Statements, Highly Effective Principals, retrieved from <http://www.nassp.org/Content.aspx?topic=55879> on January 2, 2012
- Oakes, J. (2005). *Keeping track: How schools structure inequality* (2nd ed.). New Haven, CT: Yale University Press.
- Olsen, B. & Kirtman, L. (2002). Teacher as mediator of school reform: An examination of teacher practice in 36 California restructuring schools. *Teachers College Record*, 104 (2), 301-324.
- Pennington, M. (1995). The teacher change cycle. *TESOL Quarterly*, 29(4), 705-731.
- Piaget, J. (1972). *Psychology and epistemology: towards a theory of knowledge*. Penguin.
- Printy, S. (2008). Leadership for teacher learning: A community of practice perspective. *Educational Administration Quarterly*, 44(2), 187-226
- Research for Better Teaching, Inc. (2008). Observing and Analyzing Teaching: Course handouts. Acton, MA.
- Richardson, V. (1990). Significant and worthwhile change in teaching practice. *Educational Researcher*, 19, 10-18.
- Richardson, V., Anders, P., Tidwell, D., and Lloyd, C. (1991). The relationship between teachers' beliefs and practices in reading comprehension instruction. *American Educational Research Journal*, 28(3), 559-586.
- Richardson, V. & Placier, P. (2004). Teacher change. In V. Richardson (Ed.), *The*

handbook for research on teaching (4th ed.) Washington, DC: Alliance for Excellent Education.

- Rist, R. (2000, 1970). HER Classics: Student social class and teacher expectations: The self-fulfilling prophecy in ghetto education. *Harvard Educational Review*, 70(3), 257-301.
- Rubin, H. and Rubin, I. (1995). *Qualitative interviewing: The art of hearing data*. Thousand Oaks, CA: Sage Publications.
- Seidman, I. (2006). *Interviewing as qualitative research: A guide for researchers in education and the social sciences* (3rd Ed.). New York: Teachers College Press.
- Senger, E. (1998-1999). Reflective reform in mathematics: The recursive nature of teacher change. *Educational Studies in Mathematics*, 37(30), 199-221.
- Silverman, D. (2006). *Interpreting qualitative data* (3rd Ed.). Thousand Oaks, CA: Sage Publications.
- Slavin, R. E. (1987). Ability grouping and student achievement in elementary schools: A best-evidence synthesis. *Review of Educational Research*, 57(3), 293-336.
- Slavin, R. E. (1987). Ability grouping in elementary schools: Do we really know nothing until we know everything? *Review of Educational Research*, 57(3), 347-350.
- Smylie, M. (1988). The enhancement function of staff development: Organizational and psychological antecedents to individual teacher change. *American Educational Research Journal*, 25(1), 1-30.
- Tieso, C.L. (2003). Ability grouping is not just tracking anymore. *Roeper Review*, 26(1), 29-36.

- Tusting, K. (2005). Language and power in communities of practice. In D. Barton and K. Tusting (Eds.) *Beyond communities of practice: Language, power and social context* (pp. 36-54), New York, New York: Cambridge
- United States Census Bureau, Profile of General Demographic Characteristics: 2000, Retrieved from: <http://censtats.census.gov/cgi-bin/pct/pctProfile.pl>
- United States Department of Education, National Center for Education Statistics, Common Core of Data, Retrieved from: <http://nces.ed.gov/ccd/schoolsearch/> on November 22, 2011
- Venables, D. (2011). The practice of authentic PLCs: A guide to effective teacher teams. Thousand Oaks, CA: Corwin Press
- Vygotsky, L. (1978). Mind in society: The development of higher psychological processes. Cambridge, MA: Harvard University Press
- Waugh, R. and Punch, K. (1987). Teacher receptivity to systemwide change in the implementation stage. *Review of Educational Research*, 57(3), 237-254.
- Weatherley, R., & Lipsky, M. (1977). Street-level bureaucrats and institutional innovation: Implementing special-education reform. *Harvard Education Review*, 47(2), 171-197.
- Wenger, E. (1998). *Communities of practice: Learning, meaning, and identity*. New York: Cambridge University Press
- Wenger, E. & Snyder, W. (2000). Communities of practice: The organizational frontier. *Harvard Business Review*. January-February
- Wenger, E., McDermott, R. and Snyder, W. (2002). *Cultivating communities of practice*. Harvard Business School Press, Cambridge, MA

- Wheelock, A. (1992). *Crossing the tracks: How “untracking” can save America’s schools*. New York: New Press Inc.
- Whitaker, T. (1999). Utilizing ‘superstar’ teachers to lead change. *Catalyst for Change, A Journal of the National School Development Council*, 29(1), 5-8.
- Whitaker, T., Whitaker, B., and Lumpa, D. (2009). *Motivating and inspiring teachers: The educational leaders guide for building staff morale*. New York, Eye on Education.
- Wood, T., Cobb, P., & Yackel, E. (1991). Change in teaching mathematics: A case study. *American Educational Research Journal*, 28 (3), 587-616.
- Woodbury, S. and Gess-Newsome, J. (2002). Overcoming the paradox of change without difference: A model of change in the arena of fundamental school reform. *Educational Policy*, 16(5), 763-782
- Yin, R. (2009). *Case study research: Design and methods* (4th ed.). Los Angeles, CA: Sage Publications.