TRANSFORMING EDUCATIONAL PARADIGMS: A CASE STUDY OF TWO DIFFERENT SCHOOLS ON THE PATH TOWARD IMPLEMENTING PERSONALIZED MASTERY PRACTICES

by

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ABSTRACT

This embedded, multiple-case study was conducted to investigate perceptions of academic optimism and transformational leadership behaviors in two schools implementing personalized mastery educational paradigms. Personalized mastery educational paradigms require that students demonstrate mastery of established standards prior to moving onto more complicated concepts. This model represents a dramatic departure from traditional models of education where student progress through the curriculum is primarily determined by seat time. Teacher perceptions of academic optimism have been shown to have a positive effect on student achievement (Hoy, Tarter, & Woolfolk Hoy, 2006) and transformational leadership behaviors have been linked to second-order change required for successful implementation of new educational models (Leithwood & Jantzi, 2006). Academic Optimism and Transformational Leadership were examined in two schools at different stages of implementing a personalized mastery model of education. The case is bound by the system of personalized mastery education, bound by place in terms of one school in Wyoming and one in Montana, and bound by time during February and April of 2014. This research was framed by the following central question: How do teachers at two high schools at different stages of implementing personalized mastery learning describe their perceptions of transformational leadership, academic optimism, and the organizational change process?

The School Academic Optimism Scale (SAOS) (Hoy, 2005) was used to assess teachers' perceptions of Academic Optimism and the Multifactor Leadership Questionnaire (MLQ) (Avolio & Bass, 2004) was used to assess their perceptions of Transformational Leadership. In addition, semi-structured teacher interviews were conducted to obtain a richer and deeper understanding of perceptions related to academic optimism and transformational leadership during the organizational change process. Finally, a critical incident analysis was performed on principal journal entries describing principal perceptions of transformational leadership behaviors and teacher academic optimism during the organizational change process. Findings suggest increased perceptions of academic optimism and transformational leadership behaviors within both schools. Additionally, teachers in the school where the personal mastery model was implemented over a longer period of time suggested the school was recultured to accept this new educational model and felt a greater sense of collective leadership.

CHAPTER 1

INTRODUCTION

Background

The role of the building principal has witnessed a dramatic transformation over the past decade from that of a building manager to an educational leader (Turnbill, Riley, Arcaira, Anderson, & MacFarlane, 2013). Principals are now responsible for using their individual leadership in a manner that implements educational programs and paradigms that: increase student achievement (Hoy & Miskel, 2005), have a positive influence on school culture (Kruger, Witziers, & Sleegers, 2007), establish a clear vision and purpose for organizational proprieties (Burke, 2011), and ensure aspects of social justice are practiced within our learning institutions (Larson & Barton, 2013).

These new responsibilities require principals to examine and implement educational paradigms that transform the expectations and roles of: principals, teachers, students, and parents in order to truly address the educational needs of every child. Personalized mastery educational paradigms represent this new educational model. These paradigms accomplish this by shifting the focus of learning from that of a teacher-centered, time-based system to a system designed to facilitate students toward the mastery of crucial skills, regardless of time. There is no single model for a personalized mastery educational system; however, all models have two things in common. These two aspects are: "(1) a clear, measurable definition of mastery, along with procedures and

tools for tracking that mastery and (2) the flexible use of time" (Priest, Rudenstine, Weisstein, & Gerwin, 2012, p. IV).

Personalized mastery paradigms focus on meeting the individual needs of the student as well as creating authentic learning opportunities with the purpose of attaining student mastery of specific skills. Students are not permitted to progress toward more advanced learning objectives until they are able to demonstrate mastery. Once mastery is achieved, students are requires to use their current knowledge and skills to work toward mastery of a new set of objectives (Priest et al., 2012). While there is no single blueprint as to how personalized mastery paradigms work, examples have been recognized as exhibiting excellence in education (DeLorenzo, Battino, Schreiber, & Gaddy-Carrio, 2009; Littky, 2004).

Recent trends in education show that personalized mastery paradigms are being implemented in states across the county. Some of these states include: Montana (Schontzler, 2012), New Hampshire (Khadaroo, 2013), Iowa (Wiser, 2013), Alaska (DeLorenzo et al., 2009), and New York (Littky, 2004). Additional states, and school districts, are likely to continue implementing personalized mastery paradigms as continued research demonstrates an increase in student engagement and achievement.

Since the concepts outlined in a personalized mastery paradigm are so dramatically different from the concepts supported by traditional education, adopting them will require leadership capacity at all levels with the ability to lead organizations through second-order change (DeLorenzo et al., 2009). In order to facilitate the organizational shift necessary to implement the second-order change toward a student-

centered personalized mastery paradigm, educational leaders would be well served to utilize the characteristics described by transformational leadership theorists. Northouse (2007) defines transformational leadership as "a process that changes and transforms people. It is concerned with the emotions, values, ethics, standards, and long-term goals and includes assessing followers' motives, satisfying their needs, and treating them as full human beings" (p. 175). In addition to the above mentioned aspects, transformational leaders at the school level need to utilize the following traits: ethical leadership (Bass, 1985), a desire to become a leading learner alongside teachers (Fullan, 2010), the ability to articulate goals and communicate high expectations (Marzano, Waters, & McNulty, 2005), and increase staff motivation (Northouse, 2007). These are the very traits that must be exhibited in order to lead the transition to implementing a school model that embraces a student-centered personalized mastery paradigm.

School traits relating to students' success have been studied at length for over a century; however, this line of research gained momentum after the Coleman Report was published in 1966. In that report, Coleman et al. (1966) concluded that the socioeconomic status (SES) of the family was a greater determining factor in student success than conditions present at the school. Since the release of the Coleman Report, educational researchers have disputed these findings and have identified school characteristics that have a positive influence on student outcomes regardless of family background (Hoy, Tarter, & Woolfolk Hoy, 2006a).

In his research on effective schools, Edmonds (1979) determined there were five characteristics exhibited by schools that impact student achievement. The author

determined those characteristics to be: (1) strong principal leadership, (2) high expectations, (3) an emphasis on basic skills, (4) an orderly environment, and (5) frequent and systematic student assessment. Hoy et al. (2006a) found there were additional school-level characteristics that exhibited a positive influence on student achievement after controlling for family socioeconomic status. The authors combined the traits of academic emphasis, collective efficacy, and faculty trust in clients into the single construct of academic optimism. They espoused the significance of understanding the impact of academic optimism in stating, "These perceived properties are assessed as emergent organizational attributes in aggregated individual perceptions of the *group*, as opposed to the *individual*" (Hoy, Tarter, & Woolfolk Hoy, 2006a, p. 430). Understanding the perceptions of the group and their impact on student achievement can be a powerful tool for educational leaders who are implementing a system that supports a personalized mastery paradigm.

Educational researchers are currently studying the topics of personalized mastery, transformational leadership, and academic optimism individually; however, these topics have not been examined in a way that determines correlative effects on each other. It would greatly benefit educational leaders who are examining personalized mastery educational paradigms to understand leadership traits and staff values exhibited by successful models.

Problem Statement

Teachers' perceptions of academic optimism have been shown to have a positive influence on student achievement regardless of the student's socioeconomic status (Hoy et al., 2006a; Hoy, Tarter, & Woolfolk Hoy, 2006b). Empirical research has been conducted to establish links between transformational leadership behaviors and the individual constructs that comprise academic optimism. For example, Ross and Gray (2006b) linked transformational leadership to an increase in the collective efficacy of the staff. Their study collected data from 3,074 teachers in 218 elementary schools, which produced results that supported the authors' hypothesis of transformational leadership having a direct effect on teacher commitment and an indirect effect on teacher efficacy.

Leithwood and Jantzi (2006) espoused that transformational leadership practices have a positive effect on teacher classroom practices and expectations therefore increasing the academic emphasis of the school. This study, which collected data from 2,290 teachers in 655 British primary schools, found that leadership behaviors did have a significant effect on teacher classroom practices and that "transformational approaches to school leadership seem to hold considerable promise for this purpose" (p. 223). Finally, Podsakoff, MacKenzie, Moorman, and Fetter (1990) examined the positive correlation between transformational leadership practices and relational trust within an organization. Their research, which was comprised of data collected from 988 employees at a large petrochemical company, found that "transformational leader behaviors influenced both employee trust and satisfaction" (p. 135). Furthermore, the relationships between the two

constructs have yet to be examined within a setting that supports personalized mastery paradigms.

Personalized mastery educational paradigms represent a model of education by which a student's progress through a curriculum is predicated on his/her ability to demonstrate mastery of the content (Priest et al., 2012). This is a dramatic departure from the traditional model of education by which a student's ability to move through the curriculum is primarily based on seat time, which requires schools to provide for the flexible use of instructional time (Grant, Forsten, & Richardson, 2000; Priest et al., 2012). Personalized mastery education represents a second-order change in educational practice (DeLorenzo et al., 2009) due to the fact that these concepts support several beliefs not regularly practiced in the current "industrial age model" (Schwahn & McGarvey, 2011) of education. The beliefs supported by personalized mastery education models include: personalization in education requires educators to focus on utilizing "assessment for learning and the use of data and dialogue to diagnose every student's learning needs" (Miliband, 2006, p. 24), creating transparent grading practices that allow students to have a full understanding of learning expectations (Patrick, Kennedy, & Powell, 2013), utilizing curriculum choices that engage students in rigorous and relevant learning activities (Miliband, 2006), and organizing school culture in a manner that allows students to have an active voice in their own education (DeLorenzo et al., 2009; Littky, 2004; Miliband, 2006).

Implementation of personalized mastery models also requires schools to facilitate additional practices that have been linked to successful learning organizations. These

additional practices include: implementing learning models centered on the moral purpose of genuinely educating every student (DeLorenzo et al., 2009; Fullan, 2010), aligning educational practices to support neurological research (Schenck, 2011), and critically examining and continually refining professional practices to respect and integrate the culture of the individual student as well as the whole community (Freire, 1970; Giroux, 1992). Implementing personalized mastery educational practices requires schools to support several factors that have been linked to successful schools; however, there is a limited body of empirical research that has been conducted to examine relationships between transformational leadership behaviors of principals and the academic optimism of the teaching staff and their influence on organizational change within these settings.

Purpose Statement

The purpose of this embedded, multiple-case study was to describe teachers' and administrators' perceptions of transformational leadership behaviors and academic optimism within two schools that are at different stages in their support of a personalized mastery paradigm. Many schools are busy building organizational cultures around incorporating data-driven decision making into their school improvement process (Fullan, 2010); however, many of the models utilizing data-driven decision making do not incorporate staff data. Recent studies have also shown that teachers who establish classroom practices that are student-centered tend to display higher levels of academic optimism (Ngidi, 2012; Woolfolk Hoy, Hoy, & Kurz, 2008); however, researchers have

yet to examine academic optimism within a student-centered educational system that supports personalized mastery. Understanding the role of leadership behaviors in fostering higher levels of academic optimism within the staff throughout the change process can become a powerful tool for educational leaders to use in school reform efforts.

To date there is little evidence to support the relationship between the implementation of personalized mastery models of learning and the impact of school leaders' transformational leadership behaviors, which together, result in increased academic optimism of staff. The model of personalized mastery education defined these cases. The study was bounded by time and place in that the analysis of the participant data was from Wyoming and Montana during the early months of 2014.

Research Questions

This embedded, multiple-case study examined transformational leadership and academic optimism perceptions during the change process in two schools that are implementing a personal mastery curriculum. Creswell (2007) states that "in a qualitative study...research questions assume two forms: a central question and associated subquestions" (p. 105). Therefore, this research is framed by the following central and subquestions:

Central Question:

How do educators at two high schools at different stages of implementing personalized mastery learning describe their perceptions of transformational leadership, academic

optimism, and the organizational change process?

Subquestions:

1. How do teachers at two high schools at different stages of implementation of personalized mastery learning describe their principals' transformational leadership behaviors?
2. How do administrators from schools at different stages of personalized mastery learning implementation describe their transformational leadership behaviors?
3. How do teachers at two high schools at different stages of implementation of personalized mastery learning describe their academic optimism?
4. How do administrators from two different high schools at different stages of personalized mastery learning implementation describe teacher academic optimism in their school?

For purposes of this study, academic optimism will be operationalized with the School Academic Optimism Scale (SAOS) (Hoy, 2005) and transformational leadership will be operationalized with the Multifactor Leadership Questionnaire (MLQ) (Avolio & Bass, 2004). Finally, teacher interviews and principals' critical incident reports were used to collect qualitative data focused on describing teachers and principals perceptions of academic optimism and transformational leadership during the implementation of personalized mastery learning models. This was done in an effort to develop converging lines of inquiry (Yin, 2014), therefore, providing the researcher a more robust understanding of the research questions in the two studied schools.

Conceptual Lens

This research effort is viewed through the concept of personalized mastery educational practices that represent true second-order change in educational pedagogy. These practices represent a student-centered model of education by which the students must demonstrate proficiency of preapproved curricular learning objectives while being granted the opportunity to become an active participant in their own education (Patrick et al., 2013). Providing students with the opportunity to exercise individual "voice and choice" in education is a dramatic departure from the teacher-centered model of education that has been practiced for over a century (DeLorenzo et al., 2009; Ravitch, 2000). Effective implementation of a personalized mastery education system requires educational leaders who are exhibiting leadership behaviors that are transformational. This is necessary to support the second-order change required for successful implementation of a personalized mastery education system. Transformational leadership behaviors have also been indirectly linked to increased academic optimism within the teaching staff. The significant change required to successfully implement personalized mastery paradigms is more likely to occur when teachers perceive high levels of faculty trust, collective efficacy, and academic emphasis. Through the lens of the change process associated with implementing personalized mastery educational practices, this study further examined transformational leadership behaviors exhibited by principals and academic optimism perceptions of teachers.

How do teachers at two high schools at different stages of implementing personalized mastery learning describe their perceptions of transformational leadership,

academic optimism, and the organizational change process? The answer to this central question comes from analyzing qualitative and quantitative data collected from two high schools at different stages in their implementation of personalized mastery educational practices. Using the embedded, multiple-case study model outlined by Yin (2014), the researcher analyzed survey data collected from thirty-seven staff members to measure perceptions of transformational leadership behaviors and academic optimism. Further analysis of the topics of academic optimism and transformational leadership was conducted through eleven semi-structured teacher interviews as well as the critical incident analysis of journal entries submitted by the two building principals.

Analyzing the data through the second-order change process associated with implementing personalized mastery paradigms allowed the researcher to further identify themes in the research data and identify potential areas of future research. In the end, three themes emerged from the collected data: (1) a recultured organization, (2) vicarious vs. personal experience and (3) collective leadership effort all the way to the top.

Assumptions

Identifying potential limitations is critical to the reliability of the study (Creswell, 2007). There are four assumptions for this study. The first assumption stems from the unique culture of every school implementing personalized mastery learning. Every school must construct practices that incorporate the culture of the individual and community. The concept that every school's culture is unique can make it difficult to transfer that particular school model to another organization.

A second potential assumption centers on the abbreviated time of the study. The time frame by which data was collected was roughly eight weeks; therefore, it was not possible to collect longitudinal data on teachers' perceptions of academic optimism and principals' transformational leadership behaviors. This aspect prevents the author from understanding fluctuations in these perceptions over time.

Third, at the time of this study, the researcher was an on-site administrator in one of the participating schools. Therefore, volunteering participants from that school could be biased in their support for the model. Due to the researcher's position as an administrator within one of the participating districts, this research was conducted from an insider's perspective. Savin-Baldwin and Major (2013) define insider fieldwork as "an approach in which researchers investigate the contexts in which they work" (p. 343). The authors also espouse that insider fieldwork can be biased due to the fact that the researcher has previous knowledge of the subject matter as well as the research participants.

Finally, the results of the study are subject to the known validity and reliability of the instrument. Information on the reliability and validity of the SAOS and MLQ is known; however, the instruments may have limitations in measuring the constructs they were designed to measure. Only subsequent studies within other research populations utilizing different instruments will help further our overall understanding of the concepts being measured in this study.

Delimitations

This study would be delimited to teachers with experience working within a personalized mastery setting. For example, participation in this study will include teachers who (a) currently work in a school that supports a personalized mastery paradigm, and (b) teach within a high school setting. Teachers who do not meet these qualifications will be excluded from this study.

Definition of Terms

Below, the reader will find a list of terms that are relevant to the study.

Academic Emphasis: This is the extent to which a school is driven in their pursuit of academic excellence (Hoy & Miskel, 2005).

Collective Efficacy: Within the school setting, collective efficacy represents the beliefs about the performance capacity of the teaching staff as a whole (Bandura, 1997).

Faculty Trust: This concept is defined as the trust in parents and students as a general concept with at least seven facets. Those facets include: willingness to risk vulnerability, confidence, benevolence, reliability, competence, honesty, and openness (Tschannen-Moran & Hoy, 2000).

Academic Optimism: This construct is the combined collective traits of academic emphasis, collective efficacy, and faculty trust (Hoy et al., 2006a). For the purposes of this study, the School Academic Optimism Scale (SAOS) will measure academic optimism.

Transformational Leadership: This form of leadership requires that principals engage with their teaching staff in ways that inspire them to new levels of moral purpose, energy, and commitment to work collaboratively in an effort to accomplish challenges and organizational goals (Hattie, 2009). For the purposes of this study, the Multifactor Leadership Questionnaire (MLQ) will measure transformational leadership.

Personalized Mastery: These educational paradigms differ from traditional paradigms in that they (1) have a clear definition of mastery along with the tools necessary to track student progress toward mastery, (2) provide for the flexible use of time (Priest et al., 2012), (3) utilize "assessment for learning and the use of data and dialogue to diagnose every student's learning needs" (Miliband, 2006, p. 24), (4) make curriculum choices that engage students in rigorous and relevant learning activities (Miliband, 2006) and (5) and organize school culture in a manner that allows students to have an active voice in their own education (DeLorenzo et al., 2009; Littky, 2004; Miliband, 2006).

Second-Order Change: A change process that entails fundamental or significant break with past and current practices intended to make dramatic differences in the current situation. Second-order changes require new knowledge and skills for successful implementation (Marzano et al., 2005).

Implementation Dip: A literal dip in performance and confidence as an organization incorporates new paradigms. This is due in part to application of new understandings and skills and how they work in the new organizational culture (Fullan, 2001).

Significance of the Study

Reform efforts have been at the center of a century-old debate within educational circles (Ravitch, 2000). Many reform efforts have been unsuccessful do to: lack of legislative support combined with ever-changing bureaucratic mandates (Hall & Hord, 2011), frequent turnover of school administration (Marzano & Waters, 2009), and the absence of genuine moral purpose facilitating the need for change (Fullan, 2010). Every unsuccessful reform effort represents a missed opportunity to create an educational system that adequately prepares students to succeed in future endeavors. The second-order change associated with implementing personalized mastery models of education requires new understanding of leadership behaviors and teacher values. Understanding the relationships between transformational leadership behaviors and academic optimism through the second-order change process can greatly benefit educational leaders, educators, and legislators as they continue their efforts to improve educational opportunities for future generations.

Summary

Personalized mastery educational paradigms represent a revolutionary departure from traditional models because of their focus on student mastery of content and the flexible use of time (Priest et al., 2012). These paradigms are being utilized in several states and have received awards for excellence in education (DeLorenzo et al., 2009; Littky, 2004). Since they dramatically differ from traditional educational models, personalized mastery paradigms represent a second-

order change in education (DeLorenzo et al., 2009).

"Transformational leadership refers to those principals who engage with their teaching staff in ways that inspire them to new levels of energy, commitment, and moral purpose such that they work collaboratively to overcome challenges and reach ambitious goals" (Hattie, 2009, p. 83). This form of leadership is crucial in implementing the second-order change that is required for implementing a personalized mastery educational paradigm. This study will use the Multifactor Leadership Questionnaire (MLQ) to measure transformational leadership.

Academic optimism was defined by Hoy et al. (2006a) as collective staff construct that combines academic emphasis, collective efficacy, and faculty trust. This construct represents a powerful force for school improvement because these traits have been shown to positively correlate with student achievement after controlling for the socioeconomic factors of the family (Hoy et al., 2006a). This study will use the School Academic Optimism Scale (SAOS) to measure academic optimism.

Organizational change within schools is required to facilitate the second-order change needed to implement personalized mastery paradigms. This change is often accompanied by implementation dips (Fullan, 2001); therefore, it is critical for schools implementing student-based educational programs to understand how to successfully navigate through these dips. During the time of this study, the two schools represented were on both sides of the implementation dip. One school was considered to be pre-implementation dip, while the other was considered to be post-

implementation dip.

Finally, this case study will use qualitative and quantitative methods to examine relationships between transformational leadership and academic optimism during the organizational change process associated with implementing personalized mastery educational paradigms. This information presents an opportunity to shape professional development of educational leaders as well as influence teacher and principal training programs.

CHAPTER 2

REVIEW OF LITERATURE

Introduction

As schools are faced with more public accountability for student academic performance, school level characteristics are being studied to discover methods of improving achievement for all students; therefore, a substantial amount of research has been dedicated to the examination of various conditions that relate to student achievement. Some of these conditions include: socioeconomic status (SES) (Coleman et al., 1966), school climate (Hoy & Tarter, 1997), teacher efficacy (Bandura, 1997), trust in relationships between the school and home (Bryk & Schneider, 2002), academic optimism (Hoy et al., 2006a), and school leadership behaviors (Hattie, 2009; Marzano et al., 2005). Hoy and others suggest that academic optimism is related to leadership behaviors particularly when leaders engage in practices aligned with transformational leadership theory (Leithwood & Jantzi, 2006; McGuigan & Hoy, 2006; Ross & Gray, 2006b). To date, there is a limited body of research that has been conducted to examine the relationship between transformational leadership and academic optimism within a personalized mastery setting. In this chapter, a review of the literature on academic optimism, which includes the constructs of academic emphasis, collective efficacy, and faculty trust, will be compared with literature on transformational leadership. This chapter will also contain a review of the literature on personalized mastery educational paradigms and organizational change. Chapter 2 will discuss seven topics: (1) academic

optimism, (2) collective efficacy, (3) faculty trust, (4) academic emphasis, (5) organizational change (6) transformational leadership, and (7) personalized mastery educational paradigms. Each following section offers a description, a review of the relevant literature, and a review of previous research relevant to this study.

Academic Optimism

Since the release of the Coleman Report in 1966, several areas of educational research have focused on school variables that demonstrate positive statistical relationships with student achievement while controlling for socioeconomic status (SES) of the student body. Through an extensive review of the literature, Hoy, Tarter, and Woolfolk Hoy (2006a) have identified three collective staff characteristics exhibited by successful schools, even after controlling for SES. These collective characteristics include: the collective efficacy of the staff, faculty trust between teachers and students and/or parents, and the overall academic emphasis of the school. These three separate traits were then combined to form the collective staff trait of academic optimism (Hoy et al., 2006a). Hoy et al. (2006b) describe academic optimism as "a social-psychological construct that is in part related to the positive psychology of Seligman and Csikszentmihalyi (2000), the social cognitive theory of Bandura (1997), Hoy and Tarter's (1997) research on school climate, and the social theory of Coleman (1990)" (p. 154).

Further analysis of these traits shows they are indeed reciprocal and causal with one another (Hoy, 2010; Hoy et al., 2006a, 2006b). Hoy et al. (2006b) describe the reciprocal and causal nature of these relationships:

> For example, faculty trust in parents and students supports a sense of collective efficacy, but collective efficacy enhances and reinforces the trust. Similarly, when the faculty trusts parents, teachers can set and insist on higher academic standards with confidence they will not be undermined by parents, and the focus on high academic standards in turn reinforces the faculty trust in parents and students. Finally, when the faculty as a whole believes they can organize and execute actions needed to have a positive effect on student achievement, they will emphasize academic achievement, and academic emphasis will in turn reinforce a strong sense of collective efficacy. In brief, all the elements of academic optimism are in transactional relationships with each other and interact to create a culture of academic optimism in the school workplace. (p. 144)

By establishing that these traits are reciprocal and causal, researchers are able to show that a change in one of the three characteristics will likely lead to a similar change in the other two. This concept further supports the belief that all three characteristics can be combined to create the single construct of academic optimism (Hoy et al., 2006a, 2006b).

There are strong applications for the understanding and use of academic optimism within educational settings. This is because the construct focuses on resilience and strength, as opposed to weakness and failure (Hoy et al., 2006b). This construct attempts to define, replicate, and nurture the traits that work best in schools in order to facilitate student learning. Focusing on the potential of schools to persevere through adverse conditions such as socioeconomic factors, school funding models, and tradition, is an important trait that successful educational leaders possess (Marzano et al., 2005). The ability to build upon the strengths of the school, encourage others to persevere in the face of setbacks, and focus on the potential of the organization is a direct link to the "encourage the heart" aspect of transformational leadership as outlined by Kouzes and Posner (2007).

Student achievement is positively related to academic optimism because of the ways in which this construct influences the culture of the organization (Hoy et al., 2006a). For example, an increase in collective efficacy will encourage staff members to work together in order to set higher goals in student achievement. Increased faculty trust promotes an understanding between teachers, parents, and students that the academic tasks being completed are important and worthwhile. Finally, when teachers collectively believe they have the ability to positively influence student achievement, and students trust that the work they are completing is important both sides exist in a symbiotic relationship that facilitates an increase in academic emphasis. Therefore, the construct of academic optimism has a positive relationship with student achievement because of the way in which it shapes organizational culture.

Strategies that can be used by educational leaders to increase academic optimism have been discussed in recent research. Peterson (2000) found that one of the biggest detractors of optimism is excessive bureaucracy. McGuigan and Hoy (2006) further explain that schools can successfully remove excessive bureaucracy by eliminating programs that do not support the essential work of the teachers. Simplifying the structure of an organization so that more focus can be placed upon these essential tasks is supported by successful organizational models in education (Fullan, 2010). Removing tasks that do not support teacher work in an effort to spend more time focusing on efforts to improve instruction also provides a direct link to the "challenge the process" and "model the way" aspects of transformational leadership as outlined by Kouzes and Posner (2007).

Educational leaders who are looking to increase the academic optimism of their organizations should first conduct discussions with vested stakeholders in an attempt to identify the purpose of the school. Once this purpose is identified and clearly defined, leaders need to support teachers and students in completing their essential work by removing excess bureaucracy therefore connecting with the "enabling others to act" practice of transformational leadership (Kouzes & Posner, 2007). In this case, excessive bureaucracy would be anything that does not directly support teaching and/or learning as outlined by the collective purpose of the school. This allows teachers and students the ability to focus on the most important aspects of teaching and learning. By removing the obstacles to innovation and creation in the classroom, school leaders can create an organizational culture that facilitates an increase in academic emphasis, collective efficacy, and faculty trust. These efforts will assist in producing an increase in the overall academic optimism of the teaching staff.

Collective Efficacy

The research conducted by Hoy et al. (2006a) found the collective efficacy of the staff to be an underlying trait of the larger construct of academic optimism. Bandura (1977) first established the concept of self-efficacy as an individual's belief that they possess abilities to produce a desired result on a specific task. The author also espoused that self-efficacy is established to be specific to a particular task. This means that an individual can be highly efficacious in one task, while exhibiting low levels of self-efficacy in another task. He then began to examine the overall self-efficacy of individuals within an organization as he developed the concept of collective efficacy as a

construct of an entire organization or an organizational subgroup (Bandura, 1997). Upon completion of that organizational analysis, Bandura described collective efficacy as an organizational property that represents collective judgments concerning the extent to which a group as a whole could cause a particular outcome.

The concept of collective efficacy represents the cognitive aspect of academic optimism (Hoy et al., 2006a, 2006b) consequently representing the thoughts and beliefs of the group. This concept can be applied to an educational setting (through the judgment of the teachers) that the faculty as a whole can organize and execute actions that will have a positive effect on students (Goddard, Hoy, & Woolfolk Hoy, 2000, 2004). The authors were able to display a positive correlation between groups of teachers with a high collective efficacy and increased levels of student achievement while controlling for SES.

Bandura (1993) was the first researcher to display that average school achievement was positively related to collective efficacy. Goddard (2001) further confirmed that the collective efficacy "was significantly and positively related to differences between schools in student achievement, even when school means were adjusted for students' prior achievement and demographic characteristics" (p. 474), thus, establishing the importance for fostering high levels of collective efficacy within an educational staff.

Faculty Trust

Hoy et al. (2006a) identified faculty trust as the second collective trait in the larger construct of academic optimism. Faculty trust represents the affective aspect of the concept of academic optimism (Hoy et al., 2006a, 2006b) thus representing the feelings and beliefs of the staff. This trait describes the trust relationship between teachers,

students, and parents.

Trust involves making oneself vulnerable with the understanding that another individual will act in a manner that is in the original person's best interest (Hoy, 2002). Therefore, faculty trust sets the stage for greater levels of student learning because parents and students are acting under the assumption that teachers are benevolent, reliable, competent, honest, and open in their classroom practices (Hoy et al., 2006b). Research showing positive correlations between faculty trust and student achievement were first performed in elementary school settings (Goddard, Tschannen-Moran, & Hoy, 2001); however, subsequent studies in high schools displayed similar results (Smith, Hoy, & Sweetland, 2001). Additional studies in trust also suggest better student attendance (Hoy et al., 2006b), increased levels of student motivation and engagement (Downey, 2008; Reeve, 2002; Schenck, 2011), and the very establishment of a cohesive school culture with mutual buy-in (Littky, 2004). Finally, the establishment of a trusting relationship is crucial to the learning process. Hoy (2002) espouses that trust between humans is a part of the cooperative learning experience. Setting common educational goals, cooperatively working with one another, and reaching increased levels of student achievement requires a high level of faculty trust.

Academic Emphasis

Academic emphasis is the final collective trait identified in the research conducted by Hoy et al. (2006a) to comprise the larger construct of academic optimism. Academic emphasis is considered to be the lengths to which a school is driven in pursuits of student excellence (Hoy et al., 2006a) thus representing beliefs on the perceived purpose of the

staff. This trait represents the behavioral aspect of academic optimism by reflecting the thoughts and actions of the staff in creating high, but achievable, goals in student achievement (Hoy et al., 2006a, 2006b).

There is an emergent research base supporting the concept that when schools maintain high, but achievable, goals for students the accomplishment of those goals can lead to gains in student achievement. For example, Goddard, Sweetland, and Hoy (2000) determined that academic emphasis is significantly and positively related to differences in student achievement in math and reading. High levels of academic emphasis create a school climate that can "encourage both teachers and students to plan more, persist longer, accept responsibility for achievement, and overcome temporary setbacks" (R. D. Goddard, Sweetland, & Hoy, 2000, p. 698). These qualities are why schools that exhibit increased levels of academic emphasis are able to exhibit gains in student achievement while controlling for SES.

Organizational Change

The need to reform our country's outdated educational system has been supported on all sides of the political spectrum (Kohn, 2000); however, there have been numerous attempts, and subsequent failures, to change our current "industrial age" model of education (Fullan, 2007; Ravitch, 2000). The harsh reality is that our resistance to changing schools is causing them to play catch up with others throughout the world, and is likely to do so for the foreseeable future (Burke, 2011). The realization that our current school system is in need of system-wide change, combined with the desire throughout the

political spectrum to do so, should provide a call to action to change the organizational structure of our schools. The most important thing to be understood in changing our school model is that change is a process. This process is usually difficult and is far too complex for any single theory to adequately address all of the aspects involved (Burke, 2011; Fullan, 2011; Hall & Hord, 2011).

Due to the fact that there are several theories as to how organizations should implement meaningful change, they often disagree on the mechanisms involved in leading change. What most of the change theories do agree on is that change must: be done with a purpose (Burke, 2011; Fullan, 2011); involve all stakeholders at the community and school level (DeLorenzo et al., 2009; Fullan, 2008b); as well as elected officials at the local, state, and national levels (Eadie, 2005; Ravitch, 2000); occur through the attainment of new knowledge and skills (Fullan, 2010; Senge, 1990); and address individuals who will facilitate change, as well as those who will resist it (Hellriegel & Slocum, 2009). This section will address how those aspects of change are applied to changing the school's educational practices to support new pedagogy.

The literature suggests that the two types of change in schools are first-order and second-order change (Marzano et al., 2005). First-order change is incremental in nature and can be thought of as "the next most obvious step to take in a school or district" (Marzano et al., 2005, p. 66). This type of change works to fine-tunes current practices by incorporating a series of small initiatives that do not dramatically depart from the past. Examples of first-order change in schools could be a new curriculum or bell schedule. On the other hand, second-order change represents a dramatic departure from previous

practice. Second-order change is thought of as a "Deep change that alters the system in fundamental ways, offering a dramatic shift in direction and requiring new ways of thinking and acting" (Marzano et al., 2005, p. 66). This type of deep change is readily linked to personalized mastery educational practices because of the dramatic ways in which these types of learning models differ from traditional education (DeLorenzo et al., 2009).

The purpose behind implementing personalized mastery models of education involves creating an educational system that adequately prepares students with the skills needed to support the current workforce, while encouraging students to establish a high level of personal and cultural understanding (Littky, 2004). Thus representing both the moral (DeLorenzo et al., 2009) and the ethical (Kohn, 2000) purposes for facilitating educational change. Our educational system needs to transform from an "industrial age" model designed to prepare a workforce for low-skill jobs such as manufacturing and manual labor to a model designed to prepare students with the high technical skills necessary for work in a 21st century world (Schwahn & McGarvey, 2011). This means that our school system should purposely evolve in a manner that instills the skills necessary to successfully address the needs of an ever-changing workforce. Unfortunately, our school system has failed in purpose for over a century (Ravitch, 2000).

Involving vested stakeholders is critical in implementing educational cultures to support research-backed pedagogy (Fullan, 2007). Changing the school culture to support personalized mastery education must include the following stakeholders: district

administration (Fullan, 2007), school boards (Eadie, 2005), building principals (Fullan, 2011), teachers (Fullan, 2007), the community (to include parents) (DeLorenzo et al., 2009), and most importantly students (Fullan, 2007). Every one of these groups has unique perspectives and perceptions that must be understood and considered throughout the change process.

Research indicates that most changes in education can take from three to five years to implement at high levels (Hall & Hord, 2011) consequently demonstrating why it is vital to build a shared capacity with vested stakeholders at all levels. This can be especially true at all levels of the legislative process where an emphasis on writing the perfect piece of legislation to change our educational model takes precedence over properly utilizing the time necessary to allow for the facilitation of change. Hall and Hord (2011) outline the dangers of this political gamesmanship:

> Unfortunately, too many policymakers at all levels refuse to accept the principle that change is a process, not an event, and continue to insist that *their* changes be implemented before their next election, which typically is within two years. This event mentality has serious consequences for participants in the change process. (p. 8)

Teachers and school administrators, especially those who have witnessed previous educational reform efforts fail, may also resist the type of change necessary to implement new educational cultures and paradigms (Fullan, 2007, 2008b). Hellriegel and Slocum (2009) suggest that the personal barriers to change could include: individual perceptions of the nature of the change and the individual's role in the new culture; the change may represent a threat to current power structures and/or work habits; and many individuals have a fear of the unknown and possess personality traits that may cause a natural

resistance to change. Hall and Hord (2011) further suggest that changing the culture and practices of a school can cause a sense of sadness and grief among teachers and/or administrators. The authors further espouse that this sense of grief can be perceived as a resistance to change. In order to address these individual traits, Fullan (2008b) suggests that the individuals leading change need to: exhibit transparency of the purpose for change, clearly discuss roles and responsibilities within the new system, continually build capacity with vested stakeholders, and personally monitor the individual progress of all teachers and/or principals. "The crux of change is how individuals come to grips with reality" (Fullan, 2007, p. 20); therefore, leaders must pay close attention to the individual when implementing and leading organizational change. This especially includes the type of second-order change associated with implementing a personalized mastery educational paradigm.

When changing organizational structures to support new educational paradigm, such as personalized mastery, it is common to experience implementation dips. Fullan (2001) defines an implementation dip as "a dip in performance and confidence as one encounters an innovation that requires new skills and new understandings" (p. 40). In order to successfully lead through an implementation dip, Fullan (2011) suggests that schools need to "find different ways for implementers to learn from other implementers, especially those in similar circumstances who are further down the line" (p. 75). He further offers advice to implementers in stating:

> Enthusiasm, self confidence, optimism, and clarity of vision can all inspire people to keep going…Thus leaders who are sensitive to the implementation dip combine styles: they still have an urgent sense of moral purpose, they still measure success in terms of results, but they do

> things that are more likely to get the organization going and keep it going. (Fullan, 2001, p. 41)

Therefore, the best way for schools to successfully navigate through implementation dips is by learning from others who have experienced similar implementations and to facilitate the opportunity to continue leading the change process in a positive direction.

Figure 1. Fullan's implementation Dip

(Fullan, 2008a, p. 1)

Changing educational paradigms in schools is difficult and messy work. Educational leaders capable of leading large scale changes in practice know that change is clearly not a single event, but a process (Hall & Hord, 2011). Factors influencing the types of change associated with implementing personalized mastery paradigms include: the need to build capacity among stakeholders to understand the moral and ethical

purpose for change, addressing stakeholders who resist change, successfully navigating through implementation dips, and exhibiting the perseverance needed to lead an organization for three to five years as it undergoes large-scale organizational change. The work is difficult, but the rewards for successful implementation are even greater.

Transformational Leadership

The findings reported by the Coleman Report (Coleman et al., 1966) marginalized the effect of school leaders, as well as other school factors affecting student achievement in stating, "only a small part of [student achievement] is the result of school factors, in contrast to family background differences between communities" (p. 297). Subsequent quantitative research conducted by Hallinger and Heck (1996) concluded that the actions of the principal do not make a measurable difference in student achievement. The combined results of these studies failed to provide principals with meaningful information as to how they can positively influence student achievement.

Fortunately, recent studies show that school leadership plays an integral role in increasing student achievement (DuFour & Marzano, 2011; Hattie, 2009; Marzano et al., 2005). After conducting a meta-analysis of more than eight hundred school factors, Hattie (2009) determined that school leadership was within the top one hundred factors that have a positive correlative effect on student achievement. The author further supported the effect of leadership on student achievement by stating, "It is school leaders who promote challenging goals, and then establish safe environments for teachers to critique, question, and support other teachers to reach these goals together that have the

most effect on student outcomes" (p. 83). In another meta-analysis conducted by Marzano et al. (2005), the authors discovered an "average correlation of .25…between the leadership behavior of principals and the overall achievement of students in a school" (p. 34), particularly when leaders engage in practices that support teacher efficacy, trust, and promote organizational excellence. Understanding the significance of the principal's role is crucial for implementing meaningful change within the current era of school accountability.

Since the onset of the recent accountability movement, the role of the principal has evolved from being a building manager to that of an instructional leader. Therefore, educational leaders must be trained in a manner that allows them to embrace a different pedagogy (Turnbill et al., 2013). In order to implement true second-order change in American education, our schools will need transformational leaders who implement systems that focus on the individual learning needs of every student.

In order to facilitate the organizational change necessary to implement second-order change that moves toward a student-centered personalized mastery paradigm, educational leaders would be well served to utilize the characteristics described in transformational leadership (Avolio & Bass, 2004). Northouse (2007) defines transformational leadership as "a process that changes and transforms people. It is concerned with the emotions, values, ethics, standards, and long-term goals and includes assessing followers' motives, satisfying their needs, and treating them as full human beings" (p. 175). In addition to the above mentioned behaviors, transformational leaders at the school level need to utilize the following traits: ethical leadership (Bass, 1985), a

desire to become a leading learner alongside teachers (Fullan, 2010), the ability to articulate goals and communicate high expectations (Marzano et al., 2005), increase staff motivation (Northouse, 2007), and positively influence traits associated with academic optimism among teachers (Leithwood & Jantzi, 2006; McGuigan & Hoy, 2006). It is of no coincidence that these are the very same leadership traits discussed by DeLorenzo et al. (2009) as being crucial in order to lead the transition toward implementing a school model that embraces a student-centered personalized mastery paradigm.

The theoretical framework of transformational leadership will provide the overall foundation for research in academic optimism within a personalized mastery educational paradigm. The classical book entitled *Leadership* by James McGregor Burns (1978) is credited as being the seminal source on transformational leadership. In this book, Burns begins the process of examining political leaders as people who utilize the motives and values of followers in order to reach new political and organizational goals. Burns (1978) outlined the difference in the relationship between followers and leaders by stating that true leadership is "distinct from mere power-holding and as the opposite of brute power" (p. 4). Therefore, this new theory of leadership focuses on linking leaders and followers in a transformational manner based on mutual needs, morals, values, and goals. Bass (1985) further expanded on the definition of transformational leadership:

> …transformational leadership motivates followers to do more than expected by (a) raising followers' levels of consciousness about the importance and value of specified and idealized goals, (b) getting followers to transcend their own self-interest for the sake of the team or organization, and (c) moving followers to address higher-level needs. (p. 20)

The concepts outlined by Burns (1978) and Bass (1985) provide a solid foundation by which subsequent leadership theorists use to further refine the definition, application, and practice of transformational leadership. These concepts have been applied to a variety of leadership professions (Bass, 1985; Bass & Avolio, 1994; Podsakoff et al., 1990) and have been expanded to apply to educational leadership positions (Leithwood, Jantzi, & Steinbach, 1999). Transformational leadership traits have been shown to result in greater levels of trust between followers and leaders (Podsakoff et al., 1990). Recent research has also demonstrated that transformational leadership behaviors have a positive influence on: student achievement (Leithwood & Wahlstrom, 2008; Ross & Gray, 2006a), overall teacher job satisfaction (Nuguni, Sleegers, & Denessen, 2006), collective teacher commitment to organizational values (Ross & Gray, 2006b), a teacher's sense of self and collective-efficacy (Ross & Gray, 2006b), and a decrease in the likelihood of teacher burn out (Leithwood, Menzies, Jantzi, & Leithwood, 1996). The positive correlation between transformational leadership and these traits provide a compelling argument for the practice of this leadership style in the facilitation of an increase in organizational academic optimism.

Kouzes and Posner (2007) define leadership as "a relationship between those who aspire to lead and those who choose to follow" (p. 24). It is with this definition in mind that school leadership relationships exist between school administrators, teachers, students, parents and community. In order to link transformational leadership theory to academic optimism, one must also understand the importance of these interpersonal relationships and the tenants of transformational leadership.

In developing their model of transformational leadership, Kouzes and Posner (2007) outline five fundamental practices that enable leaders to accomplish extraordinary things. These five fundamental practices include: model the way, inspire a shared vision, challenge the process, enable others to act, and encourage the heart. Modeling the way requires that leaders are clear on their own expectations and values while providing a personal example through their own behaviors (Kouzes & Posner, 2007). Inspiring a shared vision means those transformational leaders are the ones that are able to visualize positive outcomes and challenge others to transcend the status quo in order to achieve something great (Northouse, 2007). Challenging the process translates to questioning the status quo through a willingness to be innovative, creative, and focus on growth; therefore, transformational leaders are not afraid to take risks in order to improve the current system (Kouzes & Posner, 2007). No matter how charismatic or knowledgeable a leader is, they simply cannot accomplish all of the things necessary to drive change on their own. Transformational leaders enable others to act toward accomplishing the shared vision of the organization. This requires the creation of an environment where others feel empowered to contribute to the organization (Kouzes & Posner, 2007). Finally, Kouzes and Posner (2007) maintain that true transformational leaders must encourage the heart. This trait is accomplished through the recognition of the great deeds of others. Frequent celebrations to recognize the positive contributions of others is an important aspect of driving instructional improvement (Marzano et al., 2005). Embracing and implementing these five fundamental practices in a manner that changes the culture of an organization so that leaders and followers can work together in a mutually

beneficial manner is practiced within several successful organizations (Collins, 2001). Hence, these concepts are crucial aspects and practices of transformational leadership.

In developing the Multifactor Leadership Questionnaire (MLQ), Avolio and Bass (2004) utilized five empirically derived factors to measure transformational leadership: Idealized Influence, Inspirational Motivation, Intellectual Stimulation, Individualized Consideration, and Cascading Effect. These traits align with the five fundamental practices of transformational leadership as outlined by Kouzes and Posner (2007), as well as provide a quantifiable framework by which we can measure perceptions of transformational leadership.

The first two of the transformational leadership factors described by Avolio and Bass (2004) are Idealized Influence Attributes/Behaviors. These factors describe the manner in which associates view their leader. Transformational leaders "arose and inspire others with whom they work with a vision of what can be accomplished through extra personal effort" (Avolio & Bass, 2004, p. 26). The authors also describe these traits as developing others by: developing increased levels of autonomy and achievement, encouraging increased personal and professional development, and facilitating leadership capabilities in associates. Transformational leaders strive for the continual development of associates, even though they risk the threat of being replaced because associates become fully capable of carrying out organizational objectives (Leithwood & Jantzi, 2006). The benevolence exhibited by transformational leadership can help instill a trusting relationship with associates; thus, creating an even more trusting and purposeful professional relationship.

The third transformational leadership factor measured by the MLQ is Inspirational Motivation (Avolio & Bass, 2004). This factor describes the manner in which transformational leaders motivate others. Leithwood (1994) espoused that changes in teacher motivation may be one of the most direct influences of transformational leadership; consequently, making this factor especially impactful in leading school change. Transformational leaders accomplish this by: articulating thoughts and ideas through simple terms that uphold shared goals of what is important (Avolio & Bass, 2004), believing that leaders have the competence and self-efficacy to facilitate meaningful change(Leithwood & Jantzi, 2006), and instilling a personal and organizational commitment to a moral purpose (DeLorenzo et al., 2009), thus, providing the purpose and commitment for educational reform and second-order change.

The next transformational leadership factor measured by the MLQ is Intellectual Stimulation (Avolio & Bass, 2004). Transformational leaders accomplish this by creating a culture of questioning beliefs and empowering followers to solve organizational problems (Avolio & Bass, 2004). Kruger et al. (2007) further support the importance of intellectual stimulation in stating, "principals who engage in higher order thinking are better able to apply relevant knowledge about their school and the school's curriculum to solving problems…Furthermore, research showed that personal vision of school leaders is an important condition for organizational learning and school improvement" (p. 4). As a result, associates develop the efficacy to solve problems through personal innovation and creativity.

Individualized Consideration represents the fifth and final transformational leadership factor measured by the MLQ. This factor "represents an attempt on the part of the leaders to not only recognize and satisfy their associates' current needs, but also to expand and evaluate those needs in an attempt to maximize and develop their full potential" (Avolio & Bass, 2004, p. 28). Transformational leaders display individualized consideration through: mentoring and coaching (Avolio & Bass, 2004), identifying individual strengths and assigning tasks to capitalize on those strengths (Leithwood & Sun, 2012), and providing opportunities for individual and organizational growth (Ross & Gray, 2006a). Due to the fact that this trait focuses on individual relationships, it is the one that most dramatically separates transformational leaders from managers. Individualized consideration empowers others to develop their own unique leadership abilities in order to increase organizational effectiveness.

Finally, all of the factors that are measured by the MLQ can lead to a Cascading Effect (Avolio & Bass, 2004). This involves the degree to which associates have developed their individual leadership abilities in a manner that achieves organizational goals. When transformational leadership traits are developed in others, they are encouraged to use these techniques in a manner that drives personal improvement as well as organizational effectiveness (Kruger et al., 2007). This concept can be extraordinarily beneficial to leaders because associates are empowered to utilize leadership techniques to solve issues and create solutions, thereby, freeing up time for the leader to focus on further organizational objectives

These combined factors make transformational leadership practices a crucial aspect in creating an organization that embraces the values and beliefs necessary for second-order change. Fullan (2010) lends further support for this concept in stating, "Learning is a joint effort of lots of people working together on a given day and cumulatively over time" (p. 71). In his seminal work on organizational structure, Peter Senge (1990) outlines five disciplines that must be exhibited within successful learning organizations. These five disciplines include: personal mastery, shared vision, mental models, team learning, and systems thinking. It is no coincidence that these five traits also mirror the five fundamental practices of transformational leadership. This is because transformational leadership not only has the potential to change individuals, but whole organizations.

Over the past century, one of the constants in American public schools is the constant change (Ravitch, 2000). Over that time, two general types of change have been practiced. First-order change is incremental change that refines the current system through a series of small steps (Marzano et al., 2005). On the other hand, second-order change represents a transformational change to create a new system with new ways of thinking and acting (Marzano et al., 2005). Therefore, implementing true second-order change within a school setting can be accomplished by the utilization of transformational leadership (DeLorenzo et al., 2009). In this research study, second-order organizational change is represented through implementing an educational paradigm that supports personalized mastery.

Changing from a traditional educational system to one that embraces personalized mastery requires true second-order change; therefore, it is no coincidence that transformational leadership must be utilized to facilitate this transition (DeLorenzo et al., 2009; Littky, 2004; Priest et al., 2012). This is due in part to the change in role of the teacher. To successfully implement this model the school and classroom must undergo a transition from one that is teacher-centered to one that is student-centered. These paradigms also require teachers to conduct collaborative efforts with a focus on student achievement, feel empowered to create educational practices that are student-centered, feel supported when setbacks occur, and have meaningful input on aspects of curriculum and assessment (Priest et al., 2012). Since many of the traits listed above depart from the traditional school model, transformational leadership with an ethical and moral purpose must be utilized to facilitate this transformation. School leadership is, and always has been, an integral part of school reform and its importance cannot be overstated.

Personalized Mastery Educational Paradigms

Personalized mastery paradigms are based on the idea that students must master certain skills and knowledge prior to moving on, rather than move through an established curricula in a pre-determined length of time. Priest et al. (2012) outline the foundation of personalized mastery (also known as competency education) in stating:

> In competency education, students keep working on specific skills and/or knowledge until they can demonstrate their understanding and ability to apply them; they then move on to the next material while continuing to apply what they have already learned. Students cannot move forward simply by showing up for class on a sufficient number of days, nor can they get by with Ds. Instead, they must meet standards (also known as

> competencies, performance objectives, or learning targets) at a pre-determined level of proficiency. Only when they master a learning target do they move ahead to the next challenge. (p. 3)

The historical lineage of personalized mastery education can be traced back to the progressive education movement of the 1870s. The movement itself began with the work of Francis Wayland Parker, who was described by John Dewey as the "Father of American Progressive Education" (Altenbaugh, 1999). Further details concerning the educational beliefs and contributions of Francis Wayland Parker are summarized in the following passage:

> Parker believed that skills should be taught in conjunction with content and criticized the isolation of subject matter, citing the uselessness of teaching "geography without history."…His lifelong fight for "new education" which personalized the curriculum for each child instead of forcing children to conform to a preordained academic structure brought him international acclaim. (Altenbaugh, 1999, p. 275)

The progressive education movement gained momentum in 1896 when John Dewey and his wife Alice opened a "laboratory school" at the University of Chicago (Ravitch, 2000). In his "laboratory school", Dewey wanted to create an active community life among students that enabled them to concentrate on problems and process as opposed to simply memorizing academic content (Ravitch, 2000). He constructed paradigms that "began with the needs and interests of the children, engaged them in discovery activities, and prepared them to participate in social change" (Altenbaugh, 1999, p. 301). Finally, Dewey formalized the philosophical framework of the progressive education movement in his classical book entitled *Democracy and Education: An Introduction to the Philosophy of Education* (Altenbaugh, 1999). Many of

the concepts contained within this book provide the framework for the personalized mastery educational paradigm.

In the 1930s, proponents of "objectives based instruction" built upon Dewey's ideas to establish crucial instructional objectives that needed to be learned by all students (Priest et al., 2012). The primary focus of objectives based instruction was on the accomplishment of predetermined instructional objectives through an experimental approach that centered on the student's first-hand experiences. Teachers worked to create learning opportunities in which students experienced rigorous and relevant individualized learning experiences. In these models, student growth was facilitated by the presence of individual difficulty within each instructional objective. John Dewey (1938) outlines the two criteria that educators must use to determine the difficulty of the individual learning experience in stating:

> First, that the problem grows out of the conditions of the experience being had in the present, and that it is within the range of the capacity of students; and, secondly, that it is such that it arouses in the learner an active quest for information and for production of new ideas. (p. 79)

By the late 1970s, the practice of competency-based education became incorporated within public school vocational programs with the focus on students accomplishing the "mastery of basic and life skills necessary for the individual to function proficiently in society" (Priest et al., 2012, p. 3). Since that time, personalized mastery educational paradigms have experienced a renaissance through their practice in school-wide settings. This process has been embraced and supported in both public and charter schools (Priest et al., 2012). Two of the country's leading personalized mastery

paradigms include the Re-Inventing Schools Coalition (RISC) model (DeLorenzo et al., 2009), and the Big Picture Learning (BPL) model (Littky, 2004).

There are several different educational programs located throughout the world that support personalized mastery paradigms; however, there are a couple characteristics personalized mastery models utilize that differ from traditional educational models. These programs provide a clear and measurable definition of mastery along with the procedural tools need to track mastery (DeLorenzo et al., 2009) as well as the flexible use of time (Priest et al., 2012). They also utilize frequent formative assessments to provide meaningful feedback to students as they progress toward mastery (Littky, 2004). Finally, they tailor instruction to meet the individual learning objectives of the students in a personally and culturally relevant manner (DeLorenzo et al., 2009). Some of these aspects can be observed in traditional settings; however, these traits are much more prevalent within personalized mastery educational settings.

The curriculum in personalized mastery education is similar to traditional education in that they both aim to teach crucial skills; however, the dramatic difference in the personalized mastery system is the presence of student voice and choice in completing work. Students have the ability to choose assignments that display their ability to demonstrate proficiency of established standards. They are also able to demonstrate proficiency on more than one standard across the curricular spectrum. Students are free to master learning objectives in math, English, social studies, health, and science through the completion of a single project; therefore, students can master content in a personally relevant, yet rigorous manner. This process also affords students

the ability to complete work in a culturally relevant manner. Linking skills together with a focus on high rigor and relevance, while maintaining a focus on cultural relevance has been long supported by social justice theorists such as Freire (1970), Giroux (1992), and Nieto (1999) as a means by which to maintain student engagement within schools. The use of student voice and choice in the construction of personally relevant learning objectives is what separates personalized mastery learning models from other forms of competency-based learning.

One of the most encouraging aspects behind the adoption of personalized mastery paradigms is that these models facilitate an increase in individual student engagement and motivation (DeLorenzo et al., 2009; Priest et al., 2012). Personalized mastery paradigms accomplish this by encouraging students to play an active role in their learning process. Students work with teachers to create learning projects that are high in rigor and personal relevance. They are no longer completing abstract learning objectives for the sake of plowing through the classroom curriculum; rather, students are using their individual knowledge, culture, and personal experience to create individual projects that facilitate the comprehension and mastery of crucial skills that are necessary to move onto the next learning objective. This equates to students taking control of their own learning by asking probing questions in order to expand on their learning and applying previously mastered material to new learning objectives. The role of the student in developing probing questions to expand on their own metacognition of learning objectives has been linked to increased student achievement and motivation (Pashler et al., 2007).

Teacher-student relationships in a personalized mastery paradigm can also contribute to an increase in student motivation. To be successful in a personalized mastery setting, teachers must embrace a student-centered approach that facilitates learning in an autonomous manner (Priest et al., 2012). Reeve (2002) further discusses the impact of these relationships on student motivation in stating, "the quality of a student's motivation depends, in part, on the quality of the student-teacher relationship" (p. 183). The author further espouses those teacher-student relationships that support student autonomy will likely equate to higher student engagement, achievement, conceptual learning, and a willingness to stay in school. This concept lies in stark contrast to traditional views on teacher-student relationships that focus on controlling behavior, thus reinforcing why personalized mastery paradigms represent second-order change in education (DeLorenzo et al., 2009).

In their seminal work on teenage behavior, Csikszentmihalyi, Rathunde, and Whalen (1996) found that students tend to work harder and concentrate longer on learning activities that they find to be both challenging and important. The learning activities within a personalized mastery setting are designed to be both challenging and important; therefore, this statement accurately reflects why students within these programs tend to display higher levels of motivation. Finally, constructing learning projects that facilitate autonomy, mastery, and purpose parallels seamlessly with Daniel Pink's (2009) research on human motivation. Supporting an individual to work autonomously toward the mastery of an important learning objective is a crucial aspect to

understand in examining student engagement and motivation in a personalized mastery setting.

Perhaps the most challenging change in adopting student-centered personalized mastery paradigms exists in the form of transitioning from a system based on time, to a system based on competence. This is due to the fact that many of the country's learning practices are based on time, as opposed to learning. Time based policies, practices, and systems include: bell schedules, traditional school calendars established on the agrarian schedule, and the attainment of the traditional carnage unit as demonstration of proficiency. The concept of time based learning systems has remained relatively unchanged for over a century (Ravitch, 2000). The design flaws of an educational system based on time have an effect on all students. These effects are outlined by Grant et al. (2000):

> Under today's practices, high-ability students are forced to spend more time than they need on a curriculum developed for students of moderate ability. Many become bored, unmotivated, and frustrated. They become prisoners of time.
>
> Meanwhile, struggling students are forced to move with the class and receive less time than they need to master the material. They are penalized with poor grades. They are pushed on to the next task before they are ready. They fall further and further behind and begin living with a powerful dynamic of school failure that is reinforced as long as they remain enrolled or until they drop out. They also become prisoners of time.
>
> What of the "average" students? They get caught in the time trap as well. Conscientious teachers discover that the effort to motivate the most capable and help those in difficulty robs them of time for the rest of the class. Typical students are prisoners of time, too. (p. 27)

Clear definitions of content mastery accompanied by transparent steps necessary to accomplish mastery, flexible use of time, and the utilization of research-supported best

practices in education make the implementation of personalized mastery paradigms a viable option for educational leaders and reformers across the country. If our students are going to be competitive in a global economy, mastery of crucial skills becomes more important than time on task.

Due to recent educational research, personalized mastery models are quickly becoming a viable option for educational reformers. First of all, we now have an increased understanding behind the mechanisms of learning and retention (Schenck, 2011). Second, we have a greater understanding of the impact of motivation and perceived competence on individual student achievement (Dweck, 2000, 2006). Third, research into effective teaching practices state that students learn differently; therefore, instruction should be tailored to meet the individual needs of the student (Hattie, 2009). Frequent use of skill specific formative assessments for the purpose of providing high quality feedback has shown to have a positive effect on student achievement by allowing them to adjust individual learning strategies and receive targeted support (Hattie, 2009). Finally, making the focus of improvement at the individual level, the school can begin the process of improving the quality of offered programs, thereby improving overall student outcomes (Cox, 2007).

The expansion of personalized mastery educational paradigms is likely to occur as a result of favorable conditions such as government support for new educational paradigms, the development of technology to track and monitor student progress, and increased understanding of the mechanisms involving motivation and learning. In order to understand the conditions necessary for successful implementation, educational leaders

will need to understand the leadership traits and staff traits exhibited within this model. Understanding the links between staff traits and leadership can also help professional training programs better prepare dynamic individuals who will be successful at working within these models.

Summary

Successful transformational leadership in schools involves changing the school culture so that it fosters an environment that encourages teachers and students to achieve individual and organizational goals on a level greater than expected. Research suggests that those leaders engaging in transformational leadership practices support the academic emphasis of the school, teacher collective efficacy, and faculty trust among vested stakeholders (Leithwood & Jantzi, 2006). These variables are important for changing school organizations where students learn and achieve excellence. In particular, student success within a personalized mastery educational paradigm is more likely to be successful when leaders engage in transformational leadership practices that support teacher and stakeholder efforts to create an environment of organizational excellence. Therefore, this model of leadership is a viable option to facilitate the second-order change required to support a personal mastery paradigm.

CHAPTER 3

METHODOLOGY

Introduction

The purpose of this embedded, multiple-case study was to investigate the relationships between transformational leadership behaviors, academic optimism, and student achievement within two schools that are at different stages in their support of a personalized mastery paradigm. Many schools are busy building organizational cultures around incorporating data-driven decision making into their school improvement process (Fullan, 2010); however, many of the models utilizing data-driven decision making do not incorporate staff data. Recent studies have also shown that teachers who establish classroom practices that are student-centered tend to display higher levels of academic optimism (Ngidi, 2012; Woolfolk Hoy et al., 2008); however, researchers have yet to examine academic optimism within a student-centered educational system that supports personalized mastery. The model of personalized mastery education defined these cases. The study was bounded by time and place in that the analysis of the participant data was from Wyoming and Montana during the early months of 2014.

This study also investigated how transformational leadership behaviors are related to the academic optimism of the teaching staff during the change process. The second-order change associated with implementing personalized mastery learning models is difficult and complex (Marzano et al., 2005) and requires leadership that is transformative in nature. Understanding the role of transformational leadership behaviors

in fostering higher levels of academic optimism within the staff through the change process can become a powerful tool for educational leaders to use in school reform efforts.

Academic optimism is a collective staff value that includes the staff traits of academic emphasis, collective efficacy, and faculty trust. All three of these traits have been shown by Hoy et al. (2006a) to have a positive influence on student achievement, even after controlling for student socioeconomic status. The authors further espouse that because the traits of academic emphasis, collective efficacy, and faulty trust have a positive influence on student achievement the larger construct of academic optimism will also have a positive influence on student achievement. Transformational leadership behaviors have also been shown to have a positive correlation with teacher efficacy (Ross & Gray, 2006b), faculty trust (Podsakoff et al., 1990), and academic emphasis (Leithwood & Sun, 2012; Nuguni et al., 2006). Understanding academic optimism and transformational leadership during the change process may present an even clearer picture as to how these constructs characterize schools engaged in second-order change during the implementation of personalized mastery learning models.

This study measured the academic optimism and teachers' perceptions of leadership in personalized mastery educational settings. Data was collected through surveys and interviews in an effort to describe perceived academic optimism levels, and the perceptions relating to transformational leadership behaviors exhibited by principals at two high schools during the change process.

This study also collected data from on-site administrators in the form of structured journaling in order to conduct a Critical Incident Analysis. Participating principals were asked to journal about the transformational leadership behaviors they exhibited as well as their perceptions of teacher academic optimism during the change process. "Critical incidents are an effective vehicle for understanding the personal dramatic of an intervention that may not be apparent through quantitative methods of data collection" (Marrelli, 2005, p. 42). Analyzing critical incidents has also been shown to be an effective way to analyze individual actions while providing participants with a structured opportunity for self-analysis and reflection (Crisp, Green-Lister, & Dutton, 2005). The collected information was critical in gaining a fuller understanding of the administrative perceptions throughout the implementation process and provided the data necessary to address two of the study's research questions.

This embedded, multiple-case study examined transformational leadership and academic optimism perceptions during the change process in two schools that are implementing a personalized mastery learning model. Creswell (2007) states that "in a qualitative study...research questions assume two forms: a central question and associated subquestions" (p. 105). Therefore, this research is framed by the following central and subquestions:

Central Question:

How do educators at two high schools at different stages of implementing personalized mastery learning describe their perceptions of transformational leadership, academic optimism, and the organizational change process?

Subquestions:

1. How do teachers at two high schools at different stages of implementation of personalized mastery learning describe their principals' transformational leadership behaviors?
2. How do administrators from schools at different stages of personalized mastery learning implementation describe their transformational leadership behaviors?
3. How do teachers at two high schools at different stages of implementation of personalized mastery learning describe their academic optimism?
4. How do administrators from two different high schools at different stages of personalized mastery learning implementation describe teacher academic optimism in their school?

For purposes of this study, academic optimism was operationalized using the School Academic Optimism Scale (SAOS) (Hoy, 2005) and transformational leadership was operationalized using the Multifactor Leadership Questionnaire (MLQ) (Avolio & Bass, 2004). An interview protocol was developed to collect rich and thick descriptions of teacher perceptions of academic optimism and transformational leadership. The interviews, in terms of questions and protocol, were identical in both programs and provided a consistent piece and common data in the study. The interview data was collected along with data from validated survey instruments in the two participating programs in the early months of 2014. Finally, qualitative data was collected through a critical incident analysis of journal reports submitted by building principals. The journal entries submitted by principals detailed their perceptions of their transformational

leadership behaviors and teacher academic optimism during the second-order change process. These documents were analyzed using the critical incident analysis procedures outlined by Crisp et al. (2005). These qualitative and quantitate analysis methods were done in an effort to develop converging lines of inquiry (Yin, 2014) hence providing the researcher a more robust understanding of the research questions in the two studied schools.

Research Design

This embedded, mixed-case study will investigate the relationship between teachers' perceptions of academic optimism and transformational leadership. Yin (2014) describes an embedded unit of analysis as "a unit lesser than the main unit of analysis, from which case study data are also collected" (p. 238). In this study, the larger unit of analysis, or single case, is represented by high schools supporting personalized mastery learning practices. The lesser units of analysis, or embedded cases, are the two high schools selected to participate in the study. Analysis of the lesser units should be incorporated into the study in order to provide a fuller understanding of the larger unit; however, the larger unit of analysis can become ignored if too much attention is paid to the embedded subunits (Yin, 2014). In order to prevent a shift toward the subunits, the researcher must be able to examine the information collected from the participating schools in a manner that relates directly to the larger unit of study (high schools supporting personalized mastery learning). This particular study was bounded by time and place because of the unique nature of the personalized mastery model of learning that

defined the cases. The cases were of two different public school programs with different demographics, both of which were in different stages of implementing the personalized mastery model of education. Data was collected in February and April of 2014.

The case study utilized qualitative and quantitative data to address the research questions that support an embedded-case study design. Yin (2014) espouses that mixed methods can help researchers address more complicated questions. The author also states that the use of qualitative and quantitative data in case studies assists researchers in the construction of converging lines of inquiry therefore providing the necessary aspects to consider in the triangulation of the overall results.

Utilizing the School Academic Optimism Scale (SAOS), as well as conducting teacher interviews allowed the researcher ways of measuring teacher perceptions of academic optimism through converging lines of influence. Teacher perceptions of transformational leadership behaviors were gauged by utilizing the Multifactor Leadership Questionnaire (MLQ) and structured teacher interviews. The data collected from these surveys will be analyzed to determine the relationships between principals' transformational leadership behaviors and staff academic optimism. All survey and data will be coded in order to maintain participant confidentiality.

Data was also gathered using face-to-face interviews in a semi-structured, open-ended format discussed by (Creswell, 2007). In utilizing this method, a researcher uses a series of open-ended questions and interjects additional questions in response to participant comments. A strength of this interview method is that it allows the researcher to obtain more information from a single interview within an abbreviated timeframe

(Savin-Baldwin & Major, 2013). All interviews were recorded and transcribed verbatim and were stored in a secure file in order to ensure participant confidentiality.

Finally, data was collected through analyzing critical incident analysis summaries completed by on-site principals. Although there is not a consensus within the literature as to what a critical incident analysis is (Crisp et al., 2005), Tripp (1993) offers a definition in stating:

> The vast majority of critical incidents, however, are not dramatic or obvious; they are straightforward accounts of very commonplace events that occur in routine professional practice which are critical in the rather different sense that they are indicative of underlying trends, motives and structures. These incidents appear to be 'typical' rather than 'critical' at first sight, but are rendered critical through analysis. (P. 24-25)

For the purpose of this study the critical incident will be analyzed through personal journaling. Participating principals will be given the opportunity to document their perceptions of leading a school through the change process toward implementing a personalized mastery educational paradigm.

Methodologically, an embedded case study approach can help answer the research questions proposed in this study. This research utilizes multiple sources of data including: (a) school demographic and achievement data, (b) face-to-face teacher interviews, and (c) statistical tests conducted using the results of two distributed surveys (SAOS and MLQ). Yin (2014) offers support for utilizing case study research in stating:

> The use of multiple sources of evidence in case study research allows a researcher to address a broader range of historical and behavioral issues. However, the most important advantage presented by using multiple sources of evidence is the development of converging lines of inquiry…Thus any case study finding or conclusion is likely to be more convincing and accurate if it is based on several different sources of

information, following a similar convergence. (p. 120).

Participants

Participant numbers are utilized in an effort to employ variation and reliability in the research results through the incorporation of multiple points of view (Creswell, 2007). The teachers and administrators who participated in this study came from a convenience sample and were employed at two high schools utilizing a student-centered personalized mastery model. Actual school names will not be included in this study and will be reported by pseudonyms designed to protect anonymity. The schools participating in this survey include: Rocky Mountain North (Montana) and Rocky Mountain South (Wyoming). Rocky Mountain North (RMN) is an alternative high school located in Montana that has been operationalized as a "school within a school" for "at risk" students. At the time of the study, this school had 23 staff members and served 190 students. All of the staff members serving in this school also work as teachers in the community's public high school, therefore splitting duties between the two buildings. Descriptive data on the surveyed staff will be provided in subsequent chapters. This school is currently in its fourth year of personalized mastery implementation and will represent a school that has successfully navigated through the implementation dip in the change process. Rocky Mountain South is located in Wyoming and is a regular education high school serving students from 9th grade through 12th grade. At the time of the study, this school had 21 staff members and 175 students. Descriptive data on the surveyed staff will be provided in subsequent chapters. This school is currently in its first

year of personalized mastery implementation and will represent a school that has yet to navigate through the implementation dip in the change process.

Data Collection Instruments

This embedded, mixed-case study will utilize multiple forms of data in an effort to analyze converging lines of evidence, or triangulation. Yin (2014) defines triangulation as "the convergence of data collected from different sources, to determine the consistency of a finding" (p. 241). Therefore, this research will utilize both qualitative and quantitative methods to triangulate results and address the study's research questions.

Quantitative Instruments

School Academic Optimism Scale (SAOS). The School Academic Optimism Scale (SAOS), which has been validated by Smith and Hoy (2007), was used in this study. This survey contains 30 questions designed to measure the collective staff properties contained within academic optimism. The first 12 questions on the survey have been validated to measure collective efficacy. Those questions are measured on a 6-point Likert scale. Smith and Hoy (2007) established that the alpha coefficient for this subscale to be alpha = 0.91. Question numbers 13 through 22 have been validated to measure faculty trust. These questions were also measured on a 6-point Likert scale. The alpha coefficient for this subscale was found to be alpha = 0.97 (Smith & Hoy, 2007). Finally, question numbers 23 through 30 have been validated to measure

academic emphasis. This bank of questions was measured using a 4-point Likert scale. The alpha coefficient for this subscale was determined to be alpha = 0.89 (Smith & Hoy, 2007).

Smith et al. (2001) further reported that a factor analysis on the three variables of academic optimism explained 89.83% of the variance within their study therefore supporting the authors' underlying research hypothesis that academic emphasis, collective efficacy, and faculty trust could be combined to create the new construct of academic optimism.

Multifactor Leadership Questionnaire (MLQ). The Multifactor Leadership Questionnaire (MLQ) was also be used in this study. The MLQ (5X short) contains 45 items that measure and identify leadership behaviors that previous research has linked with individual and organizational success (Avolio & Bass, 2004). This survey has been developed and validated by Avolio and Bass (2004). These validation results were subsequently confirmed by Antonakis, Avolio, and Sivasubramaniam (2003).

Question one through 45 have been validated to measure leadership qualities that align with leadership traits of transformational, transactional, and laissez-faire leadership (Avolio & Bass, 2004). These questions were measured on a 5-point Likert scale. The alpha coefficient for each leadership factor was found to range from alpha = 0.74 to 0.94 (Avolio & Bass, 2004).

Qualitative Instruments

This case study research was also conducted through a series of 11 interviews. Each interview consisted of five questions that were designed to determine the individual's perceptions of the applications of academic optimism and their transformational leadership behaviors exhibited by their leadership. Each interview lasted 30-45 minutes and was conducted in a public location that supported a conversation of that duration. The interview results were then compared with the results of the SAOS and MLQ survey data. This was done to determine potential parallels between the collected perceptions and survey results. All collected data was kept confidential and participants will be identified by code only. All notes and recordings of these interviews were locked in a file cabinet during the research. All research materials were subsequently destroyed upon the completion of this study. All participants read and signed the written consent form and were assigned a letter code to protect their identity.

Interview Protocol. The intent of this ethnographic process is to "understand another way of life from the native point of view" (Spradley, 1979, p. 3). After an extensive review of the literature describing transformational leadership, academic optimism, personalized mastery education and second-order change; the interview protocol for teachers was constructed. The interview protocol consists of five questions following the mini-tour and example format (Spradley, 1979). Questions one and two were written with consideration from the MLQ and will help the researcher delve into the types of transformational leadership behaviors that facilitated the change toward a personalized mastery model. Questions three and four are derived from the SAOS and

will help identify traits associated with academic optimism during the change process. Question five was written to examine the level of organizational change in supporting a personalized mastery model of education as perceived by the teacher. The information gained from these interviews provided insights into specific transformational leadership behaviors and academic optimism that characterizes the organizational change process. Question #1: How have your leaders provided you with the knowledge to implement a personalized mastery paradigm?

The first question was designed to collect teacher perceptions of specific actions conducted by building principals to build the necessary knowledge of personalized mastery paradigms during the change process. Leading second-order change requires a tremendous amount of knowledge and capacity development on behalf of all staff members (DeLorenzo et al., 2009); therefore, principals who are leading organizational change need to ensure that "adequate financial, time, personnel, materials and other resources necessary to support teacher development activities are available" (Leithwood et al., 1999, p. 161). These actions are critical in creating opportunities to collectively learn about new models of education. School leaders can further contribute to their teaching staff's capacity for change by creating opportunities for teachers to learn from similar organizational models that are functioning at a higher level than that of the current organization (Leithwood et al., 1999). Finally, principals can provide opportunities for teachers to utilize their new knowledge in ways that develop a shared mission and vision for the school. These are all ways in which leaders can utilize transformational behaviors in ways that build knowledge among teachers.

Question #2: How have your leaders facilitated this change in school process?

Facilitating second-order change within schools is a critical task associated with transformational leadership. There are several behaviors that transformational leaders can exhibit in order to facilitate the change process. First of all, they provide opportunities for teachers to assess their own professional growth needs and provide access to internal and external developmental sources (Leithwood et al., 1999). Allowing teachers to examine professional needs and providing individual support directly aligns with the individual consideration component of transformational leadership. Second, transformational leaders foster the development of a "collaborative school culture within which school improvement efforts and meaningful interactions with colleagues about collective purposes and how to achieve them" (Leithwood et al., 1999, p. 161). Studies have also shown that staff academic optimism can be increased during the change process when teachers feel as though they are free to experiment and implement new teaching practices without fear of reprisal when things do not work out (McGuigan & Hoy, 2006; Smith & Hoy, 2007); therefore, transformational leaders should display the transformational behavior of Individual Consideration when implementing new paradigms. Finally, transformational leaders facilitate change by building collective and self-efficacy of teachers. The increased efficacy of the teaching staff may help reduce the anxiety and apprehension associated with implementing new paradigms (Anderson & Seashore-Louis, 2012; Leithwood et al., 1999; Smith & Hoy, 2007). These are basic activities outlined within the literature as to how transformational leaders facilitate change within an organization.

Question #3: How has this change been beneficial to students?

Teachers who have personally witnessed increased levels of student success are likely to display an increased sense of academic optimism (McGuigan & Hoy, 2006). Smith and Hoy (2007) further espouse that academic optimism is a collective trait that can be learned throughout an organization. The authors support this belief:

> Academic optimism can be learned and if it is, then increased success and better performance are likely to follow. Clearly, the relationship between academic optimism and achievement is reciprocal. Optimism facilitates achievement, but achievement reinforces and enhances optimism. The two concepts are not only compatible but also complementary. (p. 565)

This statement clearly depicts the concept that principals looking to implement new learning paradigms can have an impact on the academic optimism of the staff by highlighting academic success attained as a result of implementing new practices.

Question #4: How has this change affected the way in which you operate your classroom and interact with students?

> Almost by definition, teachers who believe in centering their teaching on their students must trust their students to cooperate in the teaching-learning process. These teachers must trust their own abilities to support student learning. Thus, student-centered teachers also might be optimistic about their own teaching and their students' learning (Woolfolk Hoy et al., 2008, p. 825).

Understanding the nature of a teacher's classroom practices and his/her student interaction can provide valuable insight into that teacher's level of academic optimism. A teacher who has a higher sense of academic optimism tends to be a professional who "manages students in humanistic and trusting ways, involves students in planning and evaluating their own work, uses informal assessments, welcomes parents into the classroom, and goes the extra mile to give time, energy, and help to students" (Woolfolk

Hoy et al., 2008, p. 831). Therefore, incorporating student-centered paradigms, such as those outlined by personalized mastery learning, can have a profound positive effect on teacher academic optimism.

Question #5: If given the opportunity, would you prefer a return to teaching within a traditional model of education?

Going through second-order change can cause teachers to feel a great deal of anxiety. These perceptions can be linked to a fear of change and feelings of inadequate technical skills to successfully facilitate the change (Fullan, 2001). Transformational leaders will work with teachers in a manner that creates a moral purpose for change (DeLorenzo et al., 2009; Fullan, 2010) therefore providing teachers with an understanding of why the change is necessary. Teachers are not as likely to support new educational models if they do not perceive them as being beneficial to student learning and/or their professional practice (Hall & Hord, 2011; Nuguni et al., 2006). Understanding a teacher's level of commitment to a change can provide educational leaders with a great deal of insight into the future success of new educational practices. Hall and Hord (2011) highlight the importance of collecting perceptions in the eventual success, or failure, of changing educational practices:

> In schools that have created such organizational conditions, the staff collectively reflects on its work with students and assesses its influence on student performance. In this collegial inquiry, the staff may identify areas for improvement. Interestingly, addressing these improvement targets begins with the staff's identification of what *they* must learn in order to more effectively help students become more successful learners…Having such a learning-oriented staff can contribute profoundly to how the change process unfolds and ultimately succeeds in a given school. (p. 16)

Furthermore, Marzano et al. (2005) lend additional support to the concept that a collective effort between teachers and principals is required to successfully undertake second-order change:

> Within second-order change situations, the responsibility of the Change Agent shifts its emphasis to inspiring faculty to operate at the edge of their competence. This shift in focus is necessary because by definition the school has undertaken a change initiative that will require teachers and administrators to perform at their best. (p. 118)

In order to develop and refine the study's interview protocol, the researcher conducted a brief interview pilot to examine the questions for clarity and purpose. Analyzing interview questions for clarity and purpose prior to the study is a great way to facilitate impactful interviews therefore providing the researcher with quality data for analysis in the study (Savin-Baldwin & Major, 2013). The interview questions were piloted with a small group of educators serving in one of the studied districts. The pilot group consisted of two district-level administrators and three teachers. The participants were given a copy of the study's interview protocol questions to review for clarity and a trial interview was conducted. Upon completion, the participants were asked to provide the information about the clarity and order of the questions. The information gleaned was used to refine the questions to ensure simple language that was direct to the intended purpose (Savin-Baldwin & Major, 2013). Data collected in the pilot study was also critical in ordering the interview questions. Administrators and teachers participating in the pilot study were not asked to be a part of the final research study. The pilot occurred during the second week of April 2014.

Critical Incident Analysis. The critical incident aspect of this study was conducted and analyzed through research journaling. "Critical incidents are an effective vehicle for understanding the personal, dramatic impact of an intervention" (Marrelli, 2005, p. 42). This was accomplished in order to provide the researcher with an understanding of the depth and breadth of the experience associated with leading second-order change (Marrelli, 2005). Participating principals were given the opportunity to document their perceptions of their transformational leadership behaviors and teacher academic optimism through the second-order change process associated with implementing a personalized mastery educational paradigm. The information gained through this analysis provided valuable insight into principal perceptions of academic optimism and their own transformational leadership behaviors during the change process. Subsequent interviews were conducted in order to ensure the accuracy of the perceptions that were shared during the journaling process.

Procedures

The SAOS and MLQ, along with questions collecting demographic information, were distributed to the staff in both participating schools during weekly staff meetings via an online survey program called SurveyMonkey. The researcher provided the participants with a verbal statement describing the study along with a written statement outlining the voluntary nature of the study. Participants were then allowed to read and complete the consent form agreeing to take part in the study. Teachers were free to stop

taking the survey at anytime if they decided they no longer wanted to be a part of the study. All survey data was collected using an online format that maintains participant confidentiality.

All staff members of the participating schools were given the opportunity to complete the surveys after a brief description of the concepts surrounding transformational leadership and academic optimism. There were 44 surveys distributed to the staff members in the two schools. Of the distributed surveys, there were a total of 41 surveys that were started using the SurveyMonkey online collection instrument. Upon collection of final results, four surveys were not completed; thus, the results of those surveys were discarded. This left a total of 37 completed surveys (20 Rocky Mountain North and 17 Rocky Mountain South), which were utilized for further data analysis. Subsequently, data was gathered using face-to-face interviews in a semi-structured, open-ended format discussed by Creswell (2007) and Yin (2014). A total of 11 teachers were interviewed as part of this study (five Rocky Mountain North and six Rocky Mountain South).

Data Analysis

Quantitative Methods

Once the completed surveys were collected from all participating schools, they were scored and summarized. Teacher responses were then entered into SPSS Statistics for descriptive and comparative analysis. Comparative analysis in this study focused on comparing the academic optimism and perceptions of transformational leadership

behaviors between the two schools. First, teacher responses on the SAOS and MLQ were summarized and the results were reported descriptively. Next, transcripts from teacher interviews and principals' research journals from the two schools investigated were analyzed qualitatively. These comparisons provided the researcher with an understanding of the processes involved with the second-order change process associated with implementing a personalized mastery learning model. Utilizing multiple sources of data to describe the relationships between academic optimism and transformational leadership during the change process adds to the richness of the study and outlines the transferability of the study.

Qualitative Methods

Analysis of qualitative data began by collecting all interview responses and entering their comments verbatim into a database. The database was completed after each participant's entire set of responses underwent multiple readings to ensure the accuracy of the transcription process. The next step in data analysis consisted of identification of key points and categorization of common themes and codes as discussed by Creswell (2007). This process allowed the researcher to form of a working definition for each code, thus, allowing the data to be categorized into specific units of analysis. In this case, the units of analysis represented the groups of teachers from the two different schools. Thus, creating a working definition for each code and allowing the data to be examined in a systematic fashion. For example, quotes relating to student achievement were coded AE for academic emphasis. "Last year we had over 20 students on the ineligible list. This year it was six. This is a great sign that we are moving in a direction

that holds students accountable for their learning" was a statement provided by RMS#6 to display this concept. This data was then organized into themes that encompass the complex and rich nature of the data in a manner that addresses the study's research questions. For example, quotes that were coded AE (academic emphasis), CE (collective efficacy) and FT (faculty trust) were organized under the theme of AO for academic optimism. A number of examples were extracted from the data in the form of specific quotations and were assigned to each theme. Finally, the coded data was organized into themes that would accurately represent the complexity of the data and best answer the study's research questions. The coded data fit well into the three themes of transformational leadership, academic optimism and personalized mastery learning.

Research journals were initially cross-examined by both participating principals to ensure their perspectives were accurately represented in the results. Both principals began the analysis process with multiple readings of each participant's complete submission. As the research journals were read in their entirety, both researchers identified key points, common aspects and divergent statements. In this case, the two principals represented the units of analysis. These key points, common aspects and divergent statements were used to form a preliminary set of codes. A working definition for each code was discussed and utilized in a manner that allowed for the systematic analysis of the data. The two principals met to discuss similarities and differences between the coded data. When a difference was noted, a discussion occurred to further analyze that segment until the two individuals could agree on a code. When an agreement could not be reached, a new code was created that could encompass that

segment of data. For example, quotes relating to book study groups were coded IS for intellectual stimulation. "I began a book study of DeLorenzo's *Delivering on the Promise* with the RMS staff and co-facilitated a class with a Montana State University professor that allowed teachers to earn college credit while studying standards and assessments" was an example provided by Bruce Koppinger to highlight this code. This data was then organized into themes that allowed for the further analysis within the study. For example, quotes that were coded II (idealized influence), intellectual stimulation (IS), inspirational motivation (IM) and individual consideration (IC) were organized under the theme of transformational leadership (TL). A number of examples were extracted from the data in the form of specific quotations and were assigned to each theme. Finally, the coded data was organized into themes that would accurately represent the complexity of the data and best answer the study's research questions. The coded data fit well into the three themes of transformational leadership, academic optimism and personalized mastery learning.

Trustworthiness

Trustworthiness in qualitative research is a process by which procedures are designed and utilized to improve the credibility, dependability, confirmability, and transferability of a study (Creswell, 2007; Maxwell, 2005; Savin-Baldwin & Major, 2013). The procedures utilized in this case study to improve trustworthiness include: triangulation, member checking, providing a thick and rich description of the participants, and clarifying the researchers positionality in relation to the research. These items, and

their relation to the study's credibility, dependability, confirmability, and transferability are described in more detail below.

Yin (2014) describes the necessity of triangulation in case study in order to develop "converging lines of inquiry". In this case study, qualitative and quantitative techniques were used to examine the constructs of transformational leadership and academic optimism during the second-order change process associated with implementing personalized mastery educational paradigms. "Triangulated techniques are helpful for cross-checking and used to provide confirmation and completeness, which brings 'balance' between two or more different types of research" (Yeasmin & Rahman, 2012, p. 157). Combining multiple methods in data collection in this study serves to corroborate the findings from the same individuals on the same topic (Yeasmin & Rahman, 2012). Therefore, triangulated methods utilized in case study research helps to increase the dependability and confirmability of the results by overcoming some of the potential weaknesses or biases associated with a single-construct, single-observer methodology (Savin-Baldwin & Major, 2013; Yeasmin & Rahman, 2012).

Due to the fact that multiple methods of inquiry contribute to overcoming potential weakness and biases, triangulated techniques also add to the overall credibility of the study (Cao, 2007). Credibility in this study was further addressed through the use of multiple data sources as well as a chain of evidence, which allows an external observer to follow the derivation of any research from initial research questions to ultimate case study conclusions. To accomplish this, considerable efforts were taken in order to display links "showing how findings come from the data that were collected and in turn

from the guidelines in the case study protocol and from the original research questions" (Yin, 2014, pp. 237-238). Construct validity has been addressed by defining successful implementation, engagement, academic optimism, and transformational leadership. External validity was addressed by creating pressing how and why questions.

Member checking involves soliciting participants' perspectives on the credibility of the research findings (Creswell, 2007). Interview participants were allowed to review the draft of the research findings in order to check for the accuracy of specific findings as well as their direct quotations. This procedure added to the richness of the study by corroborating the essential findings and validating the interpretations presented in the evidence (Yin, 2014). During the second week of July 2014, the findings of this report were presented to participants in Montana and Wyoming in order to determine their overall perceptions as to the accuracy of the data. Additions and/or clarifications have been included in the appropriate section.

By providing a thick and rich description of the setting and participants, case study researchers can decide if the findings could be transferred to other similar cases (Creswell, 2007; Krefting, 1991). Whenever possible, the researcher used descriptive language to convey the sense of the environment at Rocky Mountain North and Rocky Mountain South. Maintaining the confidentiality of the participants was the number one priority; however, whenever practical, the researcher attempted to accurately describe the perceptions of teachers working in schools that support a personalized mastery model of learning.

Finally, the qualitative researcher must address his/her individual positionality in order to contribute to the credibility of the findings (Berg, 2007). At the time of the study, I was serving as an educational leader at Rocky Mountain South in Wyoming. As a serving educational leader with an extensive understanding of the concepts surrounding personalized mastery educational paradigms, I undoubtedly hold several biases concerning this model. I have observed institutions that have fully implemented these practices as well as the educational gains that have been made during the early stages of implementation at Rocky Mountain South. As an educator I have an appreciation of the impact that this second-order educational change can have; however, as a researcher I worked to maintain a high level of objectivity in order to uphold the integrity of this study. Finally, the willingness by the participants to take part in the interview process could have been biased due to my leadership position.

Role of the Researcher

In any case study, it is critical to analyze the role of the researcher in order to address potential "threats" to the internal validity of the research (Yin, 2014). It is not necessary for the interviewer to have the exact same set of experiences as an interviewee; however, a trusting bond between the two parties is more likely to form when commonalities exist (Berg, 2007). In educational research, a researcher may represent a:

> teacher, participant, observer, interviewer, reader, storyteller, advocate, artist, counselor, evaluator, consultant, and others. Although the rules of research oftentimes seem prescribed and restrictive, the styles researchers follow in designing, studying, writing, and consulting vary considerably. Each researcher consciously or unconsciously makes decisions about how

much emphasis to give each role. (Stake, 1995, p. 91)

At the time of the study, I was serving as an educational leader at Rocky Mountain South. As a serving educational leader with an extensive understanding of the concepts surrounding personalized mastery educational paradigms, I undoubtedly hold several biases concerning this model. I also believe that my position as an educational leader at Rocky Mountain South provided me with a profound insight into the collective experiences of the teachers who exhibited a great deal of time and energy in implementing the second-order change necessary to support this paradigm. My position as an educational leader, combined with my professional knowledge of the staff members, was also necessary in gaining access to the staff at Rocky Mountain North. Savin-Baldwin and Major (2013) offer support for this type of access in stating, "When selecting a site, it is important to choose one to which you will be able to gain access. Typically, knowing a 'gatekeeper' can help with access" (p. 308); therefore, using my positionality to gain access to and collect data from Rocky Mountain North for the purpose of comparison increases the reliability of the study. Utilizing data from another source also helps me to examine personal bias and address potential "threats" to internal validity (Yin, 2014).

Finally, I am aware of the fact that researcher bias could become a liability in the reliability of the results of this study (Creswell, 2007; Savin-Baldwin & Major, 2013). Therefore, every effort was made to maintain an appropriate level of objectivity within this study. This was accomplished through triangulation of data, multiple methods of data collection, and carefully designed procedures.

Summary

The purpose of this embedded-case study was to investigate potential relationships between transformational leadership behaviors and academic optimism within an educational setting that supports a personalized mastery paradigm. This study utilized quantitative means to examine subcomponents of transformational leadership and academic optimism. This was accomplished by distributing the SAOS and MLQ to staff members at participating schools through an online format. Once the surveys were collected and scored, the researcher conducted descriptive analysis in SPSS Statistics to examine means and standard deviations of the variables tested. Qualitative methods were also used as part of this study. Semi-structured interviews were conducted with teachers working at the two participating schools and a critical incident analysis was conducted of journal entries submitted by participating building principals. This was accomplished in an attempt to triangulate data sources and develop converging lines of inquiry. Finally, the collected data generated recommendations as to how these results can be applied to other academic settings and also provided suggestions for further research.

CHAPTER 4

RESULTS

Introduction

The purpose of this embedded, multiple-case study was to investigate teacher and administrator perceptions of transformational leadership behaviors and academic optimism within two schools that are at different stages in the implementation of a personalized mastery paradigm. Data analysis for this study included teacher interviews and principal journals from Wyoming and Montana in addition to the teacher results from the Multifactor Leader Questionnaire (MLQ) and the School Academic Optimism Scale (SAOS). Qualitative data in the form of teacher interviews and principal journals were critical in order to characterize the cases as well as answer the research questions in this study. Quantitative data served to further reinforce the informational gleaned from qualitative methods.

This study was designed to analyze perceptions of transformational leadership and academic optimism in two schools at two different points in implementing personalized mastery educational paradigms. The following research questions were explored:

Central Question:

How do educators at two high schools at different stages of implementing personalized mastery learning describe their perceptions of transformational leadership, academic optimism, and the organizational change process?

Subquestions:

1. How do teachers at two high schools at different stages of implementation of personalized mastery learning describe their principals' transformational leadership behaviors?
2. How do administrators from schools at different stages of personalized mastery learning implementation describe their transformational leadership behaviors?
3. How do teachers at two high schools at different stages of implementation of personalized mastery learning describe their academic optimism?
4. How do administrators from two different high schools at different stages of personalized mastery learning implementation describe teacher academic optimism in their school?

Description of the Cases

This case study investigated two high schools located in the United States. One was located in Montana; the other was located in Wyoming. Both schools were in the process of implementing personalized mastery educational paradigms as outlined by DeLorenzo et al. (2009). Thus, the selection of the two cases in this study follows the "Typical" model outlined by Seawright and Gerring (2008) because the "specified field relationship" (p. 297) associated with supporting a personalized mastery model of learning. Further consideration was given in selecting the two cases based on the amount of time each school has experienced in implementing their personalized mastery model of education.

Rocky Mountain North (RMN) is a "school within a school" for "at risk" students located in a Montana high school. At the time of the study, this school had 23 staff members and served 190 students. The 23 surveyed members of the RMN staff also teach within the community's public high school; therefore, all of the RMN staff work part-time within a personalized mastery model of education. This part-time aspect has the potential of influencing their educational paradigm to align with either traditional educational practices or personalized mastery learning practices, therefore exhibiting the potential do demonstrate a bias toward one of the two educational models. This school is currently in its fourth year of personalized mastery implementation and represents a school that has successfully navigated through the implementation dip in the change process.

Rocky Mountain South (RMS) located in Wyoming is a public high school that educates students from 9th grade through 12th grade. At the time of the study, this school had 21 staff members and 175 students. This school is currently in its first year of personalized mastery implementation and will represent a school that has yet to navigate through the implementation dip in the change process. All of the staff members at this school were provided with professional development from Richard DeLorenzo to discuss personalized mastery education in the spring of 2013. This initial professional development was supported by subsequent visits to schools implementing models of personalized mastery education. At the time of the study, the staff members at RMS varied in their classroom support of these models of learning. Further demographic

information describing the population samples of the two schools is described in Tables 2 and 3.

Table 1 shows the survey and interview completion data for staff members in Montana and Wyoming. Twenty-three MLQ and SAOS surveys were distributed via SurveyMonkey to staff members at the RMN. The staff completed 20 surveys thus representing an 87% response rate. The same process was used to distribute 21 surveys to the staff of RMS and 17 surveys were returned representing an 81% response rate. There were 44 total surveys distributed between the two schools and 37 were returned representing an 84% overall response rate. Finally, a total of 11 semi-structured staff interviews conducted between the two schools. There were five interviews conducted with RMN staff and six interviews conducted with RMS staff. The interview protocol utilized in all 11 interviews was identical. Convenience sampling was used to select the educators for the interview process. Both qualitative and quantitative data collection methods were prefaced with a statement that satisfied Montana State University's Institutional Review Board protocol requirements.

Table 1. Survey Completion Data of the Study Participants

School	Surveys Administered	Surveys Completed	Survey Completion Percentage	Staff Interviews
RMN	23	20	87%	5
RMS	21	17	81%	6
Total	44	37	84%	11

Table 2 displays the demographic information of the participants in the study. Rocky Mountain North had nine male and 11 female staff members, while Rocky Mountain South had 10 male and seven female staff members participate in the study.

The average teaching experience of the RMN staff members was 11.0 years and the average teaching experience of the RMS staff was 15.0 years. The total teaching sample had an average teaching experience of 13.8 years. The largest demographic in terms of overall teaching experience at RMS was teachers with 15 or more years. That group accounted for 39%, or 7 of 18 in that school's sample. On the other hand, the largest demographic in terms of overall teaching experience at RMN were teachers with eight to 14 years. This group accounted for 60%, or 12 of 20 in that school's sample. Both groups of teachers had a similar average in terms of experience in their current school with RMN averaging 5.3 years and RMS averaging 5.1 years. The largest demographic in terms of experience in their current school at RMS was teachers with one to four years of experience. That group accounted for 82%, or 14 of 17 in that school's sample. Conversely, the largest demographic in terms of experience in their current school at RMN was teachers with four to seven years. This group accounted for 35%, or seven of 20 in that schools sample.

Table 2. Demographic Information of the Study Participants

School	Male	Female	Average Years of Teaching Experience	Average Years of Experience in Current School
RMN	9	11	11.0	5.3
RMS	11	7	15.0	5.1
Total	20	18	13.8	5.3

Table 3 displays the educational attainment of the study participants. Both schools exhibited a similar percentages of teachers who had attained a Master's Degree or better with 65%. Rocky Mountain North's respondents reported that 50%, or 10 of 20

had attained a Master's Degree. The participants at Rocky Mountain South reported that roughly 29%, or five of 17 had either completed some graduate work, held a Master's Degree or had performed some advanced graduate level work. The educational attainment reported by the two schools shows that the majority of teachers surveyed have attained educational levels that are beyond the minimum teaching requirement of a Bachelor's Degree.

Table 3. Educational Attainment of the Study Participants

School	Bachelor's Degree	Some Graduate Work	Master's Degree	Advanced Graduate Work	Advanced Graduate Degree (Ed.S.)	Doctoral Degree (Ed.D./Ph.D.)
RMN	5%	30%	50%	15%	0%	0%
RMS	6%	29%	29%	29%	0%	6%
Total	5%	30%	41%	22%	0%	3%

Data Management

Once the interviews and transcriptions were completed, the individual data was secured in files that identified the participant's code and contained the interview transcription. In addition to the hard file, each participant's interview transcription was maintained electronically in three different locations. Survey results were also maintained electronically in three different locations. The participant consent forms were stored separately in a locked storage area as required by the Institutional Review Board at Montana State University. All forms of data collected in this research were destroyed upon the case study's completion.

Findings Related to the Research Questions

Research Question #1

How do teachers at two high schools at different stages of implementation of personalized mastery learning describe their principals' transformational leadership behaviors?

Teacher perceptions on the transformational leadership behaviors differed to a slight extent between the two schools. The first step in answering this question is to disaggregate the data that was collected from the Multifactor Leadership Questionnaire (MLQ). This instrument was designed to measure the five factors comprising transformational leadership as described by Avolio and Bass (2004). Those five factors include: idealized influence (attributes), idealized influence (behaviors), inspirational motivation, intellectual stimulation, and individual consideration. The MLQ asks teachers to rate their perceptions of transformational leadership behaviors on a 5-point Likert Scale from 0 = "Not at all" to 4 = "Frequently, if not always". The results were then scored in the manner outlined by Avolio and Bass (2004) and categorized according to alignment with the five factors of transformational leadership. The MLQ results in the form of means and standard deviations from both schools are contained in the following table.

Table 4. MLQ Results for RMN and RMS

Factor	N	Mean	Standard Deviation
Idealized Influence (Attributes)			
RMN	20	3.41	0.94
RMS	17	3.09	0.90
Overall	37	3.26	0.93

Table 4. MLQ Results from RMN and RMS (Continued)

Factor	N	Mean	Standard Deviation
Idealized Influence (Behaviors)			
RMN	20	3.33	0.85
RMS	17	3.44	0.58
Overall	37	3.38	0.74
Inspirational Motivation			
RMN	20	3.55	0.73
RMS	17	3.56	0.76
Overall	37	3.55	0.74
Intellectual Stimulation			
BAP	20	3.08	0.97
HSCHS	17	3.07	0.93
Overall	37	3.07	0.94
Individual Consideration			
RMN	20	3.16	0.99
RMS	17	3.01	0.70
Overall	37	3.09	0.86

Table 5. Average Score of the Five Transformational Leadership Factors for RMN and RMS

School	Average Score of the Five Transformational Leadership Factors
RMN	3.31
RMS	3.22

Analysis of the means observed in both schools indicates that teachers perceive transformational leadership behaviors to be exhibited "Fairly Often". Both sets of teachers also provided responses that scored above a three in all five factors of transformational leadership. According to the MLQ results, the means from both groups of teachers perceived inspirational motivation to be the most prevalent transformational leadership trait to be displayed. Inspirational motivation is a vital trait in leading second-order change because it requires transformational leaders to "…become a source of inspiration to others through their commitment to those who work with them, their perseverance to a mission, their willingness to take risks, and their strong desire to

achieve" (Avolio & Bass, 2004, p. 26). Burns (1978) further espouses that transformational leaders motivate others to transcend their own self-interests for the purpose of accomplishing higher level organizational goals. This trait encompasses instilling a vision of what is possible and providing a road map to accomplish that vision (Avolio & Bass, 2004; Leithwood & Jantzi, 2006). Increased inspirational motivation can have a positive effect on creating conditions that foster positive organizational change (Kruger et al., 2007). MLQ results further reveal that intellectual stimulation and Individual Consideration were perceived to be the lowest among the surveyed staff. However, both factors exhibited a mean greater than 3.0, which means that those factors were exhibited "Fairly Often".

The following statements provided during individual teacher interviews support findings from the MLQ that suggest transformational leadership behaviors related to Inspirational Motivation were a factor that was readily observed by teachers in both schools. For example, one teacher working in RMN expressed that, "(Bruce) created a burning platform for change by continually sharing his vision of what the model could look like (at Rocky Mountain North). In fact, without his enthusiasm, we would have likely gone another direction and quit when things became difficult" (RMN#2). This teacher's perceptions suggest that the principal of this school articulated a vision that was appealing and inspiring. The vision created by this principal about the benefits of participating in a personalized mastery learning model is clearly a defining characteristic of inspirational motivation.

Another defining characteristic of transformational leaders who engage in behaviors related to inspirational motivation is when they communicate in ways that make the vision, in this case the use of personalized mastery learning models, understandable, precise, powerful and engaging. These transformational leadership behaviors were further evidenced by another teacher (RMN#4) who verbalized, "We were encouraged to try new ideas at every step. (Bruce) gave us the green light to go forward and explore some of these concepts. If things worked? Great. If they didn't? We learned something and moved on from there." Evidence further supporting the importance of transformational leaders' behaviors that inspire and motivate teachers to move forward based on the vision of implementing personalized mastery learning models was captured when one teacher (RMS#3) expressed, "The biggest change is that we were able to have a voice in the process. We were motivated to be a part of something that made things better for staff and students. The support provided by Travis during this time was amazing. The book talk, going to Rocky Mountain North, having DeLorenzo here, and the visit to other schools in the model provided some of the best PD." When transformational leaders engage in behaviors that inspire their followers to engage in second-order change such as that required by the personalized mastery learning model, their followers are willing to invest more effort in their tasks and they are encouraged and optimistic about the future and their professional abilities. For example, one teacher (RMS#5) commented, "We have been encouraged as a staff to examine traditional practices and realign to the model. This has been a great change in my classroom because I am able to focus on student learning, not just providing a grade."

An additional defining transformational leadership behavior that emerged during the teacher interviews was the concept of idealized influence. This behavior is important to leading second-order change because it instills a tendency for followers to view their leaders in a favorable way and further identify with the leader and their mission (Avolio & Bass, 2004).

The following comments presented during the teacher interviews further support the MLQ findings relating to idealized influence being a transformational leadership behavior readily observed in both schools. For example, a Rocky Mountain North teacher (RMN#3) stated, "We were really instilled with a sense of urgency for implementing this (personalized mastery model of learning). Our leadership did a great job of creating that burning platform for change in discussing what was wrong with traditional teaching models and helping us understand what we were trying to accomplish…It made implementation so much better to know that we weren't alone." This teacher's perceptions suggest that the principal considered the perspectives of the teachers during the implementation of the school's desired model of education by challenging the status quo and offering support facilitating the change, thereby empowering teachers to serve as an active participant during the change process. This is a dramatic departure from some traditional models of educational leadership by which the decision-making process is driven from the top. An additional teacher (RMS#4) offered support for the high perception of idealized influence when facilitating second-order change in stating, "It has taken a lot of trial and error so far, and I am sure that there will be more of that in the future…It's good to know that we aren't going to get dinged if we

are trying to do something creative." This teacher's perceptions reflect traits associated with idealized influence that support a school culture that values the ideas of others and allows them to try those ideas by supporting a willingness to take risks that facilitate change.

Research Question #2

How do administrators from schools at different stages of personalized mastery learning implementation describe their transformational leadership behaviors?

This question was addressed by comparing research journal entries submitted by the two building principals. The entries were coded to determine trends and were examined in a manner that aligned with the critical incident analysis that was outlined by Crisp et al. (2005). Both principals indicated that they perceived implementing personalized mastery models of education would represent second-order change therefore requiring leadership behaviors that are transformative in nature. The two principals had other things in common during the early implementation of their school's model. First of all, they both conducted a book study of *Delivering on the Promise* (DeLorenzo et al., 2009) with their staff. Second, they arranged for on-site visits to other schools that had successfully navigated through their organization's implementation dip and have successfully implemented their model. Finally, they both reached out to external sources to provide on-site professional development for staff members.

Evidence to support the principals' perceptions of transformational leadership behaviors relating to Intellectual Stimulation is represented in the following entry: "I began a book study of DeLorenzo's *Delivering on the Promise* with the RMS staff and

co-facilitated a class with a Montana State University professor that allowed teachers to earn college credit while studying standards and assessments. I soon recognized that there was general agreement in terms of philosophy of performance-based instruction and assessment, but there was no concept on how the system actually worked in individual classrooms. As a result, I contacted (another school supporting a personalized mastery learning model) and requested a site visit in the spring of 2011" (B. Koppinger). This principal's actions support the factor of intellectual stimulation by facilitating an increased conceptual knowledge of the workings of personalized mastery paradigms thereby developing staff capacity and exploring the new and innovative methods required for accomplishing the school's goals. Additional support for behaviors related to intellectual stimulation was outlined when the RMS principal recorded, "In May of 2013, I was able to bring Mr. Richard DeLorenzo to (Rocky Mountain South) for a two-day visit. This visit provided our staff with an amazing opportunity to learn about the personalized mastery model from the individual who developed it. The first day of the visit consisted of a rich conversation of the workings of the model; the second day consisted of discussing the next steps in implementation. The second day is where I had the realization that many staff members were hungry for a change in their teaching practices" (T. Anderson). These behaviors assist teachers in implementing new models of learning by providing them the access to the resources needed to build professional knowledge which in turn increases their collective capacity in playing an active role in development and implementation.

Critical incident analysis of the principal research journals also reveals strong examples of the transformational leadership behavior of individualized consideration. This trait requires leadership capacity in "understanding and sharing others' concerns and developmental needs and treating each individual uniquely" (Avolio & Bass, 2004, p. 28). Transformational leaders are well aware of the fact that every associate has a different set of experiences and beliefs; therefore, they will have to exhibit individual consideration in order to further build the critical capacity needed to accomplish the organization's goals. This construct is supported in the following principal journal entry: "I soon recognized that there was general agreement in terms of philosophy of performance-based instruction and assessment, but there was no concept on how the system actually worked in individual classrooms. As a result, I contacted (another school supporting a personalized mastery learning model) and requested a site visit in the spring of 2011" (B. Koppinger). The principal acknowledged the staff's inconsistent conceptual understanding of personalized mastery learning and worked with them in a manner that moved all teachers toward the goal of supporting a new learning model. Further evidence of behaviors aligned with individual consideration is expressed in the following RMS principal's journal entry: "Upon completion of the book study, several teachers continued to state that they thought this model was great, but they had some reservations due to the fact that they still didn't know what it looked like. At this time, I felt that it was critical for the RMS staff to have the opportunity to view a school that had successfully implemented a personalized mastery approach to education" (T. Anderson).

Principal perceptions of transformational leadership behaviors were different from the teacher perceptions in terms of which behaviors were required for second-order change. Results gathered from the MLQ and teacher interviews reveal that Idealized Influence and Inspirational Motivation were the two behaviors that teachers perceived to be the most prevalent. However, the two principals primarily shared their behaviors that were centered on Intellectual Stimulation and Individual Consideration. This difference is likely attributed to the different perspectives of principals and teachers during the second-order change process.

Journal entries were also collected to support the RMN principal's perceptions of navigating through the implementation dip. According to Fullan (2001) and Hall and Hord (2011), navigating through an implementation dip is a process, not a single event thereby working through many small changes in personal practice as well as organizational culture. This requires staff members to practice and refine a whole new set of skills as a new school culture takes shape. Fullan (2001) presents the term 'reculturing' as, "a change in the way we do things around here" (p. 44); hence, recultured organizations have successfully navigated through the implementation dip associated with second-order change. The journal entry submitted by the RMN principal to reflect a recultured organization states, "After the first year of implementation, the Rocky Mountain North staff was able to make great strides in terms of their understanding of the model and also learned solid instructional and assessment strategies that made the system work better for all students. This understanding and practice represented a big step and gave the staff the confidence to continue forward" (B.

Koppinger). The systematic practice of instructional and assessment strategies to support a personalized mastery model of learning provide valuable insight into the genesis of a recultured organization. This perception highlights how this school was able to navigate through an implementation dip and facilitate second-order change.

Research Question #3

How do teachers at two high schools at different stages of implementation of personalized mastery learning describe their academic optimism?

High teacher academic optimism has been shown to have a positive effect on student achievement, even when controlling for student socioeconomic status (Hoy et al., 2006a). The first step in answering this question is to break down the data that was collected through use of the School Academic Optimism Scale (SAOS). This instrument was designed to measure the three factors comprising academic optimism as described by Hoy et al. (2006a). These three factors include, Academic Emphasis, Collective Efficacy, and Faculty Trust. Questions number 1-22 are scored on a 6-point Likert Scale from 1 = "Strongly Disagree" to 6 = "Strongly Agree". Questions 23-30 are scored on a 4-point Likert Scale from 1 = "Rarely" to 4 = "Very Often". The SAOS was scored according to the directions outlined by Hoy et al. (2006b) to determine scores for the three factors of academic optimism as well as over all academic optimism. The mean raw SAOS scores and standard deviations were standardized to a score scale using a mean of 500 and a standard deviation of 100 (McGuigan & Hoy, 2006). The SAOS results in the form of means, standard deviations, and z-scores from both schools are contained in the following table.

Table 6. SAOS Results for RMN and RMS

Factor	N	Mean	Standard Deviation	z-score
Academic Emphasis				
RMN	20	629.81	215.06	2.70*
RMS	17	661.20	231.16	2.88*
Overall	37	644.23	220.02	3.99*
Collective Efficacy				
RMN	20	644.70	190.72	3.13*
RMS	17	690.37	147.37	5.33*
Overall	37	665.68	171.41	5.88*
Faculty Trust				
RMN	20	615.38	179.01	2.88*
RMS	17	714.93	171.98	5.15*
Overall	37	661.12	180.52	5.43*
Academic Optimism (Overall)				
RMN	20	629.96	167.45	3.47*
RMS	17	688.84	168.74	4.61*
Overall	37	657.01	168.34	5.67*

* Note. $p<.05$

Results from the SAOS indicate that both groups of teachers displayed high perceptions of academic optimism. Academic optimism scores of 629.96 (RMN) and 688.84 (RMS) indicate that both schools exhibited scores that were well beyond the nationally normed average score of 500 (Hoy et al., 2006b), therefore demonstrating that perceptions of academic optimism are exceptionally high among both sets of teachers. McGuigan and Hoy (2006) further share that schools scoring above a 600 on the SAOS exhibit higher academic optimism than 84% of schools in the original SAOS norm group. All mean scores for both schools across the three School Academic Optimism factors exceeded a mean score of 600.

Statements collected through the interview process accurately reflect this elevated level of academic optimism. Academic emphasis is described as "the extent to which a

school is driven by a quest for academic excellence" (Hoy et al., 2006a, p. 427). This trait can be further described through student test scores, student achievement data, teacher perceptions of their dedication to the school, or judgments of the effectiveness of the school (Hoy et al., 2006b). Therefore, observations of student success and academic excellence are a powerful indicator of academic emphasis in a school. For example, one teacher (RMS#6) shared a powerful example of student success in a personalized mastery learning model in stating, "Last year we had over 20 students on the ineligible list. This year it was six. This is a great sign that we are moving in a direction that holds students accountable for their learning." This teacher's perceptions directly relate to increasing academic emphasis through the establishment of high but achievable goals in student achievement. Further evidence of increased academic emphasis in a personalized mastery learning model was noted when a Rocky Mountain North teacher stated, "This (model) holds students accountable for the learning. It is still a challenge and we are still learning, but we have to keep you accountable for your learning. It is important for us to know that students are learning and applying the material" (BAP#4). These perceptions help teachers and students work together in a collective manner as both groups continue their efforts toward additional goals. Working with students in a transparent manner to establish higher expectations for learning is another critical concept in facilitating higher academic emphasis. For example, one teacher (RMS#4) stated, "Students are becoming more accepting of higher standards. I used to have students ask questions like, 'What do I need to do to get a D?' Now they come into my room and ask, 'What do I need to do to show proficiency of this standard?' That is a big change and it makes me feel good to see

this shift." The collective process of working with students to instill higher academic expectations is outlined by Hoy et al. (2006b) as a "key variable in explaining student achievement" (p. 137).

Cooperation and trust is an essential component to effective student learning (Hoy, 2001). Furthermore, faculty trust is a "willingness to be vulnerable to another party based on the confidence that that party is benevolent, reliable, competent, honest, and open" (Hoy et al., 2006a, p. 429). The trusting relationship between students, parents, and teachers is critical in achieving academically. Students and parents trust the work assigned by the teacher and that he/she is working hard to help students achieve. Teachers trust that students are going to do their work and be supported by parents. For example, one teacher shed light on the trusting relationship between teachers and students in stating, "Students know exactly what is expected of them. They are able to analyze the rubrics and ask clarifying questions about the assignment. When they begin working on the assignment, they trust that it is moving them closer to proficiency. No more busy work" (RMN#1). Being transparent and open in the classroom facilitates a trusting relationship by conveying a sense of cooperation and openness. Teachers and students are able to engage in dialogue that clarifies the relevance of learning objectives while instilling a belief that assignments are necessary in moving students toward demonstrating proficiency of a standard. Parents also play a role in the trust relationship between teachers and students. If parents understand that the work being completed is important for students to progress toward proficiency, they are more likely to support the learning objectives and assignments required by the teacher. One teacher added support

to the importance of a trusting relationship with parents in stating, "I have received a lot of positive feedback from some parents. They really like the idea that students will be able to learn from mistakes as they work toward proficiency" (RMS#1). This teacher's perception further highlights the necessity for a trusting relationship between teachers, students and parents in accomplishing common learning goals.

Finally, collective efficacy represents judgments of "teachers that the faculty as a whole can organize and execute the actions required to have a positive effect on students" (Hoy et al., 2006a, p. 428). Having a strong sense of collective efficacy has been routinely linked to having a positive effect on student achievement (Bandura, 1993; Goddard, 2001; Goddard, Hoy, et al., 2000). When teachers exhibit higher perceptions of collective efficacy, they are more likely to focus on academic pursuits and reinforce the organization's cultural norms. For example, one teacher supported these aspects in stating, "One cool thing is that Rocky Mountain North is no longer looked at as the place for bad teachers. At one time, placement here was not necessarily worn as a badge of honor. Now we have some of the best teachers in the district wanting to be a part of what we are doing. It is exciting to be a part of something that maintains this level of professional expectation within the staff. We know that we are all working toward improving our practice in a way that truly influences student learning" (RMN#2). This teacher's perceptions directly relate to aspects of collective efficacy by stating a belief in the collective ability of the staff to facilitate positive change. Facilitating collaborative efforts focused on improving classroom practices further supports a strong sense of collective efficacy. This occurs when teachers have the ability to discuss teaching

practices and how those practices correspond with student learning. A Rocky Mountain South teacher spoke to this concept in sharing, "Daily collaboration with my colleagues has been huge in facilitating this process. We have been able to have meaningful conversations about the pros and cons of implementation. Having this opportunity has been a great way for me to see what others are doing and how it works" (RMS#3). Increasing the collective efficacy of the teaching staff empowers them to work in a collective manner to address student needs and implement new teaching practices.

Unfortunately, not every teacher comment reflected positive perceptions in collective efficacy. Negative perceptions of collective efficacy can cause schools to decline academically as well as stall efforts to implement new models of education. The potential of negative perceptions relating to collective efficacy in stifling educational reform efforts was reinforced when a Rocky Mountain North teacher (RMN#1) stated, "Some staff members had a focus on sabotaging the model and were not willing to do it. There was a good deal of controversy around their actions, but they were moved out…this left the teachers in (this school) who want to work on being better teachers." The removal of these staff members was viewed by this teacher as critical in establishing an organizational culture by increasing the collective efficacy of the staff. Similar concerns were reflected in the comments of one Rocky Mountain South teacher that stated, "The traditional model of education is fairly engrained with some teachers here and I think they will resist change as long as they can" (RMS#1).

"This school district has to decide if they want to be leaders. I know that there are some over there (district office building) that don't like what is going on. I also know

that some of the teachers have been talking to the school board. I just don't think that our district's leaders are on the same page" (RMS#1). Implementing a change in professional practice can leave some feeling threatened, while others may need additional time to readjust to new teaching practices. However, the success or failure of any initiative often hinges on the collective capacity of the staff to implement the change.

Research Question #4

How do administrators from two different high schools at different stages of personalized mastery learning implementation describe teacher academic optimism in their school?

Administrative perceptions of academic optimism were also collected through the examination of the research journals submitted by the two participating building principals. The entries were coded to determine trends and were examined in a manner that aligned with the critical incident analysis that was outlined by Crisp et al. (2005). For example, entries that discussed student achievement were coded as AE (academic emphasis). This coding process was similar to the process used to code the informational gleaned from the teacher interviews. Both principals indicated that they perceived increased academic optimism among the staff due to the student learning gains experienced within both buildings. The conditions that facilitated these perceived increases in academic optimism could be directly attributed to implementing personalized mastery models of education; therefore, these conditions can be indirectly linked to the transformational leadership behaviors that were required to introduce and support implementation. Principal perceptions relating to increased academic emphasis were readily observed in their journal entries. For example, an increase in Rocky Mountain

North's academic emphasis was noted when the school's principal recorded, "10th grade scores on the CRT in math rose from 17% proficient in 2011 to 29% in 2013. During the same time period, proficiency on the science component of the CRT rose from 23% to 36%, and the English score rose from 62% to 86%" (B. Koppinger). Increased perceptions of academic optimism through the analysis of student achievement data was also noted at Rocky Mountain South. The journal entry of that building principal notes this observation in recording, "In December of 2012, there were 27 students on the ineligible list (roughly 15% of the student body); in December of 2013, there were six students on the ineligible list (roughly 3% of the student body). This success, combined with perceptions of increased student engagement, led me to perceive an increased level of academic optimism among the staff" (T. Anderson). Readily observing increases in academic achievement can have a profound effect on perceived academic optimism when implementing a new learning model. This phenomenon can facilitate increased academic optimism by further instilling a belief that our "*students can* learn, and academic performance *can be* achieved" (Hoy et al., 2006b, p. 145).

These notable gains in student achievement provided the staff in Montana, as well as Wyoming, with positive perceptions of increased academic optimism. Due to the fact that the factors of academic optimism are reciprocal and causal (Hoy et al., 2006a), it can be deduced that the perceived increase in academic emphasis noted within both organizations also increases the overall academic optimism of the organization. This supposition is supported by the SAOS results collected from the teachers in Montana and Wyoming because both schools submitted survey results displaying overall academic

optimism scores greater than 600. As stated previously, an academic optimism score of 600 is greater than 84% of schools in the original SAOS normed group.

Another notable aspect relevant to teacher academic optimism is the common belief among the staff that they are truly making a difference. The perceived collective efficacy of the staff at RMN is readily notable to the external observer. Bruce Koppinger's insistence that RMN has become a "laboratory of excellence" is a perception that he has shared with his staff. The common belief among the staff that they are embracing "excellence" is notably a contributing factor in increased collective efficacy.

Central Question & Key Findings

Addressing the central research question and discovering the key research findings required a cross-case comparison between the two schools. Data collected through qualitative and quantitative methods were analyzed to compare the two schools and determine differences that exist between the institutions as related to the organizational change process.

Central Question: How do educators at two high schools at different stages of implementing personalized mastery learning describe their perceptions of transformational leadership, academic optimism, and the organizational change process?

Examination of the survey results, interviews, and research journals collected in this case study revealed three distinct differences between the two schools. Both schools have been able to exhibit high perceptions of academic optimism as noted in the SAOS results as well as transformational leadership as noted in the MLQ results; however,

further analysis of qualitative data displayed three notable differences between the two schools due to their different locations on the implementation dip. As noted by Fullan (2001), an implementation dip is a literal dip in performance and confidence as an organization incorporates new paradigms. This is due in part to application of new understandings and skills and how they work in the new organizational culture. Furthermore, transforming the organizational culture to support new innovation and practices is referred to as "reculturing" (Fullan, 2001).

A further analysis of the qualitative data identified additional themes that aided in the cross-case comparison between the two schools. The database of each participant's entire set of responses underwent additional readings to discover differences between the cases associated with the organizational change process. The next step in data analysis consisted of identification of key points and categorization of common themes and codes as discussed by Creswell (2007). This process allowed the researcher to form of a working definition for each code, thus, allowing the data to be categorized into specific units of analysis. In this case, the units of analysis consisted of the two different schools. Thus, creating a working definition for each code and allowing the data to be examined in a systematic fashion. For example, quotes relating to a recultured organization were coded RE. "adopting this model was a great way to cleanse myself of the last fifty years of teaching…I know that I could never go back to teaching that way again. I am not the same teacher" was a statement provided by RMN#1 to display the concept of a recultured organization. This data was then organized into themes that encompass the complex and rich nature of the data in a manner that addresses the study's research questions. For

example, quotes that were coded RE (recultured organization), EX (vicarious vs. personal experience) and CL (collective leadership) were organized under the theme of OC for organizational change. A number of examples were extracted from the data in the form of specific quotations and were assigned to each theme. Finally, the coded data was organized into themes that would accurately represent the complexity of the data and best answer the study's research questions. The coded data fit well into the three themes of transformational leadership, academic optimism and personalized mastery learning.

The three additional themes identified were: (1) evidence of a recultured organization, (2) vicarious vs. personal experience and (3) collective leadership effort all the way to the top. This analysis is primarily focused on the two organizations existing on different sides of the implementation dip as outlined by Fullan (2001). These noted differences exist due to the fact that RMN is currently in its fourth year of implementation, while RMS is in its first year of implementation.

A Recultured Organization

The first notable difference exists in the concept of a recultured organization. Fullan (2007) discusses the concept of "reculturing" as, cultures that "constantly build and test knowledge against measurable results" (p. 44). Recultured schools continually work to refine practices by incorporating new ideas and refining traditional practices. RMS can be identified as existing pre-implementation dip due to the fact that they have not experienced a cultural change in their efforts to implement a personalized mastery educational paradigm. Through the interviews with RMS teachers, the personalized mastery model was continually referred to as "something brought by Travis". For

example, one teacher (RMS#4) stated that, "Travis brought a good model of education to (Wyoming), but I wonder if it will survive after he leaves." This comment by one RMS staff member suggests that RMS teachers have high perceptions of academic optimism and transformational leadership, but have yet to realign their professional philosophy and practice to fully implement a personalized mastery model of education. One reason for the lack of alignment between professional philosophy and practice may be due in part to the fact that the staff members have not had the time necessary to internalize the process in a manner that facilitates a change in the organizational culture.

The concept of reculturing is critical in maintaining the change experienced within an organization. When asked the question, "If given the opportunity, would you prefer to return to teaching within a traditional model of education?" the interviewed RMS staff all stated that they believed the personalized mastery model to be superior to the traditional model of education; however, they did not believe that they had experienced an organizational shift that fundamentally changes the school's culture. For example, one teacher stated, "The traditional model of education is fairly engrained with some teachers here and I think they will resist change as long as they can." (RMS#1)

On the other hand, there is strong evidence to support that RMN has successfully recultured their organization. Fullan (2007) states that this is a process by which "teachers come to question and change their beliefs and habits" (p. 25). The interviewed staff readily discussed how they are different teachers than what they were prior to implementation. For example, one teacher (RMN#1) stated that "adopting this model was a great way to cleanse myself of the last fifty years of teaching…I know that I could

never go back to teaching that way again. I am not the same teacher." The RMN staff also readily shared the belief that they no longer view the model as "Bruce's thing" but instead refer to the model as "our thing". "At first Bruce worked with the teachers to investigate and embrace this new thinking…now we address those points during our weekly collaborative meetings" (RMN#3). When asked the question, "If given the opportunity, would you prefer to return to teaching within a traditional model of education?" the RMN staff readily stated that they could not because they "don't teach that way anymore". These types of comments readily display that a fundamental shift in identity has occurred within this school.

Vicarious vs. Personal Experience

The second discernable difference between the two organizations involves the difference in experience that teacher have for developing their own personalized mastery model. Due to the fact that RMS has less than one year in their individual model, much of their experience was vicarious in nature. That staff had not had the time to work on developing their model and changing their classroom practice. The interviewed staff members continually referred to aspects observed at other schools supporting a personalized mastery model of learning, but were not able to readily relate to how those observed experiences changed their professional practice. "I have been working on a couple of the things from (other observed schools) like moving at the teacher's pace or faster, but I don't have the rubrics completed to really go at it like they were. I'm just not prepared for this aspect of the model" (RMS#5). Additional time and practice will be critical in developing the classroom procedures to fully develop and adapt the model.

The staff at RMN on the other hand, has been able to take their observations at other schools supporting a personalized mastery model of education, and used them to create their individual model. They even went so far as to create their own grading software in a manner that supports their new model. This was because "No grading program could do what we needed, so one of our teachers worked with her husband to develop a program that met the needs of our model" (RMN#3). Every one of the teachers interviewed was able to provide specific examples of collective experience needed in developing the RMN model. One teacher further relayed the importance for developing their individual personalized mastery model of education in stating, "We don't do everything like (other schools supporting the model) because we have our own needs" (RMN#2). These statements clearly display that the RMN staff has had the time to take the vicarious experience obtained from their visit to other schools supporting a similar model of education and use it to create "our model".

A Collective Leadership Team

The third difference was the presence of a collective leadership team who is committed to change. Collective leadership is essential for the successful implementation of personalized mastery learning models (DeLorenzo et al., 2009). DeLorenzo et al. (2009) espoused that changing an educational system required a strong group of dedicated educators who are committed to "carry out the mission to dramatically improve education in the district" (p. 39). The authors further state that "if you are going to change, you have to commit to changing all of the elements or you're going to get consumed by that resistance and the change won't be deep enough to be sustainable" (p.

39). Fullan (2010) further supports this supposition in stating, "only collective action will be strong enough to change systems" (p. 77). It is true that transformational leadership behaviors exhibited by the principal are critical in facilitating second-order change; however, collective action by a committed leadership team is crucial in the sustainability of that change.

The collected data shows there were dramatic differences in the perceptions of district-wide support for implementing second-order change. Many of the staff at RMN voiced a perception of a collective leadership effort; however, the staff at RMS had a very different perception of district-wide support. A Rocky Mountain North teacher's comment discussing district-wide support for the second-order change necessary to implement personalized mastery models of education was, "The entire district was very supporting and flexible. This was especially true with teachers who did not want to follow the model. I know that a couple tried to go above Bruce and were quickly shot down…This sent a clear message to all of us that we could not go around the principal if we didn't like these changes" (RMN#5). The perception of a collective leadership effort was critical in shaping this teacher's perception that implementing this model was going to be non-negotiable at the district level. This aspect helped the teachers in this model focus on the task of working collectively in order to successfully implement a personalized mastery model of education.

On the other hand, there were very different perspectives recorded by the teachers at Rocky Mountain South. Many of the interviewed staff members shared concerns of the absence of a collective effort on behalf of that district's leadership team. For

example, one RMS teacher stated, “I appreciate the fact that the district has financially supported this process by bringing in DeLorenzo and sending some of us to (visit other schools supporting the model), but I don’t think they really want this. Travis was the only district administrator that was with DeLorenzo the whole time. A couple of others peeked in for a while and others didn’t show at all. DeLorenzo himself even stated that this wasn’t a good sign” (RMS#6). The lack of a perceived commitment of a collective leadership effort can prove to be detrimental in navigating the implementation dip and successfully implementing a personalized mastery model of education. This can be especially true for leadership teams that do not share the same moral purpose behind implementing the change. It proves to be very difficult, if not impossible, to create an innovative and problem solving atmosphere with a focus on enhancing student achievement without the efforts of a collective leadership team (Marzano & Waters, 2009).

The participating principals also recorded their perceived level of collective support. Their insights further reveal two different perceptions on the commitment of the leadership at the district level. The perceptions of the participating principals parallel those of the interviewed teachers. For example, the Rocky Mountain North principal discussed his perception of a collective district-wide effort in journaling, “Year three of implementation, the 2013-14 school year, saw a shift in terms of staff. One teacher who disagreed with the direction of the program under the new model retired from the profession, and two others were transferred to other positions (in the district), which allowed for the introduction of new teachers who were dedicated to the new system. Year

three was when the RMN witnessed a leap forward in the evolution of the performance-based model" (B. Koppinger). This support was a critical aspect in instilling the professional confidence needed to move forward with leading the second-order change required for implementing these new models of learning. In stark contrast, the Rocky Mountain South principal observed the absence of a collective leadership effort in recording, "I did not feel as though the entire administrative team was supportive of the model, nor did some have a remote understanding of it. A member of the district's administrative team approached me prior to an administrative meeting and falsely reported that, 'nothing about this model is based in educational research.' Fortunately, I was able to show several research articles supporting the model as well as other personalized mastery models of education…The resistance on behalf of this individual would become a common thread as RMS moved forward with implementing the model" (T. Anderson).

Summary

The results of this study reveal that teachers at RMN and RMS displayed high levels of academic optimism and maintained high perceptions of transformational leadership behaviors within their perspective schools. This observation was supported by data collected from the SAOS, MLQ, teacher interviews, and principal journals. Further analysis of the collected data revealed three differences between the two schools on opposite sides of the implementation dip (Fullan, 2001). Those differences include: a recultured organization, vicarious vs. personal experience, and a collective leadership

team dedicated to implementing change. Rocky Mountain South (RMS) was operationalized as not having navigated through the implementation dip. The school has not had the time necessary to reculture their organization, nor have they had the opportunity to apply vicarious experiences in a personal manner. There was also a lack of a perception at RMS that a collective leadership team was working to sustain their personalized mastery model of education. On the other hand, Rocky Mountain North (RMN) was operationalized as having navigated through their implementation dip. They displayed strong evidence of reculturing their organization and have had the time and opportunity to learn from vicarious experience and apply those skills in a personal manner. Finally the teachers and principals in that school displayed a sense of a strong collective leadership team that was devoted to sustaining second-order change.

CHAPTER 5

CONCLUSIONS AND RECOMMENDATIONS

Introduction

This embedded, multiple-case study examined the teacher and principal perceptions of transformational leadership and academic optimism during the second-order change process associated with implementing personalized mastery educational paradigms. This study was undertaken to investigate educators' perceptions of academic optimism and transformational leadership behaviors in two schools implementing personalized mastery educational paradigms. The central research question posed was: How do educators at two high schools at different stages of implementing personalized mastery learning describe their perceptions of transformational leadership, academic optimism, and the organizational change process?

To answer this overarching question, qualitative and quantitative methods were used to create converging lines of inquiry (Yin, 2014) that assisted in triangulating results (Yeasmin & Rahman, 2012). Quantitative data was collected through teacher completions of the School Academic Optimism Scale (SAOS) and Multifactor Leadership Questionnaire (MLQ). Qualitative data was collected through teacher interviews to further examine individual perceptions and critical incidents were collected from participating principals in the form of journal entries outlining their school's process toward implementing new educational practices.

The two schools investigated for this case study were characterized as falling on both sides of the implementation dip described by Fullan (2001). The implementation dip can be described as a literal dip in performance and confidence as an organization incorporates new paradigms. This is due in part to application of new understandings and skills and how they work in the new organizational culture (Fullan, 2001). Rocky Mountain North (RMN) is conceptualized as a post-implementation dip school due to the fact that they were in their fourth year of implementing personalized mastery educational practices at the time of this study. This amount of time allowed RMN to develop their individual model of education and reculture or transform their organization (Fullan, 2001). According to Fullan (2001), once a school culture has been recultured, the teachers in that school have experienced a transformational shift in their collective educational practice. They no longer operate in the same way as teachers prior to experiencing the change. Supporting the concept of a recultured organization, one teacher (RMN#1) stated, "I simply cannot imagine teaching in the old model. We have come too far and we won't go back." Rocky Mountain South (RMS), on the other hand, is conceptualized as a pre-implementation dip school due to the fact that they were in their first year of implementing their model of personalized mastery educational practices at the time of this study. This conceptualization is attributed to the fact that this school has not been able to experience enough time operating in the model for their organization to be recultured. Many of the teachers in this school continue to display educational practices that align with the traditional model of education. For example, one teacher (RMS#3) stated, "Change is not easy and the old system is easier. There are several

teachers here that don't want to change their practices because change takes work." This teacher's perceptions reinforce a concept outlined by Fullan (2007) when he stated that change " cannot be done unless each and every teacher is learning every day" (p. 153). Thus demonstrating that change is a collective effort that requires a group of professionals working toward a common goal (Fullan & Sharratt, 2009). Studying two schools on both sides of the implementation dip provided the researcher with the unique opportunity to examine teachers' perceptions before and after their school's initial implementation of these paradigms.

The educational model implemented within Rocky Mountain North and Rocky Mountain South is directly linked to the personalized mastery model created by DeLorenzo et al. (2009). As discussed in Chapter 2, the theoretical base for this model of education has been discussed for the better part of a century and can be traced back to the work of John Dewey (1916). The personalized mastery model facilitates a competence-based approach to education that requires students to demonstrate mastery of content prior to moving onto subsequent learning objectives. Ultimately insuring that students have successfully demonstrated mastery of curricular and student learning objectives prior to graduating from high school. This model of education represents a powerful approach to ensuring that students are instilled with the skills necessary for college and career success upon completing high school. This is especially true when compared to providing grades based primarily on seat time, which is common practice in awarding traditional Carnage Units.

Leaders need to facilitate second-order change within the organizational structure of schools in order to support an effective personalized mastery educational paradigm. A second-order change is associated with personalized mastery models because these paradigms require a fundamental change in the way schools are operated (DeLorenzo et al., 2009; Marzano et al., 2005). Evidence of second-order change in these learning models include revising schedules to make learning the constant and time the variable (Grant et al., 2000), creating clearly defined expectations of student learning objectives combined with transparent methods of assessing student learning (Priest et al., 2012), and allowing students the opportunity to be an active participant in their own learning (DeLorenzo et al., 2009; Littky, 2004). These changes in the way we educate students represent a dramatic departure from the deficit model of education practiced by many schools over the past century (Freire, 1970). In the traditional model of education, students are largely grouped by age within cohort and dragged through an educational system at the same pace as the rest of the cohort, regardless of their ability to demonstrate proficiency of the content. Both schools in this study worked to facilitate second-order change.

Key Findings

Transformational Leadership

This research effort found that transformational leadership behaviors and teacher academic optimism are critical determinants for the successful implementation of new and mature personalized mastery educational models. The research findings associated

with subquestions one and two focus on teachers' perceptions of transformational leadership behaviors exhibited by principals in the two studied schools. Facilitating second-order change is most effective when educational leaders engage in transformational leadership behaviors that nurture the personalized mastery model of student learning (DeLorenzo et al., 2009; Marzano et al., 2005). There is a substantial body of research highlighting the importance of transformational leadership in facilitating the second-order change in school pedagogy associated with supporting personalized mastery educational practices (DeLorenzo et al., 2009; Fullan, 2010; Littky, 2004; Priest et al., 2012). MLQ results from both schools display inspirational motivation to be the highest rated transformational leadership behavior. Teachers from Rocky Mountain North and Rocky Mountain South perceived that their principals were observed "fairly often" to engage in transformational leadership behaviors that were inspirationally motivating, intellectually stimulating, individually considerate, and influenced them by building respect and instilling a strong sense of purpose. For example, Rocky Mountain North #2 outlined characteristics aligned with inspirational motivation in stating that leadership, "created a burning platform for change by continually sharing his vision of what the model could look like (at Rocky Mountain North). In fact, without his enthusiasm, we would have likely gone another direction and quit when things became difficult." Transformational leadership behaviors related to inspirational motivation were further referenced when a Rocky Mountain South teacher expressed, "The biggest change is that we were able to have a voice in the process. We were motivated to be a part of something that made things better for staff and students" (RMS#3). These perceptions

related to inspirational motivation were also clearly identified as being important to the success of a personalized mastery model of education by results of teacher interviews. Inspirational motivation fostered through the display of transformational leadership behaviors has been linked to a greater commitment to organizational change (Leithwood, 1994), which in turn can result in a positive school culture capable of supporting increased learning expectations for all students (Kruger et al., 2007).

Data collected from analyzing research journal entries submitted by principals in the two participating schools paralleled the teacher's perceptions of transformational leadership behaviors being exhibited "fairly often". One common finding for both principals included transformational leadership behaviors related to intellectually stimulating activities. Both principals conducted activities focused on developing knowledge of a personalized mastery educational paradigm such as, conducting a book study with staff and facilitating visits to other schools already supporting a personalized mastery model of education. This greatly assisted in developing the conceptual understanding of these new educational paradigms. The two principals further outlined their perceptions of exhibiting individualized consideration, or utilizing methods to affect the individual practice of teachers in a manner that aligns with the school's overall mission. Thus acknowledging that every teacher was operating with a different set of professional and personal experiences and using a variety of leadership behaviors to differentiate leadership practices based on the individual teacher. Thereby causing the two principals to tailor professional development in a manner that met the individual needs of the teacher as their organization continued to work toward a systematic

implementation of these paradigms. Transformational leadership behaviors geared toward building collective and individual capacity have been linked to an increased likelihood of influencing an individual teacher's classroom practice (Leithwood & Jantzi, 2006), which in turn builds capacity with individual teachers toward changing classroom practices to support personalized mastery practices. Capacity building at all levels of the organization has also been outlined as a critical aspect in leading organizational change (Burke, 2011; Hall & Hord, 2011); therefore, it is a critical component for educational leaders to consider as they work to facilitate the second-order change process associated with personalized mastery models of learning.

Finally, transformational leadership behaviors engaged by the two principals were found to be intellectually stimulating, and considered the unique professional needs of teachers. These leadership behaviors were critical for conveying the moral purpose for organizational change (Fullan, 2010; Hellriegel & Slocum, 2009) and for creating the conditions for second-order educational change. Implementing personalized mastery educational paradigms requires a second-order change in educational practice (DeLorenzo et al., 2009) and leading second-order change requires leaders to exhibit transformational leadership behaviors (Leithwood & Sleegers, 2006; Marzano et al., 2005). Hence, it is important for educational leaders to engage in transformational leadership behaviors to nurture their development and success "fairly often" throughout the change process. This concept is supported by the research findings and aligns with the literature review on the topic.

Academic Optimism

Understanding teacher values in the form of academic optimism can be especially useful when implementing new and progressive educational practices. Higher academic optimism is significantly related to increased student achievement, even after controlling for student socioeconomic status (Hoy et al., 2006a). Research findings associated with subquestions three and four focus on teachers' and administrators' descriptions of academic optimism during the second-order change process. The School Academic Optimism Scale (SAOS) results reflect that both schools display an academic optimism that is greater than 85% of the instrument's normed group (McGuigan & Hoy, 2006). Subsequent interviews highlight increased perceptions of academic emphasis and faculty trust in both schools; however, the interviews also revealed differences in teachers' perceptions of collective efficacy within the teaching staff.

Educators from both schools were able to identify ways in which student achievement has been positively effected since the initial implementation of personalized mastery learning models. For example, themes identified in teacher interviews indicated that teachers were more committed to student learning. One teacher supported this commitment in stating, "In this model, students can't fake the learning and teachers can't fake the teaching" (RMN#2). Another example relating to the positive academic emphasis was observed when a Rocky Mountain South teacher stated, "I have no desire to teach in a system that continues to use the same yard stick to measure all students…The old system is antiquated because so many students are not prepared to succeed after they are done with school" (RMS#5). These educator perceptions align

with the research relating to academic emphasis because of the focus on individual student excellence. Teachers are committed to working with students in a manner that facilitate personal mastery of the content. The principals in the two schools were also able to discuss specific examples of how their perceptions of increased academic optimism through implementation of a personalized mastery educational model. Many of the examples supporting the model relate to increased student achievement and therefore relate to academic emphasis.

Trusting relationships between teachers, students, and parents is a critical factor in determining student achievement as well as the likelihood of teachers experimenting on new teaching practices (Hoy et al., 2006b). When trust is established, all stakeholder groups feel that the other stakeholders are acting in good faith toward higher student achievement (McGuigan & Hoy, 2006). These themes were observed among the interviews and research journals as being readily observed within a personalized mastery model of education. A powerful example of faculty trust between teachers and students within a personalized mastery model of education was highlighted when a Rocky Mountain North teacher stated, "Students know exactly what is expected of them. They are able to analyze the rubrics and ask clarifying questions about the assignment. When they begin working on the assignment, they trust that it is moving them closer to proficiency. No more busy work" (RMN#1). The very nature of the relationship behind this quote is a powerful example of how the transparency of student learning expectations in a personalized mastery model of education facilitates trusting relationships between students and educators.

Themes identified from the teacher interviews and administrative journals highlight the perceptions of the staff assessing the collective capacity to implement models of education that have a positive result in student achievement. The Rocky Mountain North staff discussed the idea that other teachers have been removed from the organization for refusing to support their school's model of education. The interviewed teachers further elaborated on the fact that this was a critical aspect in successfully implementing their personalized mastery model of education. These results are aligned with studies of school structures which espouse the importance of high collective efficacy in establishing a culture of trust, which in turn has an influence on the overall effectiveness of the organization (Tarter & Hoy, 2004).

On the other hand, Rocky Mountain South teachers shared concerns about the likelihood of full implementation due to the counterproductive efforts of teachers who refuse to support the school's model of personalized mastery education. This perceived difference in collective efficacy by the RMS staff could prove to be detrimental in establishing a culture of trust thus decreasing the overall effectiveness of the educational model and the school as a whole (Tarter & Hoy, 2004). Working to increase the collective efficacy of the RMS staff will be a critical task as they move forward with implementing their school's model of personalized mastery education.

Themes Characterizing School Differences in Implementation

During the course of this study, distinct themes in the form of differences between the studied schools were observed in teachers' and principals' perceptions of academic optimism and transformational leadership. The three differences observed between the

pre-implementation dip and post-implementation dip schools include: (1) evidence of a recultured organization, (2) vicarious vs. personal experience and (3) a collective leadership effort all the way to the top. This analysis is primarily focused on the two organizations existing on different sides of the implementation dip as outlined by Fullan (2001). These noted differences exist due to the fact that the Rocky Mountain North is currently in its fourth year of implementation, while Rocky Mountain South is in its first year of implementation.

A recultured organization is one that has been able to implement new organizational beliefs and refine existing practices Fullan (2001). As a post-implementation dip school, the Rocky Mountain North has exhibited evidence of a recultured organization through the collective support of student-centered education in the form of personalized mastery learning. This observation was supported when one RMN teacher stated, "I know that I could never go back to teaching that way again. I am not the same teacher" (RMN#1). Another RMN teacher supported the concept of a recultured school in stating, "One cool thing is that Rocky Mountain North is no longer looked at as the place for bad teachers. At one time, placement here was not necessarily worn as a badge of honor. Now we have some of the best teachers in the district wanting to be a part of what we are doing" (RMN#2). Rocky Mountain South has yet to fully implement their personalized mastery model of education and as a result, has not been able to reculture their school. For example, one teacher stated, "The traditional model of education is fairly engrained with some teachers here and I think they will resist change as long as they can" (RMS#1), thus displaying that a recultured organization has not been

experienced at RMS. Further refinement of teaching practices that align with personalized mastery learning will be required for the staff at RMS in order to fully reculture their organization. The implementation of new skills and realignment of practice to support a student-centered model of teaching parallel with the findings of Fullan (2007) in identifying RMN as a recultured organization.

Differences in types of experience operating in a personalized mastery model of education were observed between the two schools and described as vicarious for teachers at RMS and personal for teachers at RMN. The pre-implementation dip school (RMS) provided experiences that were vicarious in nature. They have been able to observe the model at work in other settings, but have yet to adjust that experience to implement their school's personalized mastery model of education. One RMS teacher offered support for this observation in stating, "I have been working on a couple of the things (observed in other schools) like moving at the teacher's pace or faster, but don't have the rubrics completed to really go at it like they were. I'm just not prepared for this aspect of the model." (RMS#5) The post-implementation dip school (RMN) has been able to utilize the experience they gleaned from observing other schools to develop their school's unique learning model. Therefore, they have been able to transform vicarious experience into personal experience. An example of this transformation is noted in the following statement, "We don't do everything like (other observed schools) because we have our own needs" (RMN#2). Using vicarious experience in a manner that supports new personal skills reflects second-order change as discussed by Hall and Hord (2011).

Finally, there were noted differences between the two schools in perceptions of a

collective leadership effort within the district that is committed to facilitating second-order change. This concept is discussed by (DeLorenzo et al., 2009) as being vital to creating the second-order change associated with effective implementation of personalized mastery models of education. The post-implementation dip school had a perception of a district-wide effort to support the implementation of a personalized mastery model within Rocky Mountain North. This perception provided teachers with the confidence to move forward with developing their educational model. A RMN teacher supported this observation in stating, "The entire district was very supporting and flexible. This was especially true with teachers who did not want to follow the model. I know that a couple tried to go above Bruce and were quickly shot down. This sent a clear message to all of us that we could not go around the principal if we didn't like these changes" (RMN#5). On the other hand, the pre-implementation-dip staff at RMS did not operate under the same perception. One of the interviewed teachers reinforced this observation in stating, "This school district has to decide if they want to be leaders. I know that there are some over there (at the district office building) that don't like what is going on. I also know that some of the teachers have been talking to the school board. I just don't think that our district's leaders are on the same page" (RMS#1). According to Marzano and Waters (2009) collective leadership in schools undergoing second-order change is characterized by the district's leadership team upholding a consistent and positive stance supporting new educational paradigms. This leadership approach serves to continually inspire teachers and administrators throughout the district regarding the moral purpose associated with change. The lack of a collective leadership effort has been

shown to have detrimental effects in facilitating second-order change (Fullan, 2010; Marzano & Waters, 2009).

Implications for Change

The literature discussing organizational change is very consistent in the concept that there is no single way to implement and/or lead change. The two schools researched in this embedded, multiple-case study further support the literature in that point due to the unique perspectives and actions examined through this study. The emerging themes discussed in this study of: a recultured organization, vicarious vs. personal experience, and a collective leadership effort contribute to the literature on the topic and carry practical applications for leading change.

It is important to note that change is not a single event, nor is it something that happens without justification. Completing the second-order change associated with implementing personalized mastery learning models takes time and a great deal of effort from a committed group of people. This is why it is critically vital to work with educational leaders within an entire district to understand the moral purpose behind change. Thus building a collective leadership effort that is focused on the moral purpose behind the change. The concept of a collective leadership effort is very different from that of a "unified front" in that vested stakeholders in a collective leadership effort have an understanding of the moral purpose behind the change. Whereas, a unified front simply upholds the directions distributed by a central leader or group. Thus providing valuable insight into why RMN experienced success in implementing personalized

mastery learning models. The school's leadership had a shared vision of the moral purpose behind the change. This concept is further evidence as to why Fullan (2010) places moral purpose as one of the most important reasons behind future school change. Therefore, educational leaders who are working to implement personalized mastery models of education must not overlook the importance of developing a collective leadership effort among administrators, school boards, and teachers.

Another implication for change comes from understanding that teachers, like all human beings, are creatures of personal habits and beliefs. Many classroom teachers have experienced success in the traditional model of education and may not be as willing to change their professional practice. Hall and Hord (2011) espouse that individuals experiencing change will need to go through a process similar to grief in letting go of previous practice. Educational leaders cannot overlook this concept as they work with teachers to implement personalized mastery practices. Thus displaying the importance of exhibiting the transformational leadership behavior of individualized consideration in working with teachers who may need time to grieve old practices while learning new ones.

Finally, second-order change can be a very difficult and time-consuming endeavor. Educators implementing personalized mastery leaning models will need time to experiment with new classroom practices and pedagogy. This is especially true when navigating through the initial implementation dip associated with adoption of new teaching practices. Educational leaders need to provide time and support as teachers work to take their vicarious experiences and utilize that information in a manner that

reshapes personal and professional experience. This includes exhibiting the transformational leadership behaviors of inspirational motivation and idealized influence in a manner that encourages teachers to exhibit persistence as new skills and techniques are perfected.

Changing a school to support personalized mastery learning practices is not as simple as attending a workshop or reading a book. It takes hard work and dedication form a collective group of professionals committed to change. The effort may be great, but the rewards in the form of student achievement may be even greater.

Implications for Practitioners

In recent years, the role of the school principal has changed from that of a building manager to that of an education leader. This role is requiring principals to incorporate new classroom practices and understandings in an effort to drive student achievement. As practitioners continue their efforts to implement 21st Century learning practices, they would be well served to research student-centered models of education such as personalized mastery. This research study has shown that implementing new classroom practices require the use of transformational leadership behaviors; therefore, it would be to the benefit of educational leaders who are interested in implementing personalized mastery models of education to understand the role those behaviors play in organizational change. Therefore, providing a theoretical framework by which educational leaders can shape their leadership practices in a manner that support teachers as they work together to implement student-centered models of education.

This study also provided practitioners with an understanding that high levels of teacher academic optimism can be observed within a personalized mastery model of education. The teachers in the study were able to reference higher perceptions of academic emphasis, collective efficacy and faculty trust. Higher academic optimism can help teachers persist during setbacks, strive for greater levels of student achievement, form collaborative relationships with students and parents, and facilitate increased levels of collective efficacy (Hoy et al., 2006a). All of these traits were observed within the two cases bounded within this study

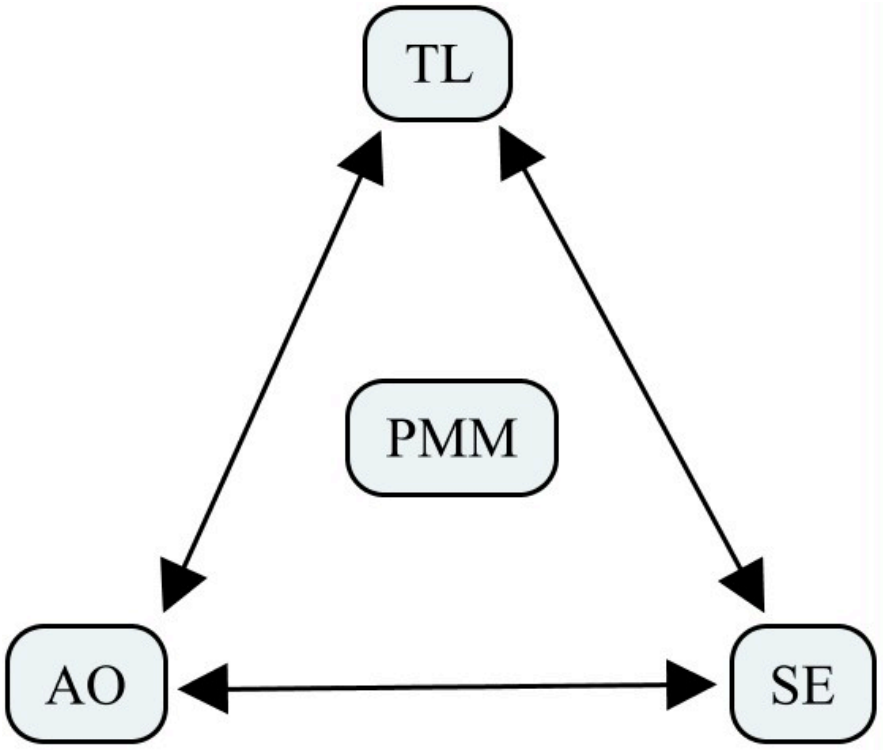
Implications for Further Research

The importance of transformational leadership behaviors in leading second-order change has been well researched (DeLorenzo et al., 2009; Leithwood & Jantzi, 2006; Marzano et al., 2005); however, many of the previous research efforts focus on a singular leader/administrator. Future research efforts in examination of the role of leadership in facilitating and sustaining second-order change would greatly serve the educational profession to holistically examine the leadership team. This would include constructing instruments to measure the collective efficacy of leadership teams. A greater understanding of the individual and systematic mechanisms of leadership teams could serve to be a critical tool to school leaders, community members, and legislators as school reform efforts continue to occupy a space on educational and political agendas.

Future study efforts could center on conducting a large-scale quantitative study designed to model the relationships between transformational leadership (TL), academic

optimism (AO), and student engagement (SE) within the context of schools supporting personalized mastery models (PMM) of education to create statistical models that could provide a better understanding of the overall effectiveness of the model (see Figure 2). Future studies should focus on correlations and comparisons of concepts outlining transformational leadership (TL), academic optimism (AO), and student engagement (SE) within personalized mastery models (PMM).

Figure 2. Future Research Model



Conclusions and Recommendations

This embedded, multiple-case study was designed to investigate how teachers and school leaders alike describe transformational leadership and school academic optimism

during the second-order change process associated with implementing a personalized mastery education model. Academic research into organizational change, transformational leadership behaviors, and academic optimism has been conducted in traditional educational settings; however, those studies have not been focused on organizations implementing personalized mastery educational paradigms (Fullan, 2007; Hoy et al., 2006a; Leithwood & Sun, 2012). Data collected and presented in this study could provide valuable insight for school administrators in their efforts to support personalized mastery educational paradigms.

Reform efforts in education are nothing new and have been an ongoing practice for more than a century (Ravitch, 2000). Part of the rationale behind these failed efforts stems from rapid turnover within the administrative ranks (Marzano & Waters, 2009; Marzano et al., 2005) combined with a continuous change in legislative mandates (Hall & Hord, 2011). "Transforming education is not easy but the price of failure is more than we can afford, while the benefits of success are more than we can imagine" (Robinson, 2001, p. 283). Furthermore issuing a call to action for all of our educational and community leaders to work together in a way that supports true education reform in a manner that embraces a student-centered approach.

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APPENDICES

APPENDIX A

MULTIFACTOR LEADER QUESTIONAIRE (MLQ)

Published by Mind Garden, Inc., www.mindgarden.com 103

Multifactor Leadership Questionnaire
Rater Form

Name of Leader: _____Date: _____
Organization ID #: _____Leader ID #: _____

This questionnaire is to describe the leadership style of the above-named individual as you perceive it. Please answer all items on this answer sheet. **If an item is irrelevant, or if you are unsure or do not know the answer, leave the answer blank.** Please answer the questionnaire anonymously.

Forty-five descriptive statements are listed on the following pages. Judge how frequently each statement fits the person you are describing.

Use the following rating scale:

Not at all (0) Once in a while (1) Sometimes (2) Fairly often (3) Frequently, if not always (4)

1. Provides 0 1 2 3 4
2. Re-examines critical assumptions to question whether or not they are appropriate..... 0 1 2 3 4
3. Fails 0 1 2 3 4
4. Focuses..... 0 1 2 3 4
5. Avoids..... 0 1 2 3 4
6. Talks about their most important values and beliefs..... 0 1 2 3 4
7. Is absent.…..... 0 1 2 3 4
8. Seeks differing..... 0 1 2 3 4
9. Talks optimistically about the future..... 0 1 2 3 4
10. Instills pride in me for being associated with him/her..... 0 1 2 3 4
11. Discusses..... 0 1 2 3 4
12. Waits 0 1 2 3 4
13. Talks 0 1 2 3 4
14. Specifies..... 0 1 2 3 4
15. Spends time teaching and coaching..... 0 1 2 3 4
16. Makes..... 0 1 2 3 4
17. Shows..... 0 1 2 3 4
18. Goes..... 0 1 2 3 4
19. Treats..... 0 1 2 3 4
20. Demonstrates..... 0 1 2 3 4
21. Acts..... 0 1 2 3 4
22. Concentrates..... 0 1 2 3 4
23. Considers..... 0 1 2 3 4
24. Keeps..... 0 1 2 3 4
25. Displays..... 0 1 2 3 4
26. Articulates..... 0 1 2 3 4
27. Directs..... 0 1 2 3 4
28. Avoids..... 0 1 2 3 4
29. Considers..... 0 1 2 3 4
30. Gets me..... 0 1 2 3 4
31. Helps me..... 0 1 2 3 4
32. Suggests..... 0 1 2 3 4
33. Delays..... 0 1 2 3 4
34. Emphasizes..... 0 1 2 3 4

35. Expresses..... 0 1 2 3 4
36. Expresses..... 0 1 2 3 4
37. Is effective.....0 1 2 3 4
38. Uses methods..... 0 1 2 3 4
39. Gets me..... 0 1 2 3 4
40. Is effective..... 0 1 2 3 4
41. Works..... 0 1 2 3 4
42. Heightens.....0 1 2 3 4
43. Is effective..... 0 1 2 3 4
44. Increases..... 0 1 2 3 4
45. Leads..... 0 1 2 3 4

In order to protect the instrument's copyright, only five questions are to be published in their entirety. Thus one question is selected to align with each of the five factors comprising transformational leadership.
Question 2 – Intellectual Stimulation
Question 6 – Idealized Influence (Behaviors)
Question 9 – Inspirational Motivation
Question 10 – Idealized Influence (Attributes)
Question 15 – Individualized Consideration

APPENDIX B

SCHOOL ACADEMIC OPTIMISM SCALE (SAOS)

SAOS

Directions: Please indicate your degree of with each of the statements about your school from **strongly disagree** to **strongly agree**. Your answers are confidential.	Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree
1. Teachers in this school are able to get through to the most difficult students.	①	②	③	④	⑤	⑥
2. Teachers here are confident they will be able to motivate their students.	①	②	③	④	⑤	⑥
3. If a child doesn't want to learn teachers here give up.	①	②	③	④	⑤	⑥
4. Teachers here don't have the skills needed to produce meaningful results.	①	②	③	④	⑤	⑥
5. Teachers in this school believe that every child can learn.	①	②	③	④	⑤	⑥
6. These students come to school ready to learn.	①	②	③	④	⑤	⑥
7. Home life provides so many advantages that students are bound to learn.	①	②	③	④	⑤	⑥
8. Students here just aren't motivated to learn.	①	②	③	④	⑤	⑥
9. Teachers in this school do not have the skills to deal with student disciplinary problems.	①	②	③	④	⑤	⑥
10. The opportunities in this community help ensure that these students will learn.	①	②	③	④	⑤	⑥
11. Learning is more difficult at this school because students are worried about their safety.	①	②	③	④	⑤	⑥
12. Drug and alcohol abuse in the community make learning difficult for students here.	①	②	③	④	⑤	⑥
13. Teachers in this school trust their students.	①	②	③	④	⑤	⑥
14. Teachers in this school trust the parents.	①	②	③	④	⑤	⑥
15. Students in this school care about each other.	①	②	③	④	⑤	⑥
16. Parents in this school are reliable in their commitments.	①	②	③	④	⑤	⑥
17. Students in this school can be counted upon to do their work.	①	②	③	④	⑤	⑥
18. Teachers can count upon parental support.	①	②	③	④	⑤	⑥
19. Teachers here believe that students are competent learners.	①	②	③	④	⑤	⑥
20. Teachers think that most of the parents do a good job.	①	②	③	④	⑤	⑥
21. Teachers can believe what parents tell them.	①	②	③	④	⑤	⑥
22. Students here are secretive.	①	②	③	④	⑤	⑥

Directions: Please indicate the degree to which the following statements characterize your school from **Rarely Occurs** to **Very Often Occurs.** Your answers are confidential.	Rarely	Sometimes	Often	Very Often
23. The school sets high standards for performance.	①	②	③	④
24. Students respect others who get good grades.	①	②	③	④
25. Students seek extra work so they can get good grades.	①	②	③	④
26. Academic achievement is recognized and acknowledged by the school.	①	②	③	④
27. Students try hard to improve on previous work.	①	②	③	④
28. The learning environment is orderly and serious.	①	②	③	④
29. The students in this school can achieve the goals that have been set for them.	①	②	③	④
30. Teachers in this school believe that their students have the ability to achieve academically.	①	②	③	④

APPENDIX C

SUBJECT CONSENT LETTER FOR ONLINE SURVEY

SUBJECT CONSENT FORM

FOR

PARTICIPATION IN HUMAN RESEARCH AT

MONTANA STATE UNIVERSITY

Transforming Educational Paradigms: A Case Study Examining Two Different Schools on the Path toward Implementing Personalized Mastery Practices

Dear Educator:

You are being asked to participate in a research study that explores the relationship between transformational leadership behaviors and academic optimism in a personalized mastery educational setting.

Rationale of Research

The purpose of this study is to explore the relationship between perceptions of transformational leadership behaviors and academic optimism within a setting that supports a personal mastery educational paradigm. Knowledge gained from this study may lead to understanding how transformational leaders affect the academic optimism of their school. Information from the study may improve professional development practices, as well as, teacher and principal training programs.

Procedures

Participation is voluntary and you can choose to not answer any questions you do not want to answer and/or you can stop at anytime. If you agree to participate in this study you will be asked to participate in 1 survey that consists of a total of 85 short questions. The survey is distributed through the online survey company Survey Monkey. The first set of questions for the survey is demographic in nature. You will be asked about your years of experience, your race, gender, education level, and level of school at which you currently lead (elementary, middle school, high school, K-12, or other). The rest of the questions were developed from two surveys. The first survey is titled the Multifactor Leader Questionnaire (MLQ). It is designed to assess the frequency of transformational, transactional, and laissez-faire leader behaviors. The second survey is titled the School Academic Optimism Scale (SAOS). The SAOS was developed to measure the academic optimism of an individual. Completion of the surveys should take 20 minutes or less.

Risks

There are no foreseen risks.

Benefits

The study is of no direct benefit to you.

Alternatives Available

If you do not wish to participate in this study, please simply delete this email. No data will be collected from you or disseminated.

Source of Funding

NA

Cost to Participate

None

Questions?

If you have any questions regarding this research project you may contact me, Travis J. Anderson on my cellular phone (406-980-1251) at any time. Any additional questions about the rights of human subjects can be answered by the chairman of my doctoral committee Dr. Art Bangert (406-994-7424; abangert@montana.edu) or by the chair of the MSU Human Subjects Committee, Dr. Mark Quinn, (406) 994-4707 (mquinn@montana.edu).

Confidentiality

Results from participation in this survey are coded and are confidential. No identification of participants (i.e. email addresses) will be used in analyzing data. Published results from this study will not include email addresses or any other information that may be used to identify participants.

The Survey Monkey program keeps track of email addresses that have completed the survey. If you choose to participate, you will be contacted by email to thank you for your participation and to ask if you would like the results of the study upon project completion.

Your Participation in this Research is Voluntary

You are free to stop participating in this study at any time. You may simply stop taking the surveys. Any incomplete surveys will be dropped from collected data. You may ask me about the research procedures and I will answer your questions to the best of my ability.

AUTHORIZATION: I have read the above and understand the discomforts, inconvenience and risk of this study. By pressing the "I Agree" button at the bottom of this page, I agree to participate in this research. I understand that I may later refuse to participate, and that I may withdraw from the study at any time.

Please print a copy of this consent from for your own records.

APPENDIX D

SUBJECT CONSENT LETTER FOR TEACHER INTERVIEW

Subject Consent Form for Human Research at Montana State University

Transforming Educational Paradigms: A Case Study Examining Two Different Schools on the Path toward Implementing Personalized Mastery Practices

You are being asked to participate in a research study that will collect perceptions on transformational leadership and academic optimism during the transition toward a personalized mastery educational paradigm. This research will provide a greater understanding of the collective traits held by the staff during the change process. Data obtained form this study will also provide administration with information crucial to developing a school culture that can further foster this change process. Information gathered form this survey will be completely anonymous. Participation is voluntary and you can choose to not answer any questions you do not want to answer and/or you can stop at anytime. The survey should take no longer than thirty minutes to complete. The study is of no benefit to you. There is no cost for participation in this study. Your identity in this study will be maintained by professional standards of confidentiality.

In you have any questions concerning this study, you can contact Travis Anderson at tanderson@hotsprings1.org. If you have additional questions about the rights of human subjects you can contact the Chair of the Institutional Review Board, Mark Quinn, (406) 994-4707 (mquinn@montana.edu)

- -

AUTHORIZATION: I have read the above and understand the discomforts, inconvenience and risk of this study. I, ____________________ (*name of subject*), agree to participate in this research. I understand that I may later refuse to participate, and that I may withdraw from the study at any time. I have received a copy of this consent form for my own records.

Signed: ____

Investigator: ____________________________________

Date: ____

APPENDIX E

TEACHER INTERVIEW PROTOCOL

Transforming Educational Paradigms: A Case Study Examining Two Different Schools on the Path toward Implementing Personalized Mastery Practices

Interview Protocol

1. How have your leaders provided you with the knowledge to implement a personalized mastery paradigm?
    a. What types of activities have been conducted to acquire this knowledge?

2. How have your leaders facilitated this change in school process?
    a. What are some specific activities that they have done during this process?

3. How has this change been beneficial to students?
    a. Can you provide a specific example about how this approach has been beneficial to a particular student?

4. How has this change affected the way in which you operate your classroom and interact with students?
    a. Please provide some specific examples about how things have changed.

5. If given the opportunity, would you prefer a return to teaching within a traditional model of education?
    a. Why?

APPENDIX F

INSTITUTIONAL REVIEW BOARD APPROVAL

MONTANA STATE UNIVERSITY

INSTITUTIONAL REVIEW BOARD

For the Protection of Human Subjects
FWA 00000165

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Cheryl Johnson
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MEMORANDUM

TO: Travis Anderson and Art Bangert

FROM: Mark Quinn, Chair Mark Quinn CTJ

DATE: May 2, 2014

RE: *"Transforming Educational Paradigms: A Case Study Examining Two Different Schools on the Path toward Implementing Personalized Mastery Practices"* [TA050214-EX]

The above research, described in your submission of May 2, 2014, is exempt from the requirement of review by the Institutional Review Board in accordance with the Code of Federal regulations, Part 46, section 101. The specific paragraph which applies to your research is:

____ (b) (1) Research conducted in established or commonly accepted educational settings, involving normal educational practices such as (i) research on regular and special education instructional strategies, or (ii) research on the effectiveness of or the comparison among instructional techniques, curricula, or classroom management methods.

_X_ (b) (2) Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior, unless: (i) information obtained is recorded in such a manner that human subjects can be identified, directly or through identifiers linked to the subjects; and (ii) any disclosure of the human subjects' responses outside the research could reasonably place the subjects at risk of criminal or civil liability, or be damaging to the subjects' financial standing, employability, or reputation.

____ (b) (3) Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures, or observation of public behavior that is not exempt under paragraph (b)(2) of this section, if: (i) the human subjects are elected or appointed public officials or candidates for public office; or (ii) federal statute(s) without exception that the confidentiality of the personally identifiable information will be maintained throughout the research and thereafter.

____ (b) (4) Research involving the collection or study of existing data, documents, records, pathological specimens, or diagnostic specimens, if these sources are publicly available, or if the information is recorded by the investigator in such a manner that the subjects cannot be identified, directly or through identifiers linked to the subjects.

____ (b) (5) Research and demonstration projects, which are conducted by or subject to the approval of department or agency heads, and which are designed to study, evaluate, or otherwise examine: (i) public benefit or service programs; (ii) procedures for obtaining benefits or services under those programs; (iii) possible changes in or alternatives to those programs or procedures; or (iv) possible changes in methods or levels of payment for benefits or services under those programs.

____ (b) (6) Taste and food quality evaluation and consumer acceptance studies, (i) if wholesome foods without additives are consumed, or (ii) if a food is consumed that contains a food ingredient at or below the level and for a use found to be safe, or agricultural chemical or environmental contaminant at or below the level found to be safe, by the FDA, or approved by the EPA, or the Food Safety and Inspection Service of the USDA.

Although review by the Institutional Review Board is not required for the above research, the Committee will be glad to review it. If you wish a review and committee approval, please submit 3 copies of the usual application form and it will be processed by expedited review.