SENSEMAKING ABOUT STUDENT ACHIEVEMENT TARGET-SETTING IN ELEMENTARY SCHOOLS: HOW TEACHERS IMPLEMENT POLICY

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APPROVAL OF THE CAPSTONE PROJECT

This capstone project, (Sensemaking about Target-setting in Elementary Schools: How Teachers Implement the Target-Setting Policy), has been approved by the Graduate Faculty of the Curry School of Education in partial fulfillment of the requirements for the degree of Doctor of Education.

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Executive Summary

Dr. Daniel Duke

The purpose of the current study is to investigate how collective sensemaking affects policy implementation as related to the setting of student targets. The study was conducted in two elementary schools, focusing on third through fifth grade teachers – both novice and veteran. Through the use of surveys and periodic interviews, which were coded using four themes (constructing understanding, safeguarding, frustration, and beliefs), the researcher determined that teachers individually and collectively make sense of target-setting policies, and that they experience frustration with the process due to limited availability of data and operating within a paradigm that creates an inherent and unavoidable conflict of interest for teachers. In spite of teachers' frustration, they believed that the process of setting student growth targets is beneficial for teachers and students. Thus, the researcher concluded that the process should continue with modifications to allow for more accurate growth targets to be set by (a) removing the responsibility of target-setting from teachers and vesting that responsibility with Research and Planning (or, in the alternative, removing the link between teacher compensation and student attainment of teacher-set student growth targets while providing teachers better access to appropriate data) and (b) by encouraging and facilitating teachers' collective sensemaking concerning the target-setting process.

DESCRIPTION OF STUDY

Introduction

The purpose of this portion of the capstone dissertation is to provide a description of the study. In particular, it will offer a summary of the literature on goal setting, policy implementation, and collective sensemaking that helped shape the study, the conceptual framework used to ground the study, and the mixed methodology used for data collection and analysis.

Background

The district leadership recognized a need to address the high teacher attrition rate and academic performance of many students. In the district that participated in the present study, grant writers prepared and successfully received a federally-funded teacher incentive grant. Believing that rewarding teachers financially for staying at hard-to-staff schools would increase teacher retention, the department of staff development wrote a grant application addressing how to best provide incentives for teachers. Seven schools were chosen to participate in the incentive grant program based upon teacher turnover and the low socioeconomic status of the student population. Teachers, as a part of the district's program, were required to set academic growth targets for their students, and the county was to provide teachers with the resources and data to predict, as ambitiously but as realistically as possible, the extent to which each student would grow academically over the course of the school year. The teacher incentive fund grant program enabled teachers to receive additional compensation up to $8,000 based upon the extent to which students reached their growth targets. Two of the seven schools receiving grant funds

participated in the current study, which was conducted during the fourth year of implementation of the teacher incentive fund grant program.

To assist teachers in the prediction of student targets, the district leadership team provided both formal and informal resources aimed at aiding teachers in the goal-setting process. Formal resources consisted largely of structured experiences (eg. workshops, administrative meetings, and Learning Leader coach meetings), data, and guidelines that were specifically provided by the county in order to help teachers undertake the goal-setting process. One important formal resource that was available to teachers throughout the academic year was a Learning Leader (LL) Coach. The LL Coach is an experienced teacher in the school who receives a stipend to act as a mentor to teachers as they work through the target-setting process. Teachers also were given access to other resources at specific times throughout the year. Teachers who were new to the school were required to attend a workshop in August that provided an overview of the process, but all teachers were invited to participate in that workshop. In the August workshop, teachers were informed that they should predict growth of at least four points on their students' Northwest Evaluation Association (NWEA) scores for reading and math because the average student improvement on that measure is four points, and teachers were likewise informed that they should deviate from that four-point improvement goal only if they had proper justification for doing so.

In October, teachers received an Excel spreadsheet that had data for each student in their current classes. The data included each student's NWEA and Standard of Learning (SOL) scores for all years that students attended the school district. Teachers were then to take the data given to them in the spreadsheet and use the information to set

predicted targets, bearing in mind the "suggested" prediction of growth of at least four points on the NWEA scores. Teachers were allowed to use the notes section of the spreadsheet to add pertinent data such as attendance, conduct, and family concerns, in order to provide further support for a score prediction lower than the recommended prediction. (Although this was the planned timeline, it is important to note that teachers were not given the database until approximately two weeks prior to the target submission deadline during the year of this study.)

Teachers were required to submit targets to their administrators by the end of November. Administrators scheduled meetings with teachers to discuss the targets as well as teachers' rationale for the targets. Administrators facilitated the meetings and were expected to ensure that targets were sufficiently set. At times they asked teachers to adjust targets. Following the teacher meetings, and following any adjustments to targets based upon administrators' recommendations, administrators uploaded the targets to an electronic drop-box no later than the second week of December.

In December, targets were locked, and teachers were not supposed to make any new changes. However, teachers were allowed another limited window to adjust targets once they came back from holiday break in January. Teachers were able to make adjustments to the targets, with proper justification, through mid-March. In August, teachers received additional compensation up to $8,000 based upon the percentage of their students that met the targets.

During the second year of the implementation of the teacher incentive fund grant, the teacher evaluation process was changed. Following the participating district's implementation of the teacher incentive grant fund program, and in response to Article 2,

§22.1-295 of the Code of Virginia, the Virginia Department of Education (VDOE) implemented the 2012 Guidelines for Uniform Performance Standards and Evaluation Criteria, which provided a state-wide model for gauging teacher performance and the means best suited to evaluate that performance. Outlined in this model were seven standards that were used to evaluate all Virginia teachers - professional knowledge, instructional planning, instructional delivery, assessment of student learning, learning environment, professionalism, and student academic progress (VDOE, 2011).

On June 21, 2012, the Board of Education for the participating school district acted on the state guidelines by recommending to district leaders that each teacher receives a summative evaluation determined by weighing the first six aforementioned standards equally at ten percent each, and the seventh standard of student academic progress at forty percent. For the 2012-2013 school year, the leadership team trained building principals and assistant principals on the new evaluation standards and rewrote the tools used for teacher evaluations. During this training, the leadership team communicated that student academic progress would be measured by whether the student achieved a goal assigned by the teachers (i.e. whether the student met his or her growth targets). Beginning in the third year of the grant program, the school district announced that if a teacher did not have at least 80% of the students demonstrate acceptable growth (as defined by teacher assigned student targets being met), teachers would receive an unsatisfactory evaluation. The current study was conducted during the fourth year of the grant program – the point at which the above changes were implemented. As currently designed, these evaluation criteria assess teachers on their ability to predict student growth which is measured by teacher-set goals.

Teachers receive multiple messages from policymakers, school administrators, and peers as to how the teachers are to implement the student target setting effectively, and many of those messages are conflicting. The problem of practice was that educators and policymakers have minimal research with which to understand how teachers made sense of multiple messages related to student target setting, or how teachers made sense of policy messages which was essential to ensuring the effective implementation of the policy. Without that knowledge, the district cannot know how best to assist teachers in this target-setting process. In order to understand how better to communicate policy and procedural changes district leaders must understand how teachers are interpreting the new policies and procedures. This study explored how teachers individually and collectively made sense of the target setting process, whether the sensemaking was different for novice and veteran teachers, and whether the resources provided by the district were perceived as being helpful as teachers set the targets.

Research Questions

The research questions addressed in this study are as follows:

1. How do teachers make sense of student target setting?
2. What role does group interaction play in target setting?
3. Do differences exist between the process by which novice and veteran teachers make sense of messages related to student target setting implementation?

Summary of the Literature Review

The purpose of this summary is to review the literature and research on goal setting theory, policy implementation, and collective sensemaking. The first portion begins by focusing on goal setting theory and its relation to improved achievement. The second portion examines the literature on policy implementation and collective

sensemaking. The last section is divided into three parts: (a) a description of current conditions creating need for policy implementation; (b) a review of best practices in policy implementation; and (c) the role of sensemaking in policy implementation. The summary closes by exploring collective sensemaking as a vehicle for influencing the implementation of student target setting.

Goal Setting Theory and its Influences on Student Achievement

Classroom goal structures can impact student performance (Rowe, Kim, Baker, Kamphaus & Home, 2010). For example, Fast, et al. (2010) found that higher levels of math self-efficacy and performance occurred when students experienced a mastery-oriented classroom that was caring and challenging. Other researchers have determined that the same effect happens on an individual level when students have performance targets set for them (Waite, Lawson, & Bromfield, 2009). Young and Kim (2010) found that district administrators and school leaders have begun to implement formative assessments to inform teachers' instructional decisions, thereby equipping teachers to more accurately set student targets while promoting attainable student achievement. Fuchs and Fuchs' literature review (1986), as cited in Young and Kim (2010) highlighted the importance of pursuing explicit goals and determining students' next steps based upon data analysis. The meta-analysis done by Fuchs and Fuchs obtained a mean effect size of 0.92 for studies in which teachers were required to determine concrete incremental goals for students using the data then available to the teachers; however, when teachers were permitted to use data as they deemed appropriate, there was a mean effect size of 0.42. The significant differences in these findings underscore that it is imperative that

teachers and policymakers understand more fully how to effectively set goals in order to maximize student achievement.

According to Locke and Latham (2002), goal setting theory originated in the 1970's when Ryan postulated that conscious goals affect actions. Others theorized that this focus or aim would build commitment and personal focus (Dweck & Leggett, 1988; Wolters, 2004; Woolley, et al., 2010). Goal setting theorists would argue that properly set student goals would help teachers to forecast, explain, and impact student performance (Dweck & Leggett, 1988; Locke & Latham, 2002).

Goals affect performance in four ways. Primarily, goals serve as a focus; goals provide a means by which one may evaluate all activities as goal-relevant (Latham & Edwin, 2006). In any organization, competing priorities create an environment in which tangential projects may displace priorities. Locke and Latham (2002) found that when people were given feedback on certain features of their performance, their performance on those features improved.

Additionally, established goals can energize tasks. Higher level goals necessitate greater effort (Bandura, 1988; Barry, 2007; Dweck & Leggett, 1988). Furthermore, Locke and Latham (2002) concluded that even when the level of the goal is constant, higher expectancy leads to higher performance. Creating an environment in which teachers not only create goals, but accomplish them, builds a climate where higher expectations and performance are more likely to be the norm (Dweck, 2010; Eckerson, 2011).

Goals also operate to promote persistence. Allowing students to determine the amount of time to be spent on a given task builds endurance in effort (Seifert, 2004). In

reality, this can create an inverse relationship between time on task and intensity of effort. Locke and Latham (2002) found that when an employee is faced with a difficult goal, the employee can either intensify effort or work at a slower pace for a longer period. In light of the foregoing, providing teachers stringent deadlines would help with the demands of high stakes tests with multiple content strands (Locke & Latham, 2002).

A fourth effect of goal setting on motivation and performance is the intrinsic learning of the employee. Goals can nurture excitement, discovery, and use of content knowledge and strategies (Destin & Oyserman, 2010; Pintrich, 2003; Roderick & Engel, 2001). Locke and Latham (2006) assume that all action is an outcome of cognition and motivation, but the interplay between these elements is not as clearly defined.

Policymakers have moved towards a policy that requires goal setting as a means of evidence-based decision-making (Honig & Coburn, 2008). Honig (2003) and Spillane and Reimer (2002) show that for policy in practice to reflect original policy design, there must be a clear focus throughout the implementation process. In Virginia, where forty percent of teacher evaluation is based upon whether goals set by the teachers are met by students (VDOE, 2011), policymakers must evaluate whether there is a disconnect between the policy's intent and actual practice.

Implementation of Goal Setting Policy

Researching policy implementation has become a complex and dynamic endeavor. In the early 1960s, policy design was mainly regulatory in nature (Honig, 2003). Decisions were top-down driven and based on the assumption that policies should be complied with by the implementers. If implementation of a policy did not occur, it was believed that individuals were driven by self-interest (Honig, 2006; Honig & Rainey,

2007). To offset the lack of implementation, policymakers built stronger incentives and strived to have clearer directions. However, in the 1970s, a small handful of researchers began to see that policy implementation would be improved if more focus centered on why variations in policy implementation occurred (David, 1989). These researchers claimed that variations in policy, places, and people directly impacted the implementation of policy. In 1983, *A Nation at Risk* ushered in a new era in policy implementation. Policy was designed to be fully implemented, but at an individual level; No Child Left Behind created a sweeping nationwide policy that was to be implemented at the district and school levels.

Policy implementation in education continued to evolve by building on the learning and research from prior years. Currently, policy design is systematic and large-scale, involving multiple stakeholders and multiple tools. Policy is more collaborative and bottom-up with reform and change viewed as more fluid state (Honig & Rainey, 2007). Research now centers on why interactions among people, places, and policy shape implementation (Briggs & Wohlstetter, 2003; Rubenstein, et al., 2005).

Implementation of a policy can be affected by multiple factors. In fact, variations of the policy in practice are not the exception, but are rather the rule. The goal of researchers, then, is to understand how these variations shape and are shaped by implementation (Honig, 2006). For example, policy implementation can be directly affected by prior knowledge of stakeholders, patterns of social opportunity, and the stakes associated with implementing the policy (Honig & Coburn, 2008).

One approach to research in policy implementation centers around sensemaking and social learning theories such as Bandura's social cognitive theory (Bandura, 1989).

Implementation of a policy is directly affected by the understanding of language used in the written policy (Honig, 2003). The success of policy implementation is hindered if stakeholders do not understand the written policy. Bair and Bair (2011) did a four-year study to ascertain how a high school in Michigan implemented mandated curriculum policies. Completing interviews with ten administrators and twenty-two teachers, and observations of thirteen mathematics and twelve science classes, and reviewing various related documents, Bair and Bair explored how educators made sense of the written policy and ultimately how educators implemented the new curricula, they found that administrators and teachers created structures that unintentionally harmed students they were trying to help.

Bair and Bair's study underscores that policy implementation is not a "one size fits all" approach. Honig (2006) found that policy may spread through communications among many stakeholders. Policy put into practice relies on negotiation of meaning and opportunities for community participation (Honig & Coburn, 2008). Furthermore, Honig and Coburn found that communities continue to develop their shared language over time. Contemporary researchers believe that the interactions between individuals within the community determine the success or failure of policy (Honig & Rainey, 2007; Honig & Coburn, 2008; Honig & Lorton, 2009). It is hypothesized that through interactions within the educational community, teachers will mediate the multiple messages regarding student target setting and will ultimately shape the policy in practice.

Sensemaking Theory

Weick (2012) observed that people often find themselves in the middle of an organized action pattern; they are dropped into the middle of a story with a vague

explanation of the beginning or end. At this juncture, a person's ability to make sense of the situation and their role therein is critical to their ability to successfully navigate the situation. In the realm of education, teachers typically have established practices when they are called upon to implement new policies and procedures, and often are given complex and conflicting messages concerning the implementation of those new policies and procedures. Thus, teachers must make sense of the multiple internal and external messages in order to effectively implement new policies and procedures. To do so they create meaning from the fragments of information available to them using logic and sensemaking (Hernes & Maitlis, 2010), and in order to make policy implementation more efficient, one must better understand the sensemaking process.

Cunliffe and Coupland (2012) found that teachers make meaning with others through the process of sensemaking and sensegiving or "polyphony". Polyphony involves "contestation, making meaning with others, the overlap of sensemaking and sensegiving, and the emotionality of sensemaking. Despite these complexities, people try to make life sensible "by responding to and taking into account polyphony of 'other' voices" (Cunliffe & Coupland, 2012, p. 80).

For teachers, the "other" voices are the actors in the implementation process. They rely on the voices of peers and supervisors, as well as the resources they are provided, as they knit their narrative together. It is believed that through repeatedly reforming the message from multiple sources, teachers will have the resources necessary to implement the target setting process. As teachers build processes with which to frame their narrative and rationalize their choices, they will rely upon veteran teachers, worldviews, institutions, devices, and stories (Weick, 2012). This reliance highlights

another opportunity for further study in that there may be a difference in the needs of the novice and the veteran teacher. Researchers have found that the success of the novice teacher depends directly upon their ability to adapt to norms and procedures (Jones, Youngs, & Frank, 2013). The novice teacher's success will be affected by their ability to use available resources to process multiple messages and mediate the student target setting process (Coburn, 2001). Understanding the varying needs of novice and veteran teachers can provide educators and policymakers with information that may be utilized to proactively meet the resource needs of teachers with different levels of experience, which is relevant to how teachers implement educational programs or policies. The resources available to all teachers, and any differences in the manner in which novice and veteran teachers use those resources, may provide clarity in the sensemaking process (Weick, 2012).

Researchers posit that teacher sensemaking is influenced "by the nature of teachers' connections to policy messages: their degrees of depth, pervasiveness, specificity, and voluntariness" (Coburn, 2005, p. 480). One concept particularly relevant to teachers' abilities to make sense of policies and procedures regarding student target setting is known as justification. Justification, the process by which individuals rationalize decisions about complex problems, is a means by which teachers can introduce legitimacy and stability into the target setting process. Cunliffe and Coupland (2012) concluded that justifying one's own actions and those of others allows individuals to make sense of their choices. Whittle and Mueller (2012) found that when in crisis, "people are 'called upon to justify or excuse their own role (or lack thereof)" (p. 133) in the situation. (Weick, 2012, p. 148).

Collective Sensemaking and Its Relationship to Policy Implementation

"The cognitive approach to policy implementation has tended to focus primarily on the micro-processes that characterize teachers' implementation of instructional policy" (Coburn, 2005, p. 478). Sociological theorists, such as Weick (1995) and Coburn (2005), hypothesized that teachers understand and put policy into practice through sensemaking. Teachers create meaning of policy through scaffolding prior knowledge, social contexts, and their worldviews (Coburn, 2005; Spillane, et al., 2002).

Contemporary policy implementation researchers argue that policy is filtered through policy actors (Coburn, 2001; Honig, 2006). Sensemaking theorists believe that the structure, routines, culture, and worldviews of the actors frame the policy. Policy in practice results from how people process messages from the environment, make meaning of those messages, and then act on "those interpretations, developing culture, social structures, and routines over time" (Coburn, 2005, p. 479).

The meaning assigned to this information is complex and diverse. Individuals create understanding through individual and/or shared interpretations (Weick et al., 2005). In the same way, teachers create meaning by "hooking" new information onto preexisting cognitive frameworks. Weick (1995) refers to these preexisting frameworks as "worldviews."

Teachers utilize their pre-existing knowledge to translate new policy, often reconstructing multiple policy messages from multiple stakeholders (Honig, 2006). Teacher sensemaking is not conducted in isolation. Coburn (2001) and Hill (2001) found that sensemaking is influenced by social interaction with colleagues, the learning

environment at the school (Coburn, 2005; Louis & Marks, 1998), and school norms that provide "appropriate responses and structure priorities" (Coburn, 2005, p. 480).

In 2005, Weick et al. examined sensemaking in a hospital emergency room, identifying eight core theoretical features of sensemaking. According to Weick, there are three features of sensemaking by which groups process and understand occurrences and situations that impact them. The first feature is the communication process by which a group makes sense of the circumstances around them, and how those circumstances affect them as a group. Groups then utilize retrospection and reflection to make sense of complexity and uncertainties that influence their practice. The greater the complexity and uncertainty, the more the group relies upon collective sensemaking to develop a plan of action (Weick, 2005; Rutledge, 2009).

Applying many principles similar to those upon which Weick (2005) relied, Coburn (2001) investigated teachers' sensemaking in implementing reading policy at an elementary school in California. Her study focused on first and second grade teachers in an urban school over a two-year period. She used a qualitative case study approach to conduct fifty-seven (57) interviews with eighteen (18) teachers and completed one hundred and thirty (130) hours of observations. Coburn found that sensemaking is not solely an individual activity, but rather a collective activity grounded in social interactions. Using the case study approach allowed for the in-depth investigation necessary to capture the subtle and iterative process by which teachers create meaning through interactions with peers.

Coburn's study is foundational for this study as it provides a detailed account of how reading teachers reconstruct ideas through the lens of their preexisting beliefs and

practices, thus painting a picture of how the process unfolds. Coburn identifies key sub-processes and highlights crucial formal networks and informal interactions with peers as they relate to the collective sensemaking of teachers. By studying teacher interactions with messages from the environment, Coburn found that collective sensemaking is shaped by "constructing understanding through interpersonal interaction, gatekeeping, and negotiating technical and practical details" (Coburn, 2001, p. 148).

Coburn found that when teachers come into contact with new messages, they often spend time with peers constructing an understanding of what the new messages mean. Complex messages require more time. Coburn (2001) discusses how observed conversations centered on coming to a collective understanding of what concepts meant and how to translate those concepts into bases for decision-making.

Coburn (2001) found that individual and collective worldviews were key to shaping the process by which teachers reached mutual understanding, observing that when teacher groups held very different worldviews and practices, the groups constructed different understandings of the same message. For example, Coburn found that the requirement that teachers "use…assessment to inform instruction on a continuous basis" (p. 147) was interpreted by one group as knowing where in a sequence of learning a child was and planning lessons accordingly. Another group saw assessments as a way to developing lessons in response to a student's needs rather than a set sequence.

Coburn (2001) also found that gatekeeping was used by teachers to accept some messages and reject others. Teachers used worldviews and/or shared understandings to filter decisions. At various points in the study, all groups were observed having conversations such as, "this does not apply to our grade level" and "this is too difficult

for our students". All groups also exhibited gatekeeping when they were philosophically opposed to a message, if they found the message to be completely outside the bound of comprehensibility, if the message did not "fit" or was unmanageable, or if they did not feel that they understood the message itself.

Negotiating technical and practical details can be difficult when the link between meaning-making and action is not straightforward. When messages were not rejected through gatekeeping, teachers held conversations with peers to work out the technical and practical details involved in transforming an idea into practice. Conversations were iterative, being brought up again and again, sometimes after teachers had implemented materials into the classroom.

Although Coburn (2001) defined three distinct sub-processes involved in collective sensemaking, in practice few conversations were straightforward. Sensemaking in formal and informal settings was "highly iterative and recursive" (p. 154). Teachers cycled back to issues over and over throughout the year - modifying their conceptual understanding, reconsidering technical and practical concerns, and making gatekeeping decisions as new messages entered from the environment.

Heterogeneous and homogeneous grouping were used for various formal and informal meetings. Teachers tended to pair with those teachers with similar worldviews and approaches when choosing to converse on their own. Although heterogeneous grouping allowed for diversity of approaches and ideas, teachers had difficulty communicating, often resulting in a constructed negotiated response by dominant members.

While Coburn's (2001) study was the foundation for the current study, some limitations to her study suggest the need for further research. For example, Coburn focused exclusively on the sensemaking process of first and second grade teachers in one elementary school. The present study extended her work by exploring sensemaking by third through fifth grade teachers in two elementary schools. Additionally, Coburn (2001, 2005) examined a California urban school while the current study was conducted in a Virginia suburb. Coburn addressed policy as it related to implementation at an instructional level, whereas this study investigated teachers' sensemaking as they mediated policy affecting both instruction and teacher evaluation. There is little research concerning the sensemaking process as it relates to high stakes policy implementation.

Conceptual Framework

Sensemaking was used in this study as a conceptual framework to guide the data collection, analysis, and interpretation. Differences between individual and collective sensemaking are central to the framework and the design of the present study.

Sensemaking is the process by which people give meaning to complex decisions and experiences. Although the process of sensemaking has been explored in disciplines such as computer science and informational science since the 1970s, Karl Weick was the first theorist to apply sensemaking to a social context. Weick's book, *Sensemaking in Organizations* (1995), was groundbreaking and his poetic descriptions of sensemaking drew upon philosophy, sociology, and social psychology as he sought to explain how individuals mediate decisions that are born out of collaboration and reflection. Weick's work focuses on the study of organizations and sensemaking by providing insight into

issues that occur as organizational members address uncertain or complex situations.

Weick (1995) identified seven assumptions about sensemaking:

1. People must identify who they are within the larger context of how they interact with and interpret events (Rutledge, 2009; Weick, 1995; Weick, Sutcliffe & Obstfeld, 2005).

2. People need to have the time to be retrospective; this provides the opportunity for sensemaking (Gephart, et. al, 2010).

3. People engage with their environments as they interact in dialogues and narratives (Weick, 2012). As people build narratives, it creates an understanding that guides how and what they think, how they organize their experiences, and how through those experiences they process and act in their environments (Weick, 1995; Weick, 2012).

4. Sensemaking is both an individual and social activity ... "an evolving product of conversations with ourselves and with others" (Currie & Brown, 2003, p. 565).

5. Sensemaking is continuous; people must shape and respond to their environments simultaneously (Weick, 1995, Weick, 2008). However, it is important to note that since Weick's work in those studies, there has been dialogue on whether or not sensemaking is continuous or event-triggered (Dreyfus & Dreyfus, 2005; MacLean et al., 2012). As people act within their environments and observe the consequences, they learn about themselves and the accuracy of their worldviews (Thurlow & Mills, 2009).

6. People deduce from contextual clues, which helps them decide what information to filter out and what information is valuable (Coburn, 2001; Weick, 2012). These extracted cues provide a framework upon which to "hook" ideas to broader meanings and prior learning (Coburn, 2005). These points of reference act as "seeds from which people develop a larger sense of what may be occurring" (Weick, 1995, p. 50).

7. People choose plausibility over accuracy in accounts of events and contexts (Currie & Brown, 2003, Weick, 1995).

Sensemaking theorists believe that individuals interpret their environments based on these seven principles. Their interpretations are evidenced as they act upon the sense they have made of events (Currie & Brown, 2003; Rutledge, 2009; Weick, 2012). Using these seven principles as a framework, researchers have created a substantial body of literature concerning how individuals mediate complex decisions when given mixed

messages from the environment. Sensemaking theory has been used as a framework in educational policy (Honig & Rainey, 2007; Coburn, 2001; Coburn, 2005; Tyack & Cuban, 1995), organizational design (Weick, 1995; Weick, 2012; Rutledge, 2009), and policy implementation (Honig, 2006; Spillane, et. al, 2002). This body of research provides a foundation for the proposed study.

Sensemaking is the complex cognitive process by which individuals engage when they encounter complex and high risk situations (Weick, 1995; Thiel, et al., 2012). Building on this basic idea, researchers have assumed that individuals have come to understand their environments through prior knowledge, the social context in which they work, and the nature of their connections to events (Weick, 1995; Coburn & Woulfin, 2012). Further, theorists would argue that the meanings assigned to events or information are not necessarily given explicitly, but rather that those receiving such policy messages are left to construct meaning themselves. This can be problematic. Weick (1995) and Coburn (2001) found that sensemaking occurs at the individual level when individuals draw upon their existing worldviews to interpret new information, often reconstructing messages regarding policy that either reinforces existing practices or requires minor change.

It is important to note, however, that sensemaking regarding policy is not solely an individual experience. Researchers have found that sensemaking is influenced through the social constructs of the workplace (Coburn, 2001; Coburn & Woulfin, 2012). Coburn and Woulfin (2012) found that this social interaction, or collective sensemaking, molds which components of policy are noted by individuals, how they focus on some policy messages while ignoring others, and how individuals ultimately understand the meaning

and implication of their circumstances - thus influencing their actions within their environment. In her 2001 study of the implementation of reading policies, Coburn often found that when dominant personalities were placed in heterogeneous groups the group adopted the interpretation of the policy suggested by the dominant personalities.

For purposes of the present study, there are a number of possible contributors that may influence collective sensemaking as teachers set student targets – peer interactions within the same grade level, peer interactions across grade levels, the suggestions and guidance of the learning leader coach, formal meetings with the principal and assistance principal, and workshops provided by the central office liaison for the target setting process. Additionally, there are external influences such as newspapers and other news media, family members, teachers outside of the school, and professional organizations. The messages from the external factors may influence the collective sensemaking process of the teachers.

Although collective sensemaking has been shown to influence policy in practice, little research has been done regarding how to utilize sensemaking in the design stages of policy and policy implementation. Few studies have examined how collective sensemaking drives instructional policy, and no study was found that examined high-stakes decision-making in education using the framework of sensemaking. The current study explored how teachers mediated the multiple messages regarding the student target setting implementation. Collective sensemaking was a key focus, particularly in light of the fact that half of the sample of teachers had at least three previous experiences in setting student targets. The study examined the iterative process as teachers mediated policy messages at the individual level with respect to novice teachers and at the

collective level with respect to all teachers in order to ascertain how student goals were set.

The nature and effects of individual and collective sensemaking are the foci of the current study. It was evident that teachers set similar student targets with some consistency. Additionally, there was direct and indirect evidence of the presence and effect of collective sensemaking. If individual sensemaking were the sole means by which teachers made sense of policy messages, it might be possible that the teachers' student targets would be varied, since those targets would have been set based upon the teachers' preexisting worldviews and practices. These findings may imply that teachers relied heavily on collective sensemaking. This premise was further support for Coburn's findings (2001, 2005) which indicated that a group engaged in collective sensemaking tends to adopt the perspective of the group's dominant member(s). If teachers set similar student targets, that similarity could be the result of a dominant group member having swayed the group. If teachers' student targets did not vary widely, then it might imply that teachers did not rely on individual sensemaking. Drawing upon Coburn's and Weick's works, the study therefore looked at how teachers made sense of the student target-setting policy through interpersonal interactions, gatekeeping, and negotiating practical details.

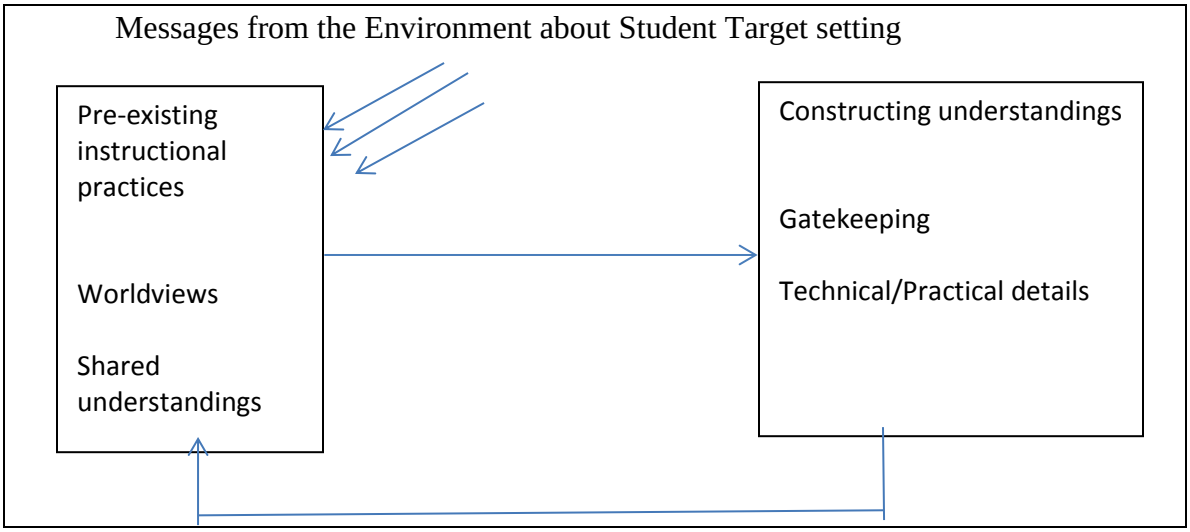


Figure 1. Conceptual Model of Sensemaking Process. Adapted from Coburn, 2001, p.152.

The researcher interviewed novice and veteran teachers to ascertain the methods by which teachers sensemake concerning the target setting process. The interviews focused on teachers' beliefs about the evaluation system and student targets, their experiences with setting targets, and any confusion they had as a result of setting targets. Understanding what practices influenced the target setting process was intended to provide recommendations for district leadership concerning how to improve the student target setting process.

Summary of the Methodology

Multiple interviews were conducted over a four-month period. Having multiple points in time for data collection contributed to *trustworthiness* (Patton, 2008). Additionally, the trustworthiness of the study was augmented by the *dependability* and *transferability* of the researcher's data, specifically the data related to sensemaking as related to student target setting. Finally, the *confirmability* of the

study was enhanced by the inclusion of member-checking, and by the transcription of the interviews. These repeated measures and data checks allowed for *triangulation* of the data, thereby increasing the validity of the study.

In this study, trustworthiness was bolstered by adhering to measures highlighted by Patton (2008). First, the researcher, having been immersed in the jurisdiction in which the procedures in question have been implemented, is *familiar* with and was *assimilated* to the culture of the district. However, in order to maintain objectivity and minimize any influence that the researcher may have on participants, the study was conducted with schools with which the researcher had no prior direct affiliation

Data Collection

The study involved five phases of data collection. In the initial phase, the researcher conducted a survey of third, fourth, and fifth grade teachers at two central Virginia elementary schools within the same district. The survey sought to: (a) determine teachers' willingness to participate in further interviews; (b) inquired as to the length of the teachers' experience in the school district; (c) determined the length of the teachers' experience with the student target setting process; and (d) ascertained the extent to which teachers have participated in conversations related to student target setting.

The second phase of the study involved interviewing participants prior to the district's distribution of materials and resources that the teachers were supposed to use in setting targets for their students. These interviews were conducted with all willing participants (6 out of 10 teachers). Three of the teachers were novices, and

three were veterans. The interview questions are discussed in more detail below and in Appendix I.

The third phase consisted of another set of interviews with the teacher-participants. This second interview took place later in late October, after the district provided the materials and resources to aid the teachers in setting their student targets. At this point in time, teachers had not set their students targets, but had participated in a training workshop, and had been provided access to the learning leader coach.

In the fourth phase of data collection, the researcher conducted a final set of interviews with the six teacher-participants. Although teachers had set their targets at this juncture, they still had the opportunity to adjust the targets they set initially. They had not been given any new or additional resources from the county since those provided prior to the third phase; however, they had the opportunity to gather more data concerning their students and had the opportunity to communicate with their peers in formal and informal settings concerning the targets they set.

These sequenced interviews allowed for the researcher to investigate the process of sensemaking over time, after external factors (e.g. additional student data and observation, additional interaction with peers, etc.) prompted additional sensemaking. External factors influenced teachers to modify student targets over the course of the year.

The fifth and final phase of data collection called for a survey that included the same questions as those included in the baseline survey in the first phase. Table 1 (below) reflects the timeline for the study.

Table 1

Timeline for Study

September	October	November	Early December
Complete pre-target setting survey in two elementary schools	Provide transcripts of interview to teachers and LL coach to review	Provide teachers transcripts of interviews to review	Provide transcripts of interviews to teachers and LL coach for review
Interview six teachers and LL coach pre-target setting	2nd interview with Teachers mid- target setting	3rd interview with teachers and LL coach post-target setting	
		Post-target setting survey in two elementary schools	

Participant Interviews

Utilizing specific interview questions for the three sets of interviews helped the interview process be more systematic, objective, and comprehensive (Patton, 2008). The researcher constructed interview questions by anchoring each question in the conceptual framework of sensemaking and the current study's research questions. The pre-determined questions, by providing a set structure for the interview process, focused the researcher's inquiries to ensure that questioning centered on how teachers made sense of the target setting process. The questions were adjusted at each collection phase in order to gain a more complete understanding of the complexities of sensemaking. Questions addressed teachers' experiences, practices, perspectives, and insights as related to student target setting. Additionally, the researcher inquired as to the extent to which teachers were given the opportunity to interact at formal and informal meetings regarding target setting with their peers.

Research Context

Data analysis was conducted using two units of analysis - the individual teacher and the teacher group. Data analysis began during the process of data collection. The earlier phases of the study generated information regarding pre-implementation beliefs, worldviews, and practices; however, expansion of the findings occurred through identification of emergent themes during data collection. Patton (2008) advises that the investigator has two core sources to use in the analysis phase of a study. The first is the questions generated during the design phases of the study, and the second was insights and interpretations occurring while data was collected. Early data analysis was beneficial in this study, as it allowed for the processing of copious amounts of data gathered through surveys and interviews. By beginning analysis early, the researcher discerned emerging themes in the sensemaking process.

One crucial component of the data analysis process was data clarification by interview member checking. Interview participants were provided with email transcripts following each interview (see Appendix B). Member checking allowed for all participants to verify not only the content of the interview, but also to further clarify parts of the interview that were unclear or contradictory. Participants were instructed to email any changes to the researcher.

The second stage in data analysis for this study involved analyzing the interviews for content. Drawing upon the research studies by Coburn (2001 and 2005), the researcher used coding, classifying, and labeling the primary patterns in the data. Though deductive analysis was the initial and primary type of analysis

employed for categorizing teachers' experience levels and identifying the principles of sensemaking theory that observed, inductive analysis was also used to identify patterns and themes in the data. The framework for the deductive coding of the interview transcripts was based on codes developed by Coburn (Coburn, 2001; Coburn & Russell, 2008; Coburn & Woulfin, 2012) in studies related to teachers' sensemaking. As the interview process progressed codes were enhanced and new codes developed.

Following the coding of data, interpretation of the findings followed. The process of interpreting the findings provided an analysis of themes and concepts that emerged from the data. For example, the researcher examined changes in individuals' responses over time and explored variations and similarities across participants' sensemaking and target setting to discover emerging themes. The researcher drew conclusions based on answers to interview questions that were mapped back to sensemaking codes. (See Appendix G)

The final phase of data analysis called for developing positions and recommendations grounded in identified themes. It was critical at this stage to understand the audience for the report and what information would be most crucial to the understanding of the findings. The current study's findings will be presented to district administrators along with specific suggestions for improving the implementation of policies and procedures with respect to student target setting.

POSITION PAPER

Introduction

The goals of this mixed methods study involving the student target-setting process were threefold. First, the study explored how teachers make sense of student target-setting by inquiring about the resources upon which teachers rely in setting student achievement targets and how prevalent that reliance is among the teacher population. A second issue concerned the role of group interaction in student target-setting – specifically, the extent to which teachers valued interaction with their peers in determining student targets. A third goal of the study was to explore any differences that may exist between novice and veteran teachers as they processed messages related to student target-setting and implementation of the target-setting policy, and which resources novice and veteran teachers relied upon in implementing those messages. A comprehensive understanding of the issues represented by these three goals is helpful in understanding how teachers implement policy messages as related to student target-setting, and deepening this understanding is essential for educational policymakers seeking to create an environment more conducive to the effective implementation of policy.

The design and data collection methods in the study were grounded in the research questions and the conceptual framework. Survey data utilizing Likert scales provided quantitative data relevant to the research questions, and was gathered using baseline and post surveys. The qualitative research data was collected through three

separate one-on-one open-ended interviews with novice and veteran teacher participants, thereby allowing the researcher to observe the results and evidences of the teachers' intrinsic processes as related to student target-setting. By combining qualitative and quantitative data collection, the study obtained more comprehensive data as concerning the research questions, which increases the validity of the findings.

Quantitative Findings

The pre- and post- surveys showed that teachers reported informal meetings with their peers as the most helpful resource available to them. Table 5 in Appendix I- Findings reflects the descriptive statistics for teachers' overall responses to the question requiring them to rank the helpfulness of the resources provided to them in the student target-setting process. In nearly all sample subsets (grade level and years of experience), teachers reported informal meetings with their peers as the most helpful resource available to them, with the one exception being that fourth grade teachers ranked the helpfulness of learning leader coaches slightly higher than informal meetings with their peers. However, it is important to note that the learning leader coach was a peer in that grade level, which may have affected teacher responses. The participants' responses yielded a mean value of 5 (highest value) for the level of importance of informal peer meetings. The importance of informal peer meetings is further supported by the unanimity of the affirmative responses that teachers relied upon someone other than a learning leader coach in setting student targets. (See Table 6 in Appendix I- Findings). Additionally, participants who spent more time in setting their student targets ranked informal teacher meetings and the learning leader coach as being the most helpful resources, as is reflected in Table 7 in Appendix I- Findings. The data support the

hypothesis that teachers engage in collective sensemaking, relying upon it heavily, as they navigate the student target-setting process.

Due to the sample size, nonparametric tests were used in the analysis. Conducting a Kruskal Wallis Chi Square test, it was determined that there was no statistically significant difference ($p>.05$- for all variables) between the groups investigated. This data was somewhat surprising. It was believed that veteran teachers would not rely as heavily on collective sensemaking with their peers due to their already going through the process six times prior. Although the district was in its fourth year of the implementation of the policy, there were multiple adjustments each year that impacted the teachers. These changing dynamics could have created a need for experienced teachers to continue to rely on collective sensemaking.

Also, it was also interesting that the survey results were sometimes contradictory. Teachers reported that they spent no less than 15.25 hours on setting student targets (Table 2), however when asked to pick a range for the hours spent setting student targets 10 out of 11 teachers reported that they spent less than ten hours on setting targets (see Table 3 in Appendix I- Findings). Only one teacher surveyed stated that they spent over 10 hours setting targets. However, it is interesting to note that regardless of the hours spent setting targets, all participants ranked meeting informally with their peers as their main resource used in the target setting process.

Qualitative Findings

Not only was the prevalence of collective sensemaking apparent in the data from the surveys of teachers participating in the quantitative phase of the study, but it was also apparent in the qualitative analysis of the teacher interviews. During the interview

process, the researcher observed certain commonalities among the participants. Notably, every participant stated that he/she voluntarily met as a team to discuss and set targets – both at the beginning of the target-setting process and at any point at which teacher are given the opportunity to change their targets. Most said they met informally on a weekly basis to discuss targets with the teachers in their grade level, but also acknowledged that those conversations happened more frequently as target-setting deadlines approached. The participants all shared that they discussed individual student targets with their peers, since they believed their peers were better predictors of student achievement than other resources. They expressed reliance upon each other, indicating that they would initially take questions and concerns to their peer groups in order to try to determine a solution (relying upon the learning leader coach, administrators, or central office only if the group was unable to find a solution). These types of statements were direct evidence of collective sensemaking; however, there were also indirect indications of collective sensemaking. For example, four out of six teachers stated it is like a "lottery" concerning setting student targets and helping their students meet those targets, and five out of six teachers stated "it's another thing on our plate." The repeated usage of the same phrases suggests that teachers have had conversations about the student target-setting process and have reached an opinion as a group. Furthermore, in responding to questions concerning their feelings about the student-target-setting process, all six teachers indicated that their "team" (i.e. the teachers in their grade level) had the same opinion about target-setting – none responded that their team felt differently or that they did not know the opinions of their team.

In addition to the researcher's initial observations in the interview, the qualitative data was analyzed using NVIVO software. This software allowed the researcher to record the frequencies with which certain words and phrases appeared in the transcribed interviews, and then conduct query searches to combine similar texts. By analyzing the data, the researcher was able to create nodes by which the data could be coded. The five nodes utilized by the researcher were collective sensemaking (a process by which individuals work within a group to make sense of a phenomenon), constructing understanding (the process by which individuals formulate an understanding of a concept), safeguarding (the tendency to justify or defend an individual's or a group's actions or beliefs), frustration (identification of obstacles that exasperate or irritate), and beliefs (expressions of an individual or group opinion as it relates to the target setting policy).

A Pearson r test was conducted in order to determine whether there was any correlation between the nodes' presence in the qualitative data. Most notably, there was a strong positive correlation between the prevalence of collective sensemaking and constructing understanding ($r = 0.924899$), which suggests that as understanding increases, so does the existence of collective sensemaking. Similarly, there was a strong positive correlation between collective sensemaking and safeguarding ($r = 0.803702$), which suggests as collective sensemaking increases, there is a greater sense of self- and group-protectiveness. Table 10 in Appendix I- Findings contains a chart identifying the Pearson Product Moment Correlation coefficients for each of the nodes. Utilizing the sensemaking works of Coburn, the researcher was able to categorize the nodes generated

into four overall themes related to sensemaking: *constructing understanding*, *safeguarding*, *frustrations*, and *beliefs*.

Teacher Sensemaking

By engaging with others in their environment (i.e. engaging in collective sensemaking), teachers can make use of a vitally important resource – each other. Teachers' interactions with their peers about goal-setting ideas as they met in department meetings, common planning times, and lunch rooms was shown to be a key informal resource. This study found evidence that teachers make sense of policy messages collectively through conversation with their colleagues. Alliances among teachers played a powerful role in the implementation of the student target-setting policy. In interviews conducted over the course of the study, teachers' informal conversations with their peers were the most frequently mentioned resource for setting student targets. This finding was true regardless of the teachers' years of experience with the target-setting process, hours spent on target-setting, or grade level.

Constructing Understanding

As teachers worked through the decision making process related to student target-setting, they constructed understanding about generalities in the process (e.g. an NWEA score of _X_ would correlate to what SOL score?) and/or about issues with a specific student's target (e.g. Student X does not have heat in his home and has missed a lot of school, so how do I adjust his predicted scores?). As earlier stated, there was a strong positive relationship between understanding the target-setting process and collective sensemaking (r= .924899- See Table 6 in Appendix I- Findings). One teacher expressed well an opinion voiced by many teachers that "[a]ctual teachers know the students the

best and those that have been here a long time are more helpful than a coach." Teachers shared that they often met to talk with their peers when they were confused about the next steps in the student target-setting process. One teacher stated that "[w]e will talk and say, 'Okay, they said this, but what do they mean?'" Another teacher shared:

> My team tends to meet every day after school, for about a week or two before [targets are due]. Then, we are meeting every day. We are talking during lunch and informally a few times a week. When we get to change targets, we meet around then, too. We are talking informally probably every day.

Teachers frequently shared that when they needed to work through a decision they first went to their peers, and if their peers were not able to assist, then they sought other resources such as learning leader coaches, administrators, or central office staff. One teacher indicated that they discuss "…specific students - what do you think I should do with this student, what do you think I should do for that student, what are you doing overall?" Additionally, during the study there were complications with one major piece of data (the unavailability of a database of test information that was initially to be made available in September, but which was not made available until December), which then caused the teachers to seek assistance from each other about how to handle this complication.

Teachers met informally once a week on average as they discussed individual students and circumstances. Conversations centered on how to help a student who was struggling with the material and what remediation or modifications were needed. Teachers displayed confidence in their peers and seemed to accept the advice they were given. For example, one teacher stated, "I ask teachers that share kids with me the most and talk about what is working and what is not working. They guide me." Another teacher shared,

> We sit down to help each other out and it helps talking and bouncing it off each other people to see what they are doing and what is best for me and what is the best for the students. What they did for a similar student; it makes sense for me to do something similar for the student at the similar level.

A third teacher commented, "When I haven't understood, I sit down with the learning leader coach or my team mates and together deciding what we have heard and what we need to do and where we need to set the goals." Teachers also felt a need to assist one another as they worked through the decision making process. "I would ask them how are their targets coming, do you feel like you need to change any of them or do you feel like you need extra resources or materials in order to get so and so to meet his target? So we would talk about that, but there was no particular set time that we would talk about it." Time and time again throughout the interview process, teachers made comments that reflected reliance on their peers for gaining understanding about the target-setting process.

Safeguarding

The interviews revealed teachers' need to set targets together as a team. One reason that teachers shared for this team-oriented mindset was fear regarding their future if students' targets were not met. Four of the six teachers explained that setting a target "is like playing the lottery" or "[i]t is kind of like pulling it out of thin air." "You pick a number, and you hope your child will get there, and you do your best to get them there, but it is just a number."

The teachers shared fears regarding setting targets that "[a]t the end of the year [whether my students meet their targets] will be my points and my pay." As teachers worked through the methods to set targets as a group, they tried to "set targets not too high or too low." One teacher stated, "We pick a target at least 80% because we strongly

feel the kids can hit that target." Teachers shared that finances attached to the target-setting is a bonus, but that it is hard because "[i]f you miss it by one point, you do not receive your money." A novice teacher said, "Set a target high enough, but don't set one too high that they won't for sure meet it. Don't set one too low. [Teachers] were really good about catering to me to help me [set targets]." A veteran teacher shared, "I talked to some colleagues, and I kind of figured out to make it a big enough gain that it didn't look sketchy." The teachers stated that they met even more frequently to put together a plan because "[w]e throw ourselves out there. We are held accountable for these childrens' scores, and we should be to a certain extent. It is hard."

Teachers also commented that conflicting messages complicated the high stakes decision. Teachers often got together and worked through how they were planning to implement a strategy shared at formal meetings. One teacher stated that, "[w]hen you meet with the teachers it is kind of like 'Okay, let me break this down to you for real. This is how it really works.'" Another teacher added, "[w]e figured if we all four got together we could figure it out because nobody seems to know." Another teacher shared that the teachers were "doing this together so we are doing the same thing at least on the grade level. We are looking at the same kind of data, so if questions come up about it, we can say we were consistent at least across our grade level." "Our team meets to essentially all be on the same page in terms of giving one another a range."

Similarly to Coburn's findings, this type of group-oriented thinking may be indicative of teachers' tendency to safeguard or protect themselves and their peers. By setting targets in line with other teachers in their grade level, teachers may have been attempting to minimize their chances of losing any compensation/bonus and also to

insulate themselves and their peers from criticism regarding the ambitiousness of the target. While it did not appear that teachers shied away from the responsibility of setting targets and helping their students achieve those targets, there appeared to be a certain trepidation associated with the other interests hinging on student targets – specifically, the teacher incentive bonus. Teachers indicated, however, that solidarity within their team helped ease their concerns while, in theory, protecting the interests of the individual and the group.

It is also interesting to note that the LL coach was a first year teacher and was tasked with providing guidance in the setting of student targets. At the beginning of the interview process, this teacher reported being excited about the process and interested in learning all she could to help her peers. The day before the second interview, the LL coach had to make personal phone calls to teachers on Sunday night to inform them that they could no longer set Science targets. (Teachers wanted to set these targets since it increased the likelihood that a student would reach at least one target and had been told prior that they could). Making these phone calls seemed to take a toll on her and she was dismayed that the process was so "unfair" to the teachers. By the last interview, the LL coach used the similar phrasing of her peers- "just another thing on our plate" or "it is just a lottery". Although this is only one teacher, it was interesting to see her progress towards the opinion of the group. It would be interesting to see if the data of homogenous novice teachers experiencing the target setting, or mixed gender groups (there were no male teachers at the two participating schools) would yield similar results.

Frustration with the Student Target Setting Process

While there was a certain amount of perceived risk associated with the process of student target-setting, each interviewee expressed frustration with some component of the target-setting process. There were times that teachers were not given resources when they were told they would receive them. Once, the students were not able to complete testing due to technical issues, and there was another incident when the database was not provided to teachers until after the date it was promised. This created more anxiety associated with target-setting. As one teacher commented: "How are we going to do this? Using concrete numbers and a lack of data to set a goal. I have no background, and I have sketchy data, and I am making decisions that affect my future." Another teacher shared,

> The worst part is when they say, 'Oh, you don't have that now, or you don't have the computers, and sorry, but it has been stressful to us, too.' Well, this reflects on me, so it is frustrating. It is really hard - they sit there and say, 'You should have this or that' and then not give us what we need, and then they say, 'Sorry,' and the blame is put on us.

Teachers also felt frustration at the "arbitrariness of the decision" because "[o]h well, for the learning leaders grant, there goes $300 dollars that we didn't get because [the student] had a rough night at home with the parents the night before." A teacher lamented, "It has been hard this year because a bunch of our students showed negative progress last year. This year it is a big hot mess, so it is stressful to try to process this skewed data, so when I figure it out, I will let you know."

It is notable that all interviewed teachers stated that the process was "frustrating." The lack of NWEA testing data in September meant teachers had to revisit their planned methods for setting student targets. One teacher stated that it "stresses me out, the

computers shut down, and we have no test, so I don't know what to do with that. Do we go off the spring or do we go off the fall? It is an individual student situation, so I have done a lot of talking with teachers since our data is sketchy." Another teacher inquired, "How are we supposed to set a target when we aren't even doing it how it is supposed to be done?" "We did not have the fall MAPS test to go off of, so there are teachers that are nervous as to what data we will use to set targets. The fall MAPS is very helpful, and now that we don't have that we will have to use the winter and the previous spring which is causing confusion and nervousness." Another teacher expressed annoyance at the "hit or miss nature" of the process and shared that teachers felt "stress about how to set accurate goals." One teacher apologized during the interview - "It is frustrating to sit in a meeting for an hour and half and be told to use this piece of data or this tool, and then, you don't even get it. Sorry, it is so frustrating."

Teachers also felt that the process was difficult even when there were no glitches in the timeline. "The hardest thing for me is bringing those students that come in in January, and I have to set a goal for a student that has no data." Another teacher shared, "With the SOL, we had to just choose an SOL that we think would fit. What would an 80 translate into? A 440? A 450?" Teachers commented that each year there have been adjustments to the process. "There was a lot of back and forth. The coaches didn't even know. It was not well thought out initially." Another teacher said,

> Sometimes we get the runaround, and that turns into another question. For example, teachers were told to take two scores and average them to measure growth, which resulted in all students showing negative growth. The following year we were told to show growth for all students [show an increase in the NWEA score].

Teachers said that it "is still a guessing game." Nonetheless, teachers have adapted through the implementation by processing their decision making with their peers. "Last year was better than the prior. At first teachers were told that teachers who didn't teach math were told to not set targets. Then, at the end we were told that they can set a science score. But now we know for the beginning of the year. Another thing that was misleading was the dates - they gave us an additional opportunity to change the targets."

The interviewed teachers not only expressed frustration in not having all the necessary components, but also being overwhelmed with the process in light of other job responsibilities. "It is one more thing on our plate" was a sentiment shared by four of the six teachers. There was also anxiety expressed with respect to students actually meeting targets – "I don't know if they will be absent or get a serious illness, and I based the child's score on what I think he will do, and then he is out, and I miss the target, and that is frustrating." A teacher complained: "Even if we are doing the best we can at school, but when they are not at school, there can be issues at home or the child is sick. We are setting a target at the beginning of the year for a goal at the end of the year, and that seems difficult to do." Another teacher added, "I think that is frustrating. Doctors or architects are not asked to have a goal and then given nothing to go off of."

Beliefs about the Target Setting Process

In spite of the frustration associated with the *implementation* of the student target-setting process, teachers often spoke in favor of setting student targets. "We all feel the same about it. We can complain if we want to, we can cheer if we want to. But I get valuable information from them." Teachers unanimously agreed that by going through the target-setting process, it helped them better meet the needs of the students. The

setting of targets was viewed as "important because it shows growth," "positive," and "good to have." One teacher reflected, saying, "I am a more analytical teacher now," and another stated that "[b]y looking at the SOL strands to set goals, it helped me to know what I want to spend more time on." Teachers all expressed a desire to see their students grow and shared the belief that setting targets helped achieve this growth. "By having goals, as a teacher, you know you are going to have to change your instruction, do more remediation for that student to help them get to that goal." Having goals helped that teacher to "know where I want the kids to be, and it definitely helps me know which kids I need to give that extra help to." Another teacher commented that "[t]here are other children that really need that one on one, or they need that differentiated instruction in order to reach that target, so whatever it takes that is what I am going to do to ensure that each child gets to that target."

One teacher shared that student target-setting is beneficial for the students as well. "I mean we all set goals. We all set goals for all kinds of things in our lives, and I think it makes sense and that they understand the importance of setting these goals for the students. We are holding them more accountable for their learning." Another teacher commented that students view it "almost like a video game. They want to beat the score. They don't necessarily think, 'Oh, let me show all that I learned.' It is more so 'Oh, I had a 180, and now I really want to get to 200 'cause it is going to be a higher score.' It is like a video game mentality almost." This teacher belief mirrors the findings of Locke and Latham (2006) that goals can energize tasks.

Teachers appeared to be aware of the consequences to the students of not meeting targets. "I believe in setting realistic goals, and for some of it, some kids are not going to

meet that goal." "I feel guilty saying that this kid's going to be at 60% percent, and that is saying a lot." However, teachers were not always in agreement with the specifics of the target-setting process - "Putting a number on it like you are going to get a 90% on this test. I don't think that is beneficial." Another teacher said, "I wish it were more about, 'let's see what they grew academically' rather than 'let's see if they pass this SOL.' Why do we stress this on these kids?"

Ultimately, teachers expressed beliefs and opinions in support of student target-setting as a means of accountability and ambition-enhancement that has the potential to be beneficial both to students and teachers. While the participating teachers identified what they believed were problems in the implementation process, no teacher saw the process of setting student targets as being without worth. In itself, that acknowledgment of the merits of student target-setting provides some impetus for educational leaders to improve the process in order to meet the needs of teachers as they seek to meet the needs of their students. One teacher concluded, "Once it is done and at the end of the year when you see your students reach their targets, it is rewarding for the students and the teachers. I would definitely say I am a proponent of it."

Recommendations for Action and/or Research

It is clear that the district wants to boost student achievement. It is also clear that researchers have found that goal-setting (when measurable, challenging, and attainable) can positively impact achievement. So the question is: How does the district utilize the information in this study to better reach the overall goal of student achievement?

Position 1: Teachers should not be the parties charged with the responsibility for setting students' targets.

Teachers should not set student growth measures due to their lack of access to data and their lack of expertise in data analysis. Teachers are not data experts even though they have been trained by the district regarding how to read data and arguably feel good about their level of understanding of data. The teachers participating in the current study, particularly those teaching third grade whose students did not have prior standardized test data, repeatedly expressed frustration over understanding how to set an SOL score given a score on a county assessment. Currently, teachers are given a student's score on a county-created assessment, and they have to translate that score to a predicted SOL score, which is based on a different scale than the county assessment. How are teachers supposed to predict an SOL score (typically ranging from 200 – 600) by a student's score on the county assessment (0 – 100)?

Even when they had access to appropriate data, teachers did not always use the data correctly due to not understanding test construction and how they are scored. Two teachers shared that they set growth targets by averaging two prior scores to predict a future score. Since the NWEA test is a measure of growth, this method of target-setting would actually set targets of regression for all students. Additionally, teachers treated the NWEA and SOL tests similarly. Although they would sometimes articulate that the SOL did not measure growth but mastery, many believed that they had to set an SOL score higher than the prior years' score to show growth. Teachers used some vertical articulation, seeking out the prior year's teacher to gather qualitative data on the student. However, no teacher talked about examining trends or any analysis of overall performance of students given multi-year patterns.

Potential Recommendation for Position 1: Task the Department of Research and Planning with the responsibility of setting student growth targets.

Where teachers lack expertise in data analysis and score interpretation, and often even have limited access to the data that would be helpful in setting student growth targets, the Department of Research and Planning (R & P) is better positioned to set student growth targets accurately. R & P has more expertise than the average teacher in data analysis. If the targets were set by individuals and teams that were, presumably, experts in data analysis, then one would expect that the set targets would ultimately be more accurate. Furthermore, R& P would have complete access to data and would be able to run statistical tests on more comprehensive data. Using OLS regression for period-over-period performance to determine the slope would provide prediction targets for future performance and would be a better process to get accurate data prediction for students using comparative analysis. This method would serve as a more holistic, objective measure. However, if the student does not reach the overall goal, the teacher could provide a rationale with evidence as to why the goal was not attained. By allowing teachers an appeal process if goals are not met, teachers could address concerns that happen throughout the year that R & P would not be aware of due to their not having direct involvement with the students.

The pressure of setting goals with incomplete data or the difficulty of how to handle transient students would also be resolved. All teachers interviewed shared that they believed that setting goals was important, but many felt that they did not have enough understanding to make that determination and wanted to be "safe" so they set "attainable" goals. This motivation is understandable. By having R &P set goals for the

students, teachers can focus their energies on the attainment of a presumably more accurate goal.

Alternate Recommendation for Position 1: If teachers are to set student growth targets, then resources, data, and training need to be provided to increase teachers' proficiency in data analysis and estimation and understanding of test construction.

Though it is recommended that the responsibility of setting student growth targets be transferred to a department that has more comprehensive data, if that option is not available, then teachers need to be better equipped with more complete data and they need to be better trained as to how to interpret that data. In the current study, teachers expressed that having multiple years of SOL and NWEA scores could help them predict student growth with more accuracy and precision. Also, if teachers were given this data they could use it to find outliers or possible anomalies in student growth. For example, if a student that had strong academic achievement consistently over a period of years suddenly "dropped," that observation could help the teacher act more quickly in determining remediation for that student at an individual level that was appropriate.

Data availability and applicability is also crucial to the effective setting of student targets. In order for teachers to read multiple data results and understand how to predict future performance and the implications for learners' needs, they need to be trained on how to read and interpret data so that they may appreciate the power of using data to drive instructional decisions. Teachers specifically need training on understanding how to read Lexile scores and how scores that measure growth relate to standardized tests such as the SOL. One option to address this issue is to create a quarterly data meeting during which central office staff from the Department of Research and Planning could share

what new data would be forthcoming and how teachers could use that information for target-setting, as well as for instruction. Holding this meeting during the same time as the quarterly grade level meetings would allow teachers to ask questions about specific scenarios and would build understanding and consistency within and without the school. These meetings also would provide opportunities for teachers discuss students with unique situations or unique data (outliers).

Position 2: Linking teacher evaluation and compensation with student attainment of teacher-set growth measures creates an inherent and unavoidable conflict of interest.

Locke and Latham (2006), paraphrasing Donald Peterson, a former CEO for Ford Motor Company, stated that in his experience, linking money to goal achievement was a prescription for intelligent people to find clever ways to make easy goals seems challenging, in order to ensure the receipt of their reward.

In the target-setting policy (as it is currently stated), the financial reward appears to undermine the overall goal of student achievement. Teachers wanted to set higher goals, but were fearful that if they set goals too high, they would lose their money. Four out of six teachers called the target-setting process a "lottery." Some teachers expressed that a great deal was riding on their decision, and they felt uncertain about how to proceed. One teacher expressed the complexity by confiding: "I want to challenge the student; I want to see them grow, but what if I am too aggressive in setting the targets?"

Because teachers are charged with the responsibility of setting a growth measure, the attainment of which determines whether or not the teacher takes his or her family on vacation in a given year, there is an unavoidable conflict of interest. What teacher would

choose to push his or her student to "go the extra mile" if one too many sick days, one problem in the student's home life, one bout of ambivalence, would cost that student the "extra mile" and the teacher $8,000? Even the most altruistic, idealistic teacher would be tempted to set a lower goal just to ensure his or her own financial security. Putting teachers in charge of setting student growth targets is akin to asking students to create answer sheets that are used to grade their own tests.

Potential Recommendation for Position Two: Do not link teacher evaluation and compensation with teacher-set student growth targets.

One obvious recommendation to address the potential problems stemming from linking teacher evaluation and compensation with teacher-set student growth targets is to sever the offending link – i.e. do not allow student attainment of targets to affect teachers' pay or professional standing. Remove the financial incentives attached to goals. To nurture teacher effectiveness, there must be a focus on intrinsic motivation. The "carrot and stick strategies" of extrinsic motivation will not build a culture of teacher effectiveness (Hassel & Hassel, 2010). By giving students and teachers a goal, this in itself may challenge them more effectively than a reward. Teachers liked having goals, but did not like the pressure of having to either risk financial gain or settle for what was safe. The teachers wanted to show their students that they believed in them, but did not want penalized for setting a high expectation.

Because the state has mandated the linking of student achievement with teacher evaluation in an effort to increase accountability, any potential adjustment to the current paradigm must take that mandate into account. As such, one potential solution that still links student achievement with teacher evaluation could include a non-financial tiered

ranking system (an extra year credit towards achieving tenure, for example). However, such a system would depend upon goals being set accurately, by a department or individual other than the teacher, using an abundance of data. Furthermore, instead of a fixed growth measure or test score, the target could be the students' growth as compared to students in the state with comparable demographics and academic history. Although the state currently provides the student growth percentiles (described above), the data is not provided to the teachers or administrators currently. For example, there is a white male fourth grade student, who is from a single parent household with a gross household income of $32,000, and had previous NWEA scores of 181 (first grade), 185 (second grade), and 189 (third grade). Based on the data available, similarly situated fourth graders had scored 193 on their fourth grade NWEA. If this student's score exceeded that which would have been expected based upon similarly situated students' performance, then it may have been through his teacher's efforts or as a result of the teacher's skill. If the teacher had a certain percentage of his or her students perform better than similarly situated students across the state, then that teacher could be ranked incrementally higher. There is no direct financial reward to the teacher, but when the teacher's rank increases to a certain level, it would be reflected on their teacher evaluation similar to the current National Board Certified Status.

Position 3: Teachers are not receiving clear, consistent messages regarding the target-setting policy.

Inconsistent messages are communicated throughout the target-setting process. In teachers' discussions concerning their sources of frustration with the process, it became evident that they did not feel they were receiving consistent messages. One source of

their frustration was inconsistent messages from central office staff, which led to the under-utilization of Learning Leader coaches. Because Learning Leader coaches were not given timely access to new information as it was made available to administrators, teachers quickly learned that, in spite of having been instructed to look to Learning Leader coaches for information and guidance, they were not able to get the information they were promised from the Learning Leader coaches (LL coaches).

Not only was data unavailable to LL coaches when promised, but there were inconsistent messages to teachers concerning the resources that would be made available to them, which also contributed to the teachers' frustration. For example, at the beginning of the school year, teachers were informed that they would be given a database with students' prior testing information in September, which was intended to be instrumental in teachers' target-setting. However, in reality, that database was not made available to teachers until December, shortly before winter break – after the deadline by which teachers were to have set their students' growth targets. Additionally, one participant who was also a LL coach indicated that she was told by a central office administrator, in writing, that the teachers could set science targets, which is important because it would have benefited the teachers to have an additional target. Teachers were told that they only needed to have students meet one of the targets that were set, so by setting a second science target, teachers had another chance at getting students to meet their targets. The day before the targets were due the LL coach learned that teachers were no longer allowed to set science targets. This created frustration for the LL coaches who had to deliver bad news to teachers on a Sunday night by personal telephone calls, when targets were due the next morning, and for teachers who were promised multiple

opportunities to succeed by doing the work to set a second set of targets for their students, and who then had that opportunity denied them at the eleventh hour. Every teacher expressed frustration with the process of target-setting, and much of that frustration stemmed from inconsistent messages concerning the process such as those described above.

Potential Solution to Position 3: Plan and Deliver Consistent Messages

To create a consistent message for those responsible for policy implementation, clearer and higher quality communication is necessary. Through a few minor changes in communication, the messages could be made more consistent. For example, since collective sensemaking occurred within the grade level teacher groups, it may prove beneficial to train Learning Leader coaches for each grade level. Central office administration could still have a chief liaison at each school, but allow for that individual to relay necessary information through grade level coaches. Furthermore, central office staff could speak once a quarter at grade level meetings. The intimacy of the meeting would allow for question and answer sessions that would address individual building concerns. On a more macro-level, one opportunity to improve the current system is to allow Learning Leader coaches to meet offsite monthly so that messages across buildings are consistent and so that concerns at one building could be handled the same way as they are at another. Allowing Learning Leader coaches to meet in this manner would help align how the policy is implemented across the district.

Furthermore, while any system and program is bound to have "glitches" requiring modifications after implementation, teachers may have less frustration, and changes may be communicated more consistently and effectively, if they occur prior to the

commencement of a new academic year, rather than in the middle of it. For example, if, for whatever reason, central office deemed it appropriate to have teachers set targets for their students once instead of twice, that change would be better implemented over the summer – prior to skewing expectations and with enough lead time to allow the new message/policy to be communicated to all teachers, administrators, etc. It is vital that those implementing policy communicate promptly, consistently, and clearly in order to ensure that the policy may be implemented as seamlessly as possible – thereby increasing the likelihood that the policy's goals will be attained.

Additional Recommendation for Position 3: Provide teachers (both novice and veteran) a refresher workshop over the summer.

Several teachers disclosed that they would benefit from a refresher workshop once the expectations surrounding the target-setting process are firmly set. Even veteran teachers felt like unanticipated modifications to the target-setting process necessitated by unforeseen changes and delays created an opportunity for both novice and veteran teachers to benefit from a workshop later in the school year. This workshop could reinforce the messages, procedures, and policies for the upcoming school year, which would promote consistency in implementation. By ensuring that teachers have a consistent message, and that the resources provided to teachers (including the Learning Leader coaches) are as complete and effective as possible, central office administrators can alleviate some frustrations with the process. Working to minimize those areas of frustration would help create an environment that fosters effective policy implementation. Even when the process is imperfect, as all new processes necessarily are, administrators have an opportunity to minimize the negative effects of such imperfections by increasing

the accessibility of a broad range of resources, specifically those that focus on interactions within a group and those which provide teachers concrete and verifiable data, and by allowing teachers sufficient time to make use of those resources.

There was no observable difference between the needs of novice and veteran teachers, or the resources on which they relied. This knowledge may provide some assurances that the implementation of policy, at least as related to student target-setting , is relatively consistent across different experience levels – that no additional or different resources are needed to accommodate novice and veteran teachers. By focusing on the improvement and increased accessibility of those resources that all teachers found most helpful, without concern for the teachers' experience levels, administrators can concentrate efforts in the manner best suited to meeting the needs of all teachers.

Position 4: Teachers do not have common planning time with all teachers of shared students.

In light of the findings regarding how teachers set student targets, it is clear that teachers utilize collective sensemaking in setting targets; however, teachers need time and information to process how to set specific targets. The complexity of determining how to address the needs of different students demands an iterative approach in which teachers reflect on and adjust the targets to best fit the needs of the students. Teachers shared that they often used targets when looking at decisions on how to remediate or differentiate. Under the current paradigm, teachers have common planning with the teachers in their grade level, but there are students in a given grade level that may have teachers at other levels. This is particularly true with students that are in subject-specific classes at a different grade level or those that have special educational needs. For

example, if a third grade student were placed in a fourth grade math class, and if the fourth grade math teacher observed that the student was unable to process word problems as effectively as the other students, it would suggest a deficiency in reading (at that level, at least), but the fourth grade teacher does not have a scheduled opportunity to discuss options for remediation with the student's third grade teacher.

Potential Recommendation for Position 4: Allow teachers with shared students to have common planning opportunities.

Teachers need time individually as well as collectively to process and ultimately determine goals that best fit the needs of the student given all circumstances. In that regard, teachers would benefit from common planning time with teachers that have the same students. Currently the district has a common planning time by grade levels (at the elementary and middle school levels), but it is believed that it is important to have the teachers also have common planning with their team teachers. Teachers who share students across grade levels do not have common planning time; however, working with the master schedule may allow an administrator the opportunity to have alternative planning times such as a common lunch. Also faculty meetings could have certain periods of time set aside for staff development, thus allowing teachers to discuss student needs and target-setting.

In order for teachers to fully understand a student's educational needs, which is necessary to better predict that student's growth measure, teachers should be able to communicate with the other teachers who play a role in that student's education on a regular basis. Having teachers work through the process with peers that also teach the same students can provide insights into instruction, strategies for remediation, and

sources of support for teachers. However, teachers still need to continue to have this time with their grade level peers to work through novel situations and ultimately determine how to set specific targets for specific students.

Conclusion

In the current era of accountability, state and district policymakers have several reasons for creating policy that links teacher evaluation and student achievement. As a response, the school district linked teacher compensation with student attainment of teacher-set target growth measures. The current study inquired into teachers' reliance upon resources available to them as they attempted to make sense of and implement the student target-setting process, and ultimately determined that the resource upon which teachers rely most prominently was each other. Teachers emphasized that they relied upon one another to understand the policy messages concerning target-setting. The data indicated that teachers constructed understanding as a group, that they acted so as to safeguard their group (i.e. agreeing to set certain targets so as to not appear "sketchy"), that they formulated similar beliefs about the link between their compensation and student attainment of growth measures, and that they experienced frustration with inconsistent messages concerning the policy and with being forced to set targets based upon incomplete data.

Ultimately, in light of the data generated by the current study, one may conclude that teachers are not best suited to set student targets. They are not experts in the analysis of data, and furthermore, they are not equipped with sufficient enough data to allow them to predict targets accurately. Furthermore, since teachers are setting the targets for students, the attainment of which determines the teachers' own compensation, teachers

have an unavoidable conflict of interest. Teachers participating in the current study indicated that their primary motivation in setting a target at a specific level was their belief that the student would attain the target. This is not the way the process was intended to work, but it is not avoidable in the current paradigm. The most efficient way of addressing this issue is by removing the responsibility of setting targets from teachers – because they are not the best equipped with data and information and because they should not be tasked with setting targets that determine their compensation. The responsibility for setting student growth targets should rest with Research and Planning, as they have more data from which they may draw conclusions about appropriate targets and they have no obstacles to objectivity, no personal stake in whether a target is attained.

If, however, teachers retain the responsibility of setting student targets, whether or not the attainment of those targets is linked to teacher compensation, it is imperative that teachers receive clear, coherent, and consistent messages about the target-setting process and the expectations associated therewith. Learning Leader coaches are intended to be resources to teachers, but often were not given access to necessary information to meet that need. Communication must happen more consistently in order to ensure that all teachers are confident that they understand what is expected of them, so that they have access to the resources promised them, and so that they can better predict student growth. That clear and consistent communication also needs to be encouraged between teachers that share students. Allowing the teachers that see the same students to communicate with one another on a regular basis would provide additional insight into the students'

individual needs – insight that is necessary to help students attain the growth measures set for them.

The current study highlights the need to examine the basic components of the student target-setting process, but it also highlights what may be one of the most effective ways to address any potential procedural or practical problems. It appears that informal communication with peers (i.e. collective sensemaking) is crucial to teachers' understanding of the new target-setting policy. As such, it is incumbent on those implementing the policy to foster and encourage communication that is helpful to teachers as they seek to implement the target-setting policy. This type of communication, top-down and lateral, is vital to the effective implementation of policy, and enhancing the effectiveness of the communication would serve to enhance the effectiveness of the goals the policy seeks to promote. The following action communications reports to the superintendent, the building principals, and the school board outline strategies to employ to improve the implementation of the target setting policy.

Action Communication Report for Principal of Participating School District

Thank you for your generosity in allowing this study to take place in your building. Allowing unrestricted access to your teachers for conversations and interviews was crucial to data-gathering for the study of how teachers make sense of the student target-setting process. Due to your openness, the study provides instructive findings and generated recommendations for future actions. The purpose of this communication is to share with you the findings and recommendations of the study. Please contact me should you wish to discuss the study in more depth.

This study of teacher sensemaking concerning target-setting focused on three research questions:

- How do teachers make sense of the target-setting process?
- What role does group interaction play in target-setting?
- Do differences exist in the process by which novice and veteran teachers make sense of messages related to student target-setting implementation?

The target-setting process involves a difficult decision for teachers. They vacillated between setting challenging targets and playing it safe. Jeopardizing their additional bonus funds and possibly receiving a poor evaluation were teachers' high-stake risks in these times of ever-greater accountability. By learning how teachers set targets, principals can assist teachers in making more informed decisions about student targets.

The study found that teachers primarily make sense of policy messages collectively through conversation with their colleagues. The nature of interactions among teachers played a powerful role in the implementation of student target-setting policy. Teachers' informal conversations with their peers were the most frequently mentioned

resource for setting student targets, and teachers unanimously reported that they valued informal collaboration more than other resources available to assist them. This finding held true regardless of the teachers' years of experience (with the target-setting process), hours spent on target-setting, and grade level taught.

Teachers reported that they depend on each other for more than just moral support - they assist one another with technical advice, such as how to manipulate spreadsheet data, how to set scores for the 'atypical' student, and how to interpret and implement policy. Teachers' responses reflected solidarity and a tendency to safeguard each other professionally. No teacher set targets without consulting with his/her peers. The prevalence of collective sensemaking is logical considering that when teachers make decisions and implement policies that have high-stakes consequences, they find more assurance by relying upon the collective sensemaking of the group rather than by working through issues individually – almost a "united we stand, divided we fall" mindset. Furthermore, relying on a group of peers may seem more natural than looking to an administrator for assistance, since administrators have a direct role in evaluating the appropriateness of the targets and determining whether or not the teacher meets those targets.

Implications and Recommendations

It is clear that principals want to enhance student achievement. It is also clear that researchers have found that goal-setting (when measurable, challenging, and attainable) can positively impact achievement. This study further showed within the participating school district teachers felt strongly that goal setting was important for student

achievement. So the question is: How do you utilize the study to better reach the overall goal of student achievement?

Recommendation 1: Request to the superintendent that the Department of Research and Planning have the responsibility of setting student growth targets.

One recommendation that would make further recommendations unnecessary is to advocate to the District Leadership Team (DLT) to not have teachers set student growth measures. Interview and survey results showed that teachers felt that targets and goals were necessary, but they struggled with self-interest as they set the targets. Furthermore, teachers are not data experts. Teachers have been trained by the district to read data, and arguably, the teachers feel good about their level of understanding of data. However, teachers do not always use the data correctly. Two teachers shared that they set growth targets by averaging two prior scores to predict a future growth score. Since the NWEA test is a measure of growth, this method of target-setting would actually set regression targets for all students. Additionally, teachers treated the NWEA and SOL tests similarly. Although they sometimes thought that the SOL measures mastery, not growth, many believed that they had to set an SOL score higher than the prior years' score to show growth. Teachers relied to some extent on vertical articulation, seeking out the prior year's teacher to gather qualitative data on the student. However, no teacher talked about examining trends or any analysis of overall performance of students given multi-year patterns.

Recommendation 2: Request to the superintendent that teacher evaluation and compensation with teacher-set student growth targets not be linked.

A second recommendation would be to advocate to the DLT to remove the financial incentives attached to goals. Multiple studies have shown that when given a reward for a behavior that was already occurring, participants showed a decline in the performance when the reward was removed. In the current target-setting policy, the financial reward appears to undermine the overall goal of setting challenging goals. Teachers wanted to set higher goals but were fearful that if they set goals too high they would lose their money. The "carrot and stick strategies" of extrinsic motivation will not build a culture of teacher effectiveness (Hassel & Hassel 2010). Giving teachers a goal, may challenge more effectively than a reward.

Recommendation 3: Allow teachers with shared students to have common planning opportunities.

Teachers benefit from common planning time with teachers that have the same students. Currently, teachers at your school have common planning time by grade level, but it is important for teachers also to have common planning with their team teachers. It is recommended that if teachers work with the same students, the master schedule should allow them to have a common meeting time as well. Having teachers work through the process with peers who also teach the same students can provide insights into instruction, strategies for remediation, and sources of support for teachers.

Recommendation 4: Plan and deliver consistent messages.

To create a consistent message on the policy for all actors, clearer and higher quality communication is necessary. Since collective sensemaking occurs within grade level teacher groups, it may prove beneficial to train Learning Leader coaches for each grade level. It may benefit you to recommend that the DLT that a chief liaison be

assigned at each school, allowing for that individual to relay necessary information through grade level coaches (appointed by you).

Recommendation 5: Provide necessary resources in a timely manner.

A source of frustration for teachers was the unavailability of resources when promised. One option that may be worthwhile is to create a quarterly data meeting during which you could invite central office staff from the Department of Research and Planning to share new data that will be forthcoming and how teachers can use that information for target-setting and instruction. Holding this meeting during the same time as the quarterly grade level meetings will allow teachers to ask questions about specific situations and build understanding and consistency within and without the school. These meetings also would enable teachers to discuss students with unique situations or unique data.

Recommendation 6: Provide a summer refresher workshop for veteran and novice teachers.

Finally, it is recommended that you request a refresher workshop for teachers during opening teacher week. If the District Leadership Team or members of Research & Planning cannot attend the meeting, you could ask the Learning Leader coach within your building to teach a workshop during the teacher work week. Several teachers disclosed that they would benefit from a refresher workshop once the process has stabilized. Veteran teachers felt like unanticipated modifications to the target-setting process necessitated by unforeseen changes and delays created an opportunity for both novice and veteran teachers to benefit from a workshop later in the school year. By focusing on the improvement and increased accessibility of those resources that *all* teachers found most

helpful, administrators can concentrate efforts in the manner best suited to meeting the needs of all teachers.

In closing, each opportunity to understand how teachers act upon and implement policy provides valuable information for policy makers and district leaders. Improving the implementation of policy is crucial to allowing the school environment to change for the shifting needs of the teachers, teachers to evolve to meet the complex and varying needs of the students, and students to excel as much as possible. Because the student target-setting process is intended to help promote and advance student achievement, the effectiveness of the policy's implementation is of vital importance. From the perspectives of the teachers that participated in the current study, the student target-setting process is flawed but important. While most teachers have the intrinsic desire to see their students succeed, linking teacher evaluation and compensation with student achievement creates a new dynamic that may work against those teachers' intrinsic desires. It is hoped that the current study and the recommendations provided assist in the understanding of policy implementation as related to the vital process of student target-setting such that administrators, teachers, and students may benefit from uniform and consistent messages, increased instruction in data analysis, and more frequent opportunities to interact within the educational community.

Action Communication Report for Superintendent of Participating School District

Thank you for your generosity in allowing this study to take place in your district. Allowing unrestricted access to your teachers for conversations and interviews was crucial to data-gathering for the study of how teachers make sense of the student target-setting process. Due to your openness, the study provided instructive findings and generated recommendations for future actions. The purpose of this communication is to share with you the findings and recommendations of the study. Please contact me should you wish to discuss the study in more depth.

The study focused on three research questions:

- How do teachers make sense of the target-setting process?
- What role does group interaction play in target-setting?

Do differences exist in the process by which novice and veteran teachers make sense of messages related to student target-setting implementation? The target-setting process involves a difficult decision for teachers. They vacillated between setting challenging targets and playing it safe. Jeopardizing their additional bonus funds and possibly receiving a poor evaluation were teachers' high-stake risks in these times of ever-greater accountability. By learning how teachers set targets, district leaders can assist teachers in making more informed decisions about student targets.

The study found that teachers primarily make sense of policy messages collectively through conversation with their colleagues. The nature of interactions among teachers played a powerful role in the implementation of student target-setting policy. Teachers' informal conversations with their peers were the most frequently mentioned resource for setting student targets, and teachers unanimously reported that they valued

informal collaboration more than other resources available to assist them. This finding held true regardless of the teachers' years of experience (with the target-setting process), hours spent on target-setting, and grade level taught.

Teachers reported that they depend on each other for more than just moral support - they assisted one another with technical advice, such as how to manipulate the spreadsheet data, how to set scores for the 'atypical' student, and how to interpret and implement policy. Teachers' responses reflected solidarity and a tendency to safeguard each other professionally. No teacher set targets without consulting with his/her peers. The prevalence of collective sensemaking is logical considering that when teachers make decisions and implement policies that have high-stakes consequences, they find more assurance by relying upon the collective sensemaking of the group rather than by working through issues individually – almost a "united we stand, divided we fall" mindset. Furthermore, relying upon a group of peers may seem more natural than looking to an administrator for assistance, since administrators have a direct role in evaluating the setting of the targets and determining whether or not the teacher meets those targets

Implications and Recommendations

It is clear that district leaders want to enhance student achievement. It is also clear that researchers have found that goal-setting (when measurable, challenging, and attainable) can positively impact achievement. So the question is: How does the district utilize the study to better reach the overall goal of student achievement?

Recommendation 1: Task the Department of Research and Planning with the responsibility of setting student growth targets.

One recommendation that would make further recommendations unnecessary is to not have teachers set student growth measures. Interview and survey results showed that teachers felt that targets and goals were necessary, but they struggled with self-interest as they set the targets. Furthermore, teachers are not data experts. Teachers have been trained by the district on how to read data, and arguably, the teachers feel good about their level of understanding of data. However, teachers do not always use the data correctly. Two teachers shared that they set growth targets by averaging two prior scores to predict a future growth score. Since the NWEA test is a measure of growth, this method of target-setting would actually set targets of regression for all students. Additionally, teachers treated the NWEA and SOL tests similarly. Although they sometimes articulated that the SOL measures mastery, not growth, many believed that they had to set an SOL score higher than the prior years' score to show growth. Teachers relied to some extent upon vertical articulation, seeking out the prior year's teacher to gather qualitative data on the student. However, no teacher talked about examining trends or any analysis of overall performance of students given multi-year patterns.

Recommendation 2: Remove financial incentives for goal attainment.

A second recommendation would be to remove the financial incentives attached to goals. Multiple studies have shown that when given a reward for a behavior that was already occurring, participants showed a decline in the performance when the reward was removed. In the target-setting policy (as it is currently), the financial reward appears to undermine the overall goal of student achievement. Teachers wanted to set higher goals but were fearful that if they set goals too high they would lose their money. The "carrot and stick strategies" of extrinsic motivation will not build a culture of teacher

effectiveness (Hassel & Hassel 2010). Giving teachers a goal, may be more effective than a reward.

Recommendation 3: Create common planning opportunities for teachers with the same students.

Teachers benefit from common planning time with teachers that have the same students. Currently, teachers have a common planning time by grade level, but it is important for teachers also to have common planning with their team teachers. It is recommended that if teachers work with the same students, the master schedule should allow for them to have a common meeting time as well. Having teachers work through the process with peers who also teach the same students can provide insights into instruction, strategies for remediation, and sources of support for teachers.

Recommendation 4: Create a consistent set of policies and procedures.

To create a consistent message for all actors on the policy, clearer and higher quality communication is necessary. Since collective sensemaking occurred within grade level teacher groups, it may prove beneficial to train Learning Leader coaches for each grade level and assign a chief liaison at each school, allowing for that individual to relay necessary information through grade level coaches appointed by the principal.

Recommendation 5: Provide necessary resources in a timely manner

Another source of frustration was the unavailability of resources when promised. One option to address this issue would be to provide professional development regarding data analyses to teachers during monthly staff meetings. Also, it may be worthwhile to create a quarterly data meeting during which central office staff from the Department of Research and Planning may attend and share new data that will be forthcoming and how

teachers could use that information for target-setting and instruction. Holding this meeting during the same time as the quarterly grade level meetings would allow teachers to ask questions about specific situations and build understanding and consistency within and without the school. These meetings also let teachers discuss students with unique situations or unique data (outliers).

Recommendation 6: Provide a summer refresher workshop for novice and veteran teachers.

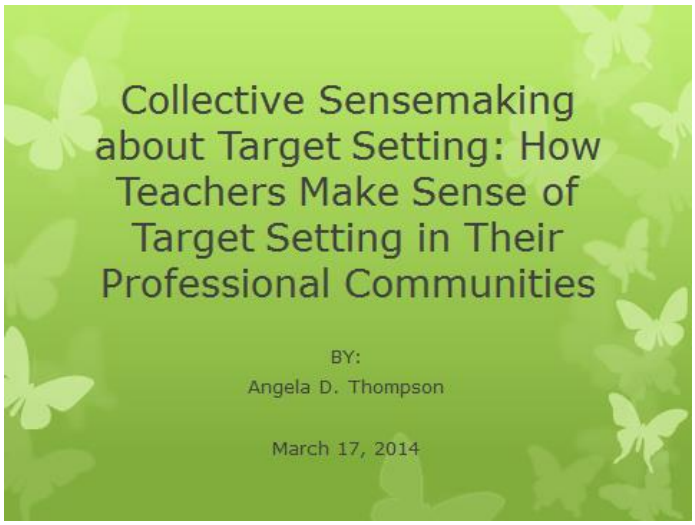
Finally, it is recommended that a refresher workshop be provided for teachers during teacher week. Several teachers disclosed that they would benefit from a refresher workshop once the process has stabilized. Veteran teachers felt like unanticipated modifications to the target-setting process necessitated by unforeseen changes and delays created an opportunity for both novice and veteran teachers to benefit from a workshop later in the school year. By focusing on the improvement and increased accessibility of those resources that all teachers found most helpful, administrators can concentrate efforts in the manner best suited to meeting the needs of all teachers.

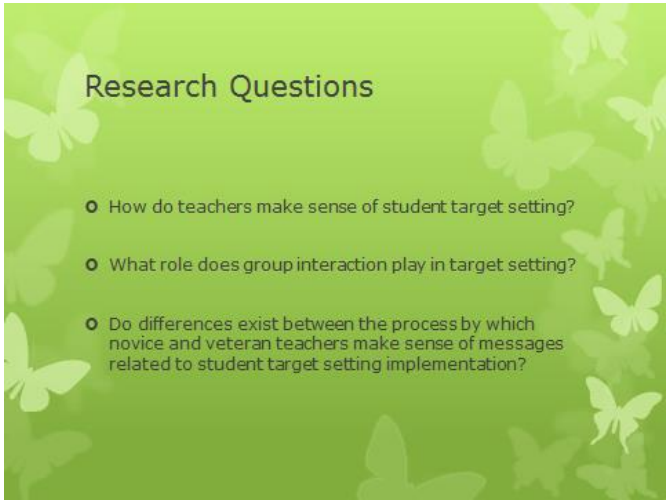
In closing, each opportunity to understand how teachers act upon and implement policy provides valuable information for policy makers and district leaders. Improving the implementation of policy is crucial to allowing the school environment to change for the shifting needs of the teachers, teachers to evolve to meet the complex and varying needs of the students, and students to excel as much as possible. Because the student target-setting process is intended to help promote and advance student achievement, the effectiveness of the policy's implementation is of vital importance. From the perspectives of the teachers that participated in the current study, the student target-setting process is

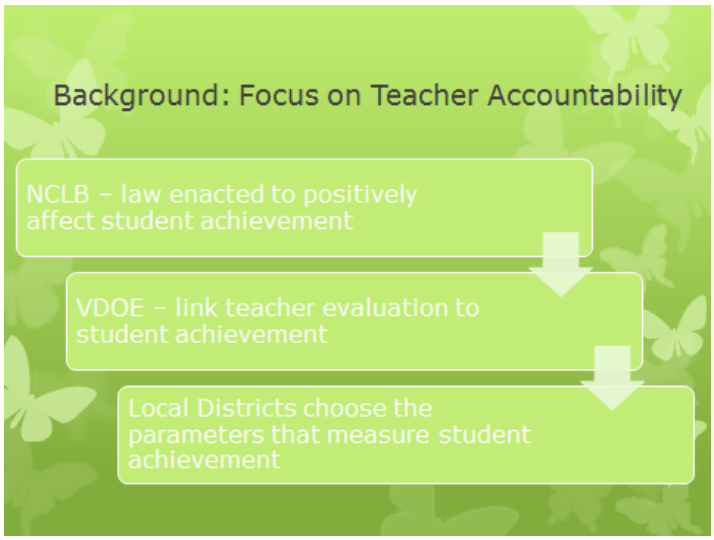
flawed but important. While most teachers have the intrinsic desire to see their students succeed, linking teacher evaluation and compensation with student achievement creates a new dynamic that may work against those teachers' intrinsic desires. It is hoped that the current study and the recommendations provided assist in the understanding of policy implementation as related to the vital process of student target-setting such that administrators, teachers, and students may benefit from uniform and consistent messages, increased instruction in data analysis, and more frequent opportunities to interact within the educational community.

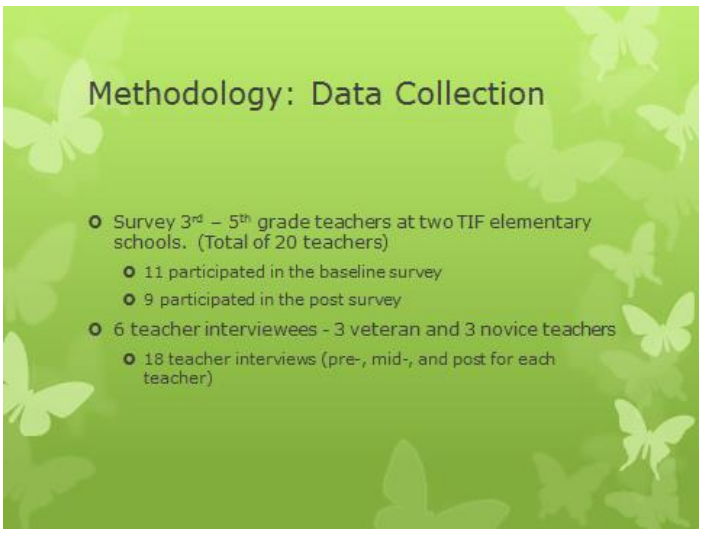
Action Communication Report for the School Board

Slides from a meeting sharing the findings and recommendations of the Study






Background: Focus on Teacher Accountability
NCLB – law enacted to positively affect student achievement
VDOE – link teacher evaluation to student achievement
Local Districts choose the parameters that measure student achievement


Methodology: Data Collection
Survey 3rd – 5th grade teachers at two TIF elementary schools. (Total of 20 teachers)
11 participated in the baseline survey
9 participated in the post survey
6 teacher interviewees - 3 veteran and 3 novice teachers
18 teacher interviews (pre-, mid-, and post for each teacher)

Methodology: Overview

- Design: Mixed Methods
- Units of Analysis:
  - Individual Teacher
  - Teacher Groups By Grade Level
- Data Collection Techniques:
  - Survey – pre- and post-
  - Interviews – pre-, mid-, and post-

Findings: Quantitative

- Teachers reported informal meetings with their peers as the most helpful resource available to them (5.0 mean value)
- All teachers shared they relied upon someone other than a learning leader coach in setting student targets.

Findings: Qualitative

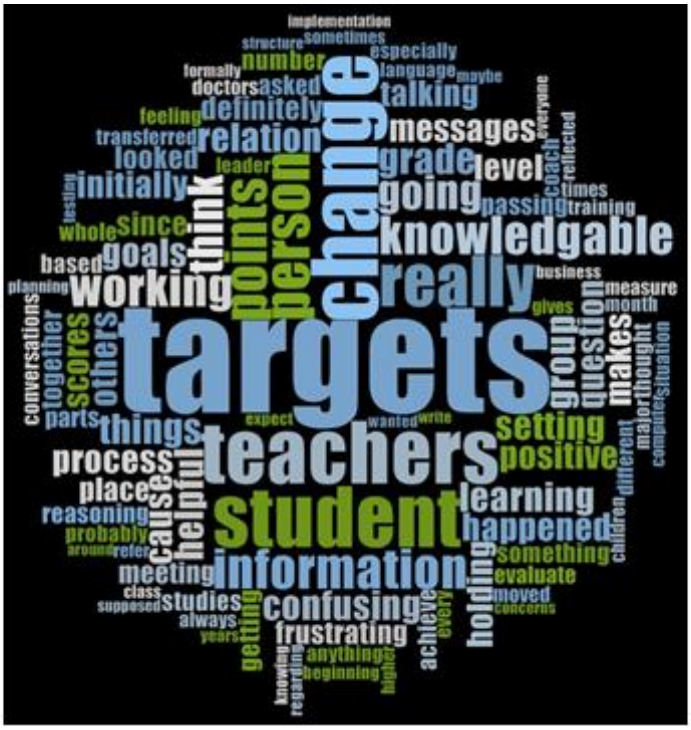
- 18 interviews, conducted and recorded upon the written permission of each of the participants
- Transcribed verbatim (transcripts validated and confirmed by the interviewees)
- Uploaded into NVIVO in order to identify categories
- Using open and axial coding; grouping codes into similar concepts in order to make them more manageable for generating themes ("nodes")
- Each subsequent interview transcript was compared to the emerging categories until no new themes emerged and the saturation point was ascertained

Findings: Quantitative

Conducting a Kruskal Wallis Chi Square test, it was determined that there was no statistically significant difference ($p > .05$- for all variables) between the groups investigated – subsets based on experience level (i.e. novice versus veteran teachers)

Obs	Variable	Kruskal Wallis	p-Value
1	NUMresourcesRankTrain1Workshop	Pr > ChiSquare	0.668595
2	NUMresourcesRankTrain2Database	Pr > ChiSquare	0.550493
3	NUMresourcesRankTrain3_LCIs	Pr > ChiSquare	0.170638
4	NUMresourcesRankTrain4AdminMtg	Pr > ChiSquare	0.763379
5	NUMresourcesRankTrain5InfTchMtgs	Pr > ChiSquare	0.129878
6	NUMresourcesRankTrain6Other	Pr > ChiSquare	0.703850
7	NUMhoursSpentSettingTargets	Pr > ChiSquare	0.397118

Ho: The distribution of rankings by teacher experience level are identical.
Ha: At least one of the distributions of rankings by teacher experience level differs.
CONCLUSION: There are no distributional rankings differences based upon level of teacher experience.



Findings: Qualitative

- This approach to data analysis allowed the researcher to identify major themes
  - Constructing understanding
  - Safeguarding
  - Expressions of teachers' beliefs
  - Frustrations
- These themes relate to the research questions regarding teachers' collective sensemaking and whether any differences exist between novice and veteran teachers in the target setting process

Findings: Qualitative

Node A	Node B	Pearson correlation coefficient
Nodes\\Constructing Understanding	Nodes\\collective sensemaking	0.924699
Nodes\\Gatekeeping	Nodes\\collective sensemaking	0.803702
Nodes\\Gatekeeping	Nodes\\Constructing Understanding	0.70721
Nodes\\Gatekeeping	Nodes\\frustration	0.707092
Nodes\\frustration	Nodes\\collective sensemaking	0.666142
Nodes\\Gatekeeping	Nodes\\Beliefs	0.637252
Nodes\\frustration	Nodes\\Constructing Understanding	0.575741
Nodes\\collective sensemaking	Nodes\\Beliefs	0.521598
Nodes\\Constructing Understanding	Nodes\\Beliefs	0.462801
Nodes\\frustration	Nodes\\Beliefs	0.462771

Collective Sensemaking

- Observed commonalities among the participants
- Every participant stated that he/she met with a team ---
  -Both at the beginning of the target setting process and at any point at which they are given the opportunity to change their targets.
- Most said they met informally on a weekly basis
  - Also acknowledged that those conversations happened more frequently as target setting deadlines approached.
- All participants discussed individual student targets with their peers
  - They believed their peers were better predictors of student achievement than the other resources.

Theme: Constructing Understanding

- Strong positive correlation between constructing understanding and collective sensemaking
- Teachers expressed that
  - "[a]ctual teachers know the students the best and those that have been here a long time are more helpful than a coach."
  - "[w]e will talk and say, 'Okay, they said 'this', but what do they mean?'"
- When needing to work through a decision they first went to their peers, and if their peers were not able to assist, then they sought out other resources such as learning leader coaches, administrators, or central office staff

Collective Sensemaking

- Relied upon each other - taking questions and concerns to their peer groups
- Direct and indirect evidences of collective sensemaking.
  - Conversations about the student target process, and reaching an opinion as a group
  - Repeated usage of the same phrases:
    - 4 out of 6 teachers stated it is like a "lottery" concerning setting student targets and helping their students meet those targets
    - 5 out of 6 teachers stated, "...it's another thing on our plate."
- All teachers indicated that knew and agreed with the opinion of their team

Theme: Constructing Understanding

- "…specific students - what do you think I should do with this student…now that the SOL is different are you going to set them differently?"
- "I ask teachers that share kids with me the most and talk about what is working and what is not working. They guide me."
- "We sit down to help each other out and it helps talking and bouncing it off each other people to see what they are doing and what is best for me and what is the best for the students.
- "When I haven't understood, I sit down with the learning leader coach or my team mates and together deciding what we have heard and what we need to do and where we need to set the goals."

Theme: Safeguarding

- One reason that teachers shared for this team-oriented mindset was fear regarding their future if students' targets were not met.
- The teachers shared fears regarding setting targets that "[a]t the end of the year [whether my students meet their targets] will be my points and my pay."
- As teachers worked through the methods to set targets as a group, they tried to "set targets not too high or too low."

Theme: Safeguarding

- "We pick a target at least 80% because we strongly feel the kids can hit that target."
- A novice teacher shared, "Set a target high enough, but don't set one too high that they won't for sure meet it. Don't set one too low. [Teachers] were really good about catering to me to help me."
- A veteran teacher shared, "I talked to some colleagues, and I kind of figured out to make it a big enough gain that it didn't look sketchy."

Theme: Safeguarding

- Teachers also commented that conflicting messages complicated the high stakes decision.
  - "[w]hen you meet with the teachers it is kind of like 'Okay, let me break this down to you for real. This is how it really works.'"
  - "[w]e figured if we all four got together we could figure it out because nobody seems to know."
  - "if questions come up about it, we can say we were consistent at least across our grade level."
  - "Our team meets to essentially all be on the same page in terms of giving one another a range."
- There appeared to be a certain trepidation associated with financial interests hinging on student targets
- However, teachers expressed that solidarity within their team helped assuage their concerns

Theme: Frustration

- Each interviewee expressed frustration with some component of the target setting process.
  - "How are we going to do this? Using concrete numbers and a lack of data to set a goal. I have no background, and I have sketchy data, and I am making decisions that affect my future."
  - "It is really hard - they sit there and say, 'You should have this or that' and then not give us what we need, and then they say, 'Sorry,' and the blame is put on us."
  - "arbitrariness of the decision"
  - "Oh well, there goes $300 dollars that we didn't get because Johnny had a rough night at home with the parents the night before."
  - "It has been hard this year because a bunch of our students showed negative progress last year. This year it is a big hot mess, so it is stressful to try to process this skewed data, so when I figure it, out I will let you know."

Theme: Frustration

- Teachers also felt that the process was difficult even when there were no glitches in the timeline.
  - Students that come later in the year
  - Translating testing data
- Teachers have commented that each year there have been adjustments to the process.

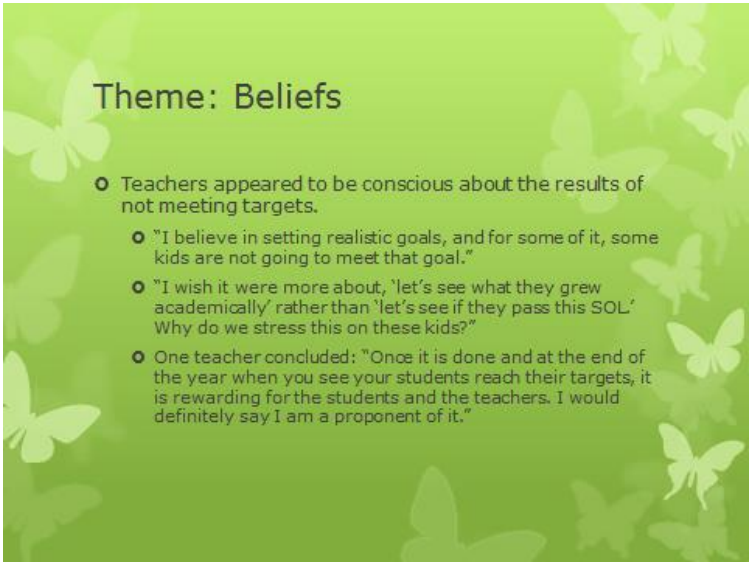
Theme: Frustration

- There was also anxiety expressed with respect to students actually meeting targets –
  - "I don't know if they will be absent or get a serious illness, and I based the child's score on what I think he will do, and then he is out, and I miss the target, and that is frustrating."
  - "Even if we are doing the best we can at school, but when they are not at school, there can be issues at home or the child is sick. We are setting a target at the beginning of the year for a goal at the end of the year, and that seems difficult to do."
  - "I think that is frustrating. Doctors or architects are not asked to have a goal and then given nothing to go off of."

Theme: Beliefs

- In spite of the frustration associated with the *implementation* of the student target setting process, teachers often spoke in favor of setting student targets.
  - "We all feel the same about it. We can complain if we want to, we can cheer if we want to. But I get valuable information from them."
- Teachers unanimously agreed that by going through the target setting process, it helped them better meet the needs of the students.
  - "important because it shows growth,"
  - "positive," and "good to have."
  - "I am a more analytical teacher now," and another stated that "[b]y looking at the SOL strands to set goals, it helped me to know what I want to spend more time on."


Theme: Beliefs
Teachers all expressed a desire to see their students grow and shared the belief that setting targets help achieve this growth.
One teacher shared that student target setting is beneficial for the students as well.
"I mean we all set goals. We all set goals for all kinds of things in our lives, and I think it makes sense and that they understand the importance of setting these goals for the students. We are holding them more accountable for their learning."


Theme: Beliefs
Teachers appeared to be conscious about the results of not meeting targets.
"I believe in setting realistic goals, and for some of it, some kids are not going to meet that goal."
"I wish it were more about, 'let's see what they grew academically' rather than 'let's see if they pass this SOL.' Why do we stress this on these kids?"
One teacher concluded: "Once it is done and at the end of the year when you see your students reach their targets, it is rewarding for the students and the teachers. I would definitely say I am a proponent of it."

Implications

- Study allowed for conclusions concerning teacher sensemaking and recommendations for improving the current implementation of policy related to student target setting
- Additionally, while the current study is not generalizable at its core, it does suggest opportunities for the participating school district

Position 1: Teachers should not be the parties charged with the responsibility of setting students targets.

- Teachers are not data experts
  - Teachers expressed frustration over understanding how to set an SOL score given a Lexile score or a county-created assesement
  - Teachers did not always use the data correctly
    - Averaging two prior scores to predict a future growth score
    - Treating the NWEA and SOL tests the same
      - believed that they had to set an SOL score higher than the prior years' score to show growth

Recommendation for Position 1:

Teachers do not set growth targets

- Department of Research and Planning (R & P) is better positioned to set student growth targets accurately.
  - more expertise than the average teacher in data analysis
  - targets would ultimately be more accurate
  - R& P would have complete access to data and would be able to run tests on more expansive data
- Using OLS regression for period-over-period performance to get the slope, and hence, a prediction target for future performance would be a better process to get accurate data prediction for students using comparative analysis.
- If the student does not reach the overall goal, the teacher could provide a rationale with evidence as to why the goal was not attained.

Alternate Recommendation for Position 1:

Resources, data, and training need to be provided to increase teachers' proficiency in data analysis and projection

- Teachers need multiple years of benchmark data with the SOL and NWEA scores
- Data availability is also crucial
- Teachers need to be trained on how to read and interpret data;
  - training on understanding how to read Lexile scores and how scores that measure growth relate to standardized tests such as the SOL
- Quarterly data meeting in which R & P could share what new data would be forthcoming and how teachers could use that information for target-setting, as well as for instruction.
- Hold meeting during grade level meetings so teachers can ask questions about specific scenarios, building understanding and consistency within and without the school

Position 2: Linking teacher evaluation and compensation with student attainment of teacher-set growth measures creates an inherent and unavoidable conflict of interest.

- Donald Peterson, a former CEO for Ford Motor Company, stated that in his experience, "linking money to goal achievement was a prescription for intelligent people to find clever ways to make easy goals seems challenging, in order to ensure the receipt of their reward."
- Teachers must set goals that affect their livelihood
- What teacher would choose to push his or her student if one too many sick days, one problem in the student's home life, one bout of ambivalence, would cost the teacher $8,000?
- Even the most altruistic, idealistic teacher would be tempted to set a lower goal just to ensure his or her own financial security.
- Putting teachers in charge of setting student growth targets is akin to asking students to create answer sheets that are used to grade their own tests.

Potential Recommendation for Position 2: Do not link teacher evaluation and compensation with teacher-set student growth targets.

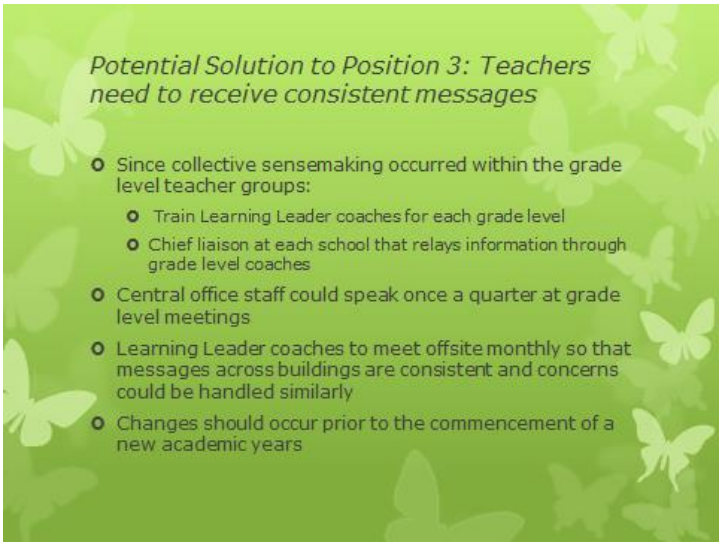
- To nurture teacher effectiveness, there must be a focus on intrinsic motivation.
- The "carrot and stick strategies" of extrinsic motivation will not build a culture of teacher effectiveness (Hassel & Hassel 2010).
- By giving students and teachers a goal, this in itself may challenge more effectively than a reward.
- Teachers liked having goals, but did not like the pressure of risking financial gain or settling for what was safe. The teachers wanted to show their students that they believed in them, but did not want penalized for setting a high expectation.

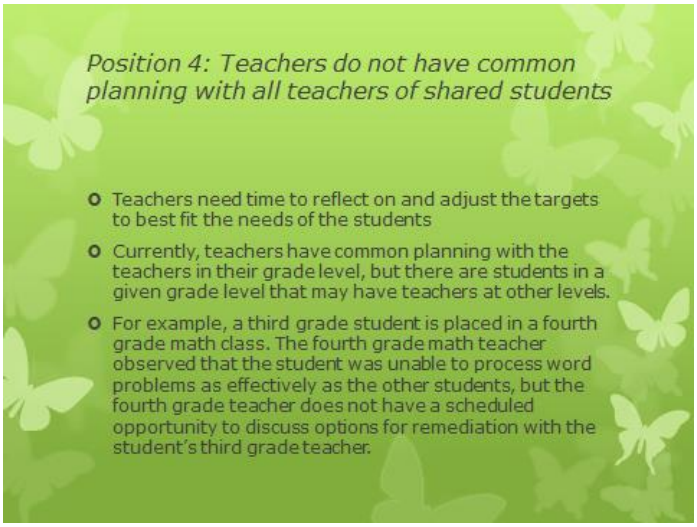
Recommendation for Position 2 (cont)

- Because the state has mandated the linking of student achievement with teacher evaluation, one possible solution could include non-financial tiered ranking system.
- The target should be the students' growth as compared to students in the state with comparable demographics and academic history.
- If this student's score exceeded that which was predicted then it may have been through his teacher's efforts. If the teacher had a certain percentage of his or her students perform better than similarly situated students across the state, then that teacher could be ranked incrementally higher.
- There is no direct financial reward to the teacher, but when the teacher's rank increases to a certain level, he or she would receive a salary increase.

Position 3: Teachers are not receiving clear, consistent messages regarding the target-setting policy

- Teachers' discussions showed frustration with the process, and it became evident that they did not feel they were receiving consistent messages
- LL coaches were not given timely access to new information as it was made available to administrators,
  - teachers realized that in spite of having been instructed to look to LL coaches for information and guidance, they were not able to get the information they were promised
  - In September database was intended to be instrumental in teachers' target-setting--Database was not made available to teachers until December
- LL coach was told in writing teachers could set science targets
  - Teachers needed students to have met at least one of the targets that were set
  - Day before the targets were due the LL coach learned that teachers were no longer allowed to set science targets
    - LL coaches had to deliver bad news to teachers on a Sunday night by personal telephone call, when targets were due the next morning
    - Teachers were promised multiple opportunities to succeed by doing the work to set a second set of targets for their students, and had that opportunity denied them at the eleventh hour


Potential Solution to Position 3: Teachers need to receive consistent messages
Since collective sensemaking occurred within the grade level teacher groups:
Train Learning Leader coaches for each grade level
Chief liaison at each school that relays information through grade level coaches
Central office staff could speak once a quarter at grade level meetings
Learning Leader coaches to meet offsite monthly so that messages across buildings are consistent and concerns could be handled similarly
Changes should occur prior to the commencement of a new academic years

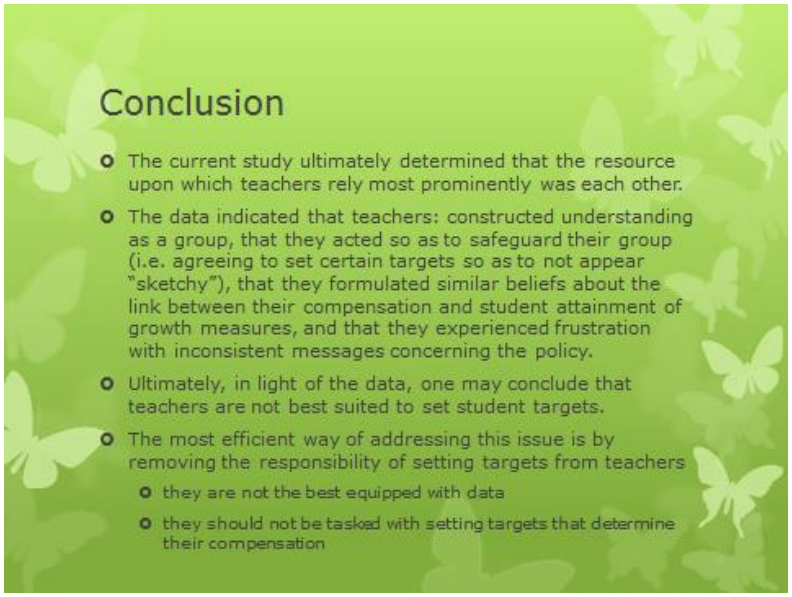

Position 4: Teachers do not have common planning with all teachers of shared students
Teachers need time to reflect on and adjust the targets to best fit the needs of the students
Currently, teachers have common planning with the teachers in their grade level, but there are students in a given grade level that may have teachers at other levels.
For example, a third grade student is placed in a fourth grade math class. The fourth grade math teacher observed that the student was unable to process word problems as effectively as the other students, but the fourth grade teacher does not have a scheduled opportunity to discuss options for remediation with the student's third grade teacher.

Potential Recommendation for Position 4: Allow teachers with shared students to have common planning opportunities

- Currently the district has a common planning time by grade levels
- Teachers who share students across grade levels do not have common planning time; however, working with the master schedule may allow an administrator the opportunity to have alternative planning times such as a common lunch.
- Also faculty meetings could have certain periods of time set aside for staff development, thus allowing teachers to discuss student needs and target-setting.

Conclusion

- If, however, teachers retain the responsibility of setting student targets, it is imperative that teachers receive clear, coherent, and consistent messages about the target-setting process and the expectations associated therewith.
- Collective sensemaking is crucial to teachers. As such, it is incumbent on those implementing the policy to foster and encourage communication that is helpful to teachers as they seek to implement the target-setting policy.
- This type of communication, top-down and lateral, is vital to the effective implementation of policy, and enhancing the effectiveness of the communication would serve to enhance the effectiveness of the goals the policy seeks to promote


Conclusion
The current study ultimately determined that the resource upon which teachers rely most prominently was each other.
The data indicated that teachers: constructed understanding as a group, that they acted so as to safeguard their group (i.e. agreeing to set certain targets so as to not appear "sketchy"), that they formulated similar beliefs about the link between their compensation and student attainment of growth measures, and that they experienced frustration with inconsistent messages concerning the policy.
Ultimately, in light of the data, one may conclude that teachers are not best suited to set student targets.
The most efficient way of addressing this issue is by removing the responsibility of setting targets from teachers
they are not the best equipped with data
they should not be tasked with setting targets that determine their compensation

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APPENDIX I -FINDINGS

Introduction

The goals of this mixed methods study involving the student target-setting process were threefold. First, the study explored how teachers make sense of student target-setting by inquiring about the resources upon which teachers rely in setting student achievement targets and how prevalent that reliance is among the teacher population. A second issue concerned the role of group interaction in student target-setting – specifically, the extent to which teachers valued interaction with their peers in determining student targets. A third goal of the study was to explore any differences that may exist between novice and veteran teachers as they processed messages related to student target-setting and implementation of the target-setting policy, and which resources novice and veteran teachers relied upon in implementing those messages. A comprehensive understanding of the issues represented by these three goals is helpful in understanding how teachers implement policy messages as related to student target-setting, and deepening this understanding is essential for educational policymakers seeking to create an environment more conducive to the effective implementation of policy.

The data generated by the current study is sufficient for the purposes of the current research study in that the researcher was able to discern trends in both the qualitative and quantitative data that were pertinent to the goals of the study. The mixed methods approach was appropriate in the current study, allowing the quantitative data to buttress the more expansive and comprehensive qualitative data. The quantitative data did enrich and support qualitative data, thus allowing for more confidence in the validity of the study's findings. Ultimately, the present study did yield results, which allow for

implications that may be helpful in future research endeavors and in maximizing the efficiency of policy implementation, specifically as related to student target-setting.

The design and data collection methods in the current study were grounded in the research questions. Survey data utilizing Likert scales provided quantitative data relevant to the research questions, and was gathered using baseline and post surveys. The qualitative research data was collected through three separate one-on-one open-ended interviews with novice and veteran teacher participants, thereby allowing the researcher to observe the results and evidences of the teachers' intrinsic processes as related to student target-setting. By combining qualitative and quantitative data collection, the study obtained more comprehensive data as concerning the research questions, which increases the validity of the findings.

This appendix first presents the findings from the data analysis, the findings being grounded in the framework of sensemaking, and then addresses the research questions in light of this framework. The data generated by the quantitative measure employed was analyzed by utilizing SAS. The qualitative findings are presented in themes that emerged as a result of interview data analysis using NVIVO software. Overall themes were discerned using nodes developed in coding. The mixed methods findings, grounded in sensemaking and the research questions outlined herein, are presented using descriptive statistics as well as narrative and contextual data to describe the teachers' implementation of the student target-setting process.

Study Sample

The participants in the study were third through fifth grade teachers from two central Virginia public elementary schools that currently are in their third year of a Teacher Incentive Grant. As part of the Teacher Incentive Grant program, 63% of the funds for teachers' bonuses are determined by the students' achievement of teacher-set goals. The schools' and individual teachers' participation were informed and voluntary as mandated by the IRC guidelines.

Of the population of third through fifth grade teachers at the two participant schools, there were twenty possible participants, and eleven of those teachers ultimately chose to participate in the quantitative phase of the current study (a 55% response rate). The survey questions centered on the effectiveness of the resources related to student target-setting that were provided teachers, the number of years of experience for teacher-participants, and the time spent by teacher-participants in setting student targets. These variables anchored the survey to the research questions by highlighting the differing needs, if any, of novice and veteran teachers and by exploring how teachers make sense of the student target-setting process.

Concerning the qualitative phase of the current study, the researcher conducted interviews to collect data regarding how teachers make sense of student target-setting, what role group interaction plays in that process, and any differences between the needs of novice and veteran teachers. The researcher conducted a small pilot study consisting of three interviews in a non-participating school in order to effectively prioritize interview questions to ensure the duration of the interview was not overly cumbersome for the participants. This pilot study also allowed the researcher to fine tune the wording

of questions. In determining the actual sample for the qualitative portion of the study, the Department of Research and Planning contacted the principals at both participating elementary schools in order to determine which principal felt their teachers would be best equipped and most willing to participate in the more detailed interview process. When the Department of Research and Planning determined the school at which the interviews would take place, the principal of that school invited all third through fifth grade teachers to participate in the interview process, and six of those ten teachers responded affirmatively.

All willing participants were interviewed. One of the teachers interviewed also serves as a learning leader coach. Two of the six teachers that were interviewed were entirely new to the target-setting process, having never set student targets previously. As there were only six of twenty-four teachers of any grade in the participant school had no had prior experience setting student targets that sample in the current study (two of six, or 33%) is believed to be similar to teachers with no previous experience with target-setting.

There were three interviews conducted per participant. The first occurred prior to the teachers receiving data to assist them in setting student targets; the second occurred after teachers were supposed to receive a database reflecting each student's data from prior years' testing (though it should be noted that due to technical difficulties in generating the database, it was not available to teachers at the promised time); and the final interview occurred after teachers had not only set their students' targets but also had been given the opportunity to adjust those targets.

A total of eighteen one-hour interviews were conducted and recorded, upon the written permission of each of the participants, and each interview was transcribed verbatim, with the transcripts being validated and confirmed by the interviewees. As they were completed, the transcripts were uploaded into NVIVO in order to identify categories. Each subsequent interview transcript was compared to the emerging categories until no new themes emerged and the saturation point was ascertained. The researcher applied open and axial coding for the constant comparative method by coding key points in the data, as extracted from the interview text, and grouping those codes into similar concepts in order to make them more manageable for generating themes. This approach to data analysis allowed the researcher to identify the major themes of sensemaking (constructive understanding and safeguarding), expressions of teachers' beliefs, and frustrations as related to the target-setting process. These themes relate to the research questions regarding teachers' collective sensemaking and whether any differences exist between novice and veteran teachers in the target-setting process, and the remainder of the appendix will examine the data in light of those research questions.

Theme: Collective Sensemaking as Related to Student Target-setting

Table 5 reflects the descriptive statistics for teachers' overall responses to the question requiring them to rank the helpfulness of the resources provided to them in the student target-setting process. A score of 6 reflected the most helpful resource and a score of 1 reflected the least helpful. It should be noted that in the survey presented to teacher-participants, a score of 1 was ranked as the most helpful resource, and a score of 6 was the least helpful. In the presentation of these findings, the scale has been inverted for ease of understanding. In nearly all sample subsets (grade level and years of experience),

teachers reported informal meetings with their peers as the most helpful resource available to them, with the one exception being that fourth grade teachers ranked the helpfulness of learning leader coaches slightly higher than informal meetings with their peers. However, it is important to note that the learning leader coach was a peer in that grade level, which may have affected teacher responses. The participants' responses yielded a mean value of 5 (highest value) for the level of importance of informal peer meetings. The importance of informal peer meetings is further supported by the unanimity of the affirmative responses that teachers relied upon someone other than a learning leader coach in setting student targets. (See Table 6.) Additionally, participants who spent more time in setting their student targets ranked informal teacher meetings and the learning leader coach as being the most helpful resources, as is reflected in Table 7, below. The data support the hypothesis that teachers engage in collective sensemaking, relying upon it heavily, as they navigate the student target-setting process.

Table 2

Ranking of Resources by Years Involved at TIF School

Years Involved At TIF School	*Available Resources*	*N*	*Mean*	*Std Dev*	*Minimum*	*Maximum*
1-2 years	Training Workshop					6.
	Database		.00	.73	3.00	00
	Learning Leader Coach	3	3.00	2.00	1.00	5.00
	Admin Mtg	3	4.00	0.00	4.00	4.00
	Tch Mtgs	3	3.00	1.73	2.00	5.00
	Other	3	5.67	0.58	5.00	6.00
	Total hours Spent Setting Targets	3	1.33	0.58	1.00	2.00
		3	8.92	5.84	3.75	15.25
2-3 years	Training Workshop					
	Database		.14	.21	2.00	6.00
	Learning Leader Coach	5	3.40	1.52	2.00	6.00
	Admin Mtg	6	5.00	2.00	1.00	6.00
	Tch Mtgs	6	3.33	1.37	2.00	5.00
	Other	7	4.57	0.98	3.00	6.00
	Total hours Spent Setting Targets	7	1.71	1.11	1.00	4.00
		7	15.50	24.62	3.75	70.50
3+ years	Training Workshop					
	Database	1	5.00		5.00	5.00
	Learning Leader Coach	1	2.00	.	2.00	2.00
	Admin Mtg	1	3.00	.	3.00	3.00
	Tch Mtgs	1	4.00	.	4.00	4.00
	Other	1	6.00	.	6.00	6.00
	Total hours Spent Setting Targets	1	1.00	.	1.00	1.00
		1	50.50	.	50.50	50.50

Table 3

Teacher Ranking of Resources by Reliance on Someone Other Than Learning Leader Coach

Rely On Someone Other Than LLC	*Variable*	*N*	*Mean*	*Std Dev*	*Minimum*	*Maximu*
Yes, another teacher	Training Workshop		4	1		
	Database	0	.00	.15	2.00	6.0
	Learning Leader Coach	8	3.13	1.64	1.00	6.0
	Admin Mtg	9	4.89	1.17	3.00	6.0
	Tch Mtgs	9	3.11	1.27	2.00	5.0
	Other	10	5.10	0.99	3.00	6.0
	Total hours Spent Setting	10	1.50	0.97	1.00	4.0
	Targets	10	17.05	23.66	3.75	70.5
Yes, someone outside of school	Training Workshop		6			
	Database		.00	.	6.00	6.0
	Learning Leader Coach	1	3.00	.	3.00	3.0
	Admin Mtg	1	1.00	.	1.00	1.0
	Tch Mtgs	1	5.00	.	5.00	5.0
	Other	1	4.00	.	4.00	4.0
	Total hours Spent Setting	1	2.00	.	2.00	2.0
	Targets	1	15.25	.	15.25	15.2

Table 4

Teacher Ranking of Resources by Hours Spent Setting Targets

Hours Spent Setting Targets	*Variable*	*N*	*Mean*	*Std Dev*	*Minimum*	*Maximum*
10.5-20 hours						
	Training Workshop	2	0.50	2.12	3.00	6.00
	Database	2	2.00	1.41	1.00	3.00
	Learning Leader Coach	2	2.50	2.12	1.00	4.00
	Admin Mtg	2	5.00	0.00	5.00	5.00
	Tch Mtgs	2	5.00	1.41	4.00	6.00
	Other	2	2.00	0.00	2.00	2.00
	Total hours Spent Setting Targets	2	15.25		15.25	15.25
2.5-5 hours	Training Workshop	4	.00	1.41	2.00	6.00
	Database	5	3.75	1.50	3.00	6.00
	Learning Leader Coach	5	5.40	0.89	4.00	6.00
	Admin Mtg	5	2.80	1.30	2.00	5.00
	Tch Mtgs	5	4.40	0.89	3.00	5.00
	Other	5	1.20	0.45	1.00	2.00
	Total hours Spent Setting Targets	5	3.75	0.00	3.75	3.75
41-60 hours	Training Workshop	1	0.00	.	5.00	5.00
	Database	1	2.00	.	2.00	2.00
	Learning Leader Coach	1	3.00	.	3.00	3.00
	Admin Mtg	1	4.00	.	4.00	4.00
	Tch Mtgs	1	6.00	.	6.00	6.00
	Other	1	1.00	.	1.00	1.00
	Total hours Spent Setting Targets	1	50.50	.	50.50	50.50
5.5-10 hours	Training Workshop	2	0.50	0.71	3.00	4.00
	Database	2	3.50	2.12	2.00	5.00
	Learning Leader Coach	2	5.00	1.41	4.00	6.00
	Admin Mtg	2	2.50	0.71	2.00	3.00
	Tch Mtgs	2	5.50	0.71	5.00	6.00
	Other	2	1.00	0.00	1.00	1.00
	Total hours Spent Setting Targets	2	7.75	0.00	7.75	7.75

Apart from the identifying of informal teacher meetings and the learning leader coaches as being the most helpful resources in the student target-setting process, there is little consistency between the other resources. The resources that did not rely on collective sensemaking (workshop given in the summer to provide an overview of the process, the excel spreadsheet of student scores, and the administrative meeting at the beginning of the year) were reported as less beneficial. Third grade teachers reported that the workshop was helpful, while fourth and fifth grade teachers seem to rely on the workshop less. This may be due to differences in need at the grade level. Third grade teachers rely on data that is created and analyzed at the county level, whereas 4th and 5th grade have prior years' SOL and NWEA data to rely on as they make informed decisions about target-setting. Although these variations are observable in the data, by conducting a Kruskal Wallis Chi Square test, it was determined that there was no statistically significant difference between the groups investigated, with group subsets being based on grade level and experience level (i.e. novice versus veteran teachers). Table 5 reflects the results of the Kruskal Wallis Chi Square analysis.

Table 5

Kruskall Wallis Chi Square Analysis by Teacher Experience Level of Resource Ranking

Variable	*Kruskal Wallis*	*p-Value*
Workshop	Pr > Chi-Square	0.668595
Database	Pr > Chi-Square	0.550493
Learning Leader Coaches	Pr > Chi-Square	0.170638
Administrative Meeting	Pr > Chi-Square	0.763379
Informal Teacher Meetings	Pr > Chi-Square	0.129878
Other	Pr > Chi-Square	0.703850
Hours spent setting targetts	Pr > Chi-Square	0.397118

Ho: The distribution of rankings by teacher experience level are identical.
Ha: At least one of the distributions of rankings by teacher experience level differs.
CONCLUSION: There are no distributional rankings differences based upon level of teacher experience.

Table 6

Normality Test of Teacher Ranking by 1-2 and 2-3 Years of Experience

Years Involved At TIF School	*VarName*	*NormalityTest*	*pValue*
1-2 years	Hours spent on targets	Shapiro-Wilk	0.6678
2-3 years	Hours spent setting targets	Shapiro-Wilk	0.0001
1-2 years	Training Workshop	Shapiro-Wilk	0.0001
2-3 years	Training Workshop	Shapiro-Wilk	0.2368
1-2 years	Database	Shapiro-Wilk	1.0000
2-3 years	Database	Shapiro-Wilk	0.0435
1-2 years	Learning Leader Coach	Shapiro-Wilk	.00001
2-3 years	Learning Leader Coach	Shapiro-Wilk	0.0006
1-2 years	Admin Mtg	Shapiro-Wilk	0.0001
2-3 years	Admin Mtg	Shapiro-Wilk	0.0932
1-2 years	Informal Teacher Mtgs	Shapiro-Wilk	0.0001
2-3 years	Informal Teacher Mtgs	Shapiro-Wilk	0.6085
1-2 years	Other	Shapiro-Wilk	0.0001
2-3 years	Other	Shapiro-Wilk	0.0062

RESULT: With no Ranking non-significant in both the 1-2 and 2-3 Years of Experience groups, too many violations of Normality assumptions have been exhibited. Non-parametric techniques must be used.

Not only was the prevalence of collective sensemaking apparent in the data from the surveys of teachers participating in the quantitative phase of the study, but it was also apparent in the qualitative analysis of the teacher interviews. During the interview process, the researcher observed certain commonalities among the participants. Notably, every participant stated that he/she voluntarily met as a team to discuss and set targets –

both at the beginning of the target-setting process and at any point at which teacher are given the opportunity to change their targets. Most said they met informally on a weekly basis to discuss targets with the teachers in their grade level, but also acknowledged that those conversations happened more frequently as target-setting deadlines approached. The participants all shared that they discussed individual student targets with their peers, since they believed their peers were better predictors of student achievement than other resources. They expressed reliance upon each other, indicating that they would initially take questions and concerns to their peer groups in order to try to determine a solution (relying upon the learning leader coach, administrators, or central office only if the group was unable to find a solution). These types of statements were direct evidence of collective sensemaking; however, there were also indirect indications of collective sensemaking. For example, four out of six teachers stated it is like a "lottery" concerning setting student targets and helping their students meet those targets, and five out of six teachers stated "it's another thing on our plate." The repeated usage of the same phrases suggests that teachers have had conversations about the student target-setting process and have reached an opinion as a group. Furthermore, in responding to questions concerning their feelings about the student-target-setting process, all six teachers indicated that their "team" (i.e. the teachers in their grade level) had the same opinion about target-setting – none responded that their team felt differently or that they did not know the opinions of their team.

In addition to the researcher's initial observations in the interview, the qualitative data was analyzed using NVIVO software. This software allowed the researcher to record the frequencies with which certain words and phrases appeared in the transcribed

interviews, and then conduct query searches to combine similar texts. By analyzing the data, the researcher was able to create nodes by which the data could be coded. The five nodes utilized by the researcher were collective sensemaking (a process by which individuals work within a group to make sense of a phenomenon), constructing understanding (the process by which individuals formulate an understanding of a concept), safeguarding (the tendency to justify or defend an individual's or a group's actions or beliefs), frustration (identification of obstacles that exasperate or irritate), and beliefs (expressions of an individual or group opinion).

A Pearson r test was conducted in order to determine whether there was any correlation between the nodes' presence in the qualitative data. Most notably, there was a strong positive correlation between the prevalence of collective sensemaking and constructing understanding (r = 0.924899), which suggests that as understanding increases, so does the existence of collective sensemaking. Similarly, there was a strong positive correlation between collective sensemaking and safeguarding (r = 0.803702), which suggests as collective sensemaking increases, there is a greater sense of self- and group-protectiveness. Table 7 contains a chart identifying the Pearson Product Moment Correlation coefficients for each of the nodes.

Table 7

Pearson Product Moment Correlation of Nodes

Node A	Node B	Pearson correlation coefficient
Nodes\\Constructing Understanding	Nodes\\collective sensemaking	0.924899
Nodes\\Gatekeeping	Nodes\\collective sensemaking	0.803702
Nodes\\Gatekeeping	Nodes\\Constructing Understanding	0.70721
Nodes\\Gatekeeping	Nodes\\frustration	0.707092

Nodes\\frustration	Nodes\\collective sensemaking	0.668142
Nodes\\Gatekeeping	Nodes\\Beliefs	0.637252
Nodes\\frustration	Nodes\\Constructing Understanding	0.575741
Nodes\\collective sensemaking	Nodes\\Beliefs	0.521588
Nodes\\Constructing Understanding	Nodes\\Beliefs	0.483801
Nodes\\frustration	Nodes\\Beliefs	0.483771

Theme: Constructing Understanding

As teachers worked through the decision making process related to student target-setting, they constructed understanding about generalities in the process (e.g. an NWEA score of ___, would correlate to what SOL score?) and/or about issues with a specific student's target (e.g. Student X does not have heat in his home and has missed a lot of school, so how do I adjust his predicted scores?). As earlier stated, there was a strong positive correlation between constructing understanding and collective sensemaking. One teacher expressed well an opinion voiced by many teachers in stating that "[a]ctual teachers know the students the best and those that have been here a long time are more helpful than a coach." Teachers shared that they often met to talk with their peers when they were confused about the next steps in the student target-setting process, with one teacher stating that "[w]e will talk and say, 'Okay, they said this, but what do they mean?'" Another teacher shared: "My team tends to meet every day after school, for about a week or two before [targets are due]. Then, we are meeting every day. We are talking during lunch and informally a few times a week. When we get to change targets, we meet around then, too. We are talking informally probably every day."

Teachers frequently expressed that when they needed to work through a decision they first went to their peers, and if their peers were not able to assist, then they sought

other resources such as learning leader coaches, administrators, or central office staff. One teacher indicated that they discuss "…specific students - what do you think I should do with this student, what do you think I should do for that student, what are you doing overall, now that the SOL is different are you going to set them differently?" Additionally, during the study there were complications with one major piece of data (the unavailability of a database of test information that was initially to be made available in September, but which was not made available until December), which then caused the teachers to seek assistance from each other about how to handle this complication.

Teachers met informally once a week on average as they discussed individual students and circumstances. Conversations centered on how to help a student who was struggling with the material and what remediation or modifications were needed. Teachers displayed a strong confidence in their peers and seemed to accept the advice they were given. For example, one teacher stated, "I ask teachers that share kids with me the most and talk about what is working and what is not working. They guide me." Another teacher shared, "We sit down to help each other out and it helps talking and bouncing it off each other people to see what they are doing and what is best for me and what is the best for the students. What they did for a similar student; it makes sense for me to do something similar for the student at the similar level." A third teacher commented, "When I haven't understood, I sit down with the learning leader coach or my team mates and together deciding what we have heard and what we need to do and where we need to set the goals." Teachers also felt a need to assist one another as they worked through the decision making process. "I would ask them how are their targets coming, do you feel like you need to change any of them or do you feel like you need extra resources

or materials in order to get so and so to meet his target? So we would talk about that, but there was no particular set time that we would talk about it."

Time and time again throughout the interview process, teachers made comments that reflected reliance upon their peers in gaining understanding about the target-setting process. Ultimately, the teachers' comments related to constructing understanding appear to have been consistently related to communications exchanged as part of the collective sensemaking process. This suggests that collective sensemaking may be an important component of teachers' construction of understanding of the student target-setting process.

Theme: Safeguarding

The intensive one-on-one interviews allowed teachers to express their need to set targets together as a team. One reason that teachers shared for this team-oriented mindset was fear regarding their future if students' targets were not met. Four of the six teachers explained that setting a target "is like playing the lottery" or "[i]t is kind of like pulling it out of thin air." "You pick a number, and you hope your child will get there, and you do your best to get them there, but it is just a number."

The teachers shared fears regarding setting targets that "[a]t the end of the year [whether my students meet their targets] will be my points and my pay." As teachers worked through the methods to set targets as a group, they tried to "set targets not too high or too low." One teacher stated, "We pick a target at least 80% because we strongly feel the kids can hit that target." Teachers shared that finances attached to the target-setting is a bonus, but that it is hard because "[i]f you miss it by one point, you do not receive your money." A novice teacher said, "Set a target high enough, but don't set one

too high that they won't for sure meet it. Don't set one too low. [Teachers] were really good about catering to me to help me." A veteran teacher shared, "I talked to some colleagues, and I kind of figured out to make it a big enough gain that it didn't look sketchy." The teachers stated that they met even more frequently to put together a plan because "[w]e throw ourselves out there. We are held accountable for these childrens' scores, and we should be to a certain extent. It is hard."

Teachers also commented that conflicting messages complicated the high stakes decision. Teachers would often get together and work through how they were planning to implement a strategy shared at formal meetings. One teacher stated that, "[w]hen you meet with the teachers it is kind of like 'Okay, let me break this down to you for real. This is how it really works.'" Another teacher added, "[w]e figured if we all four got together we could figure it out because nobody seems to know." Another teacher shared that the teachers were "doing this together so we are doing the same thing at least on the grade level. We are looking at the same kind of data, so if questions come up about it, we can say we were consistent at least across our grade level." "Our team meets to essentially all be on the same page in terms of giving one another a range."

This type of group-oriented thinking may be indicative of teachers' tendency to safeguard or protect themselves and their peers. By setting targets in line with other teachers in their grade level, teachers may have been attempting to minimize their chances of losing any compensation/bonus and also to insulate themselves and their peers from criticism regarding the ambitiousness of the target. While it did not appear that teachers shied away from the responsibility of setting targets and helping their students achieve those targets, there appeared to be a certain trepidation associated with the other

interests hinging on student targets – specifically, the teacher incentive bonus. However, teachers indicated that solidarity within their team helped assuage their concerns while, in theory, protecting the interests of the individual and the group.

Theme: Frustration with the Target Setting Process

While there was a certain amount of perceived risk associated with the process of student target-setting, each interviewee expressed frustration with some component of the target-setting process. Throughout the study, there were times that teachers were not given resources when they were originally told they would receive them. Once, the students were not able to complete testing due to technical issues, and there was another incident when the database was not provided to teachers until after the date it was to be made available. This created more anxiety associated with target-setting. As one teacher commented: "How are we going to do this? Using concrete numbers and a lack of data to set a goal. I have no background, and I have sketchy data, and I am making decisions that affect my future." Another teacher shared, "The worst part is when they say, 'Oh, you don't have that now, or you don't have the computers, and sorry, but it has been stressful to us, too.' Well, this reflects on me, so it is frustrating. It is really hard - they sit there and say, 'You should have this or that' and then not give us what we need, and then they say, 'Sorry,' and the blame is put on us." Teachers also felt frustration at the "arbitrariness of the decision" because "[o]h well, for the learning leaders grant, there goes $300 dollars that we didn't get because [the student] had a rough night at home with the parents the night before." A teacher lamented, "It has been hard this year because a bunch of our students showed negative progress last year. This year it is a big hot mess,

so it is stressful to try to process this skewed data, so when I figure it, out I will let you know."

It is notable that all interviewed teachers stated that the process was "frustrating." The lack of MAPS testing data in September caused the teachers to have to revisit their planned methods for setting student targets. One teacher stated that it "stresses me out, the computers shut down, and we have no test, so I don't know what to do with that. Do we go off the spring or do we go off the fall? It is an individual student situation, so I have done a lot of talking with teachers since our data is sketchy." Another teacher inquired, "How are we supposed to set a target when we aren't even doing it how it is supposed to be done?" "We did not have the fall MAPS test to go off of, so there are teachers that are nervous as to what data we will use to set targets. The fall MAPS is very helpful, and now that we don't have that we will have to use the winter and the previous spring which is causing confusion and nervousness." Another teacher expressed annoyance at the "hit or miss nature" of the process and shared that teachers felt "stress about how to set accurate goals." One teacher apologized during the interview - "It is frustrating to sit in a meeting for an hour and half and be told to use this piece of data or this tool, and then, you don't even get it. Sorry, it is so frustrating."

Teachers also felt that the process was difficult even when there were no glitches in the timeline. "The hardest thing for me is bringing those students that come in in January, and I have to set a goal for a student that has no data." Another teacher shared, "With the SOL, we had to just choose an SOL that we think would fit. What would an 80 translate into? A 440? A 450?" Teachers have commented that each year there have been adjustments to the process. "There was a lot of back and forth. The coaches didn't even

know. It was not well thought out initially." Another teacher said, "Sometimes we get the runaround, and that turns into another question. For example, teachers were told to take two scores and average them to measure growth, which resulted in all students showing negative growth. The following year we were told to show growth for all students." Teachers said that it "is still a guessing game." Nonetheless, teachers have adapted through the implementation by processing their decision making with their peers. "Last year was better than the prior. At first teachers were told that teachers who didn't teach math were told to not set targets. Then, at the end we were told that they can set a science score. But now we know for the beginning of the year. Another thing that was misleading was the dates - they gave us an additional opportunity to change the targets."

The interviewed teachers not only expressed frustration in not having all the necessary components, but also being overwhelmed with the process in light of other job responsibilities. "It is one more thing on our plate" was a sentiment shared by four of the six teachers. There was also anxiety expressed with respect to students actually meeting targets – "I don't know if they will be absent or get a serious illness, and I based the child's score on what I think he will do, and then he is out, and I miss the target, and that is frustrating." A teacher complained: "Even if we are doing the best we can at school, but when they are not at school, there can be issues at home or the child is sick. We are setting a target at the beginning of the year for a goal at the end of the year, and that seems difficult to do." Another teacher added, "I think that is frustrating. Doctors or architects are not asked to have a goal and then given nothing to go off of."

Theme: Beliefs regarding the target setting process

In spite of the frustration associated with the *implementation* of the student target-setting process, teachers often spoke in favor of setting student targets. “We all feel the same about it. We can complain if we want to, we can cheer if we want to. But I get valuable information from them.” Teachers unanimously agreed that by going through the target-setting process, it helped them better meet the needs of the students. The setting of targets was viewed as “important because it shows growth,” “positive,” and “good to have.” One teacher reflected, saying, “I am a more analytical teacher now,” and another stated that “[b]y looking at the SOL strands to set goals, it helped me to know what I want to spend more time on.” Teachers all expressed a desire to see their students grow and shared the belief that setting targets helped achieve this growth. “By having goals, as a teacher, you know you are going to have to change your instruction, do more remediation for that student to help them get to that goal.” Having goals helped that teacher to “know where I want the kids to be, and it definitely helps me know which kids I need to give that extra help to.” Another teacher commented that “[t]here are other children that really need that one on one, or they need that differentiated instruction in order to reach that target, so whatever it takes that is what I am going to do to ensure that each child gets to that target.”

One teacher shared that student target-setting is beneficial for the students as well. “I mean we all set goals. We all set goals for all kinds of things in our lives, and I think it makes sense and that they understand the importance of setting these goals for the students. We are holding them more accountable for their learning.” Another teacher commented that students view it “almost like a video game. They want to beat the score. They don’t necessarily think, ‘Oh, let me show all that I learned.’ It is more so ‘Oh, I had

a 180, and now I really want to get to 200 ‘cause it is going to be a higher score.’ It is like a video game mentality almost.”

Teachers appeared to be conscious about the results of not meeting targets. “I believe in setting realistic goals, and for some of it, some kids are not going to meet that goal.” “I feel guilty saying that this kid’s going to be at 60% percent, and that is saying a lot.” However, teachers were not always in agreement with the specifics of the target-setting process - “Putting a number on it like you are going to get a 90% on this test. I don’t think that is beneficial.” Another teacher said, “I wish it were more about, ‘let’s see what they grew academically’ rather than ‘let’s see if they pass this SOL.’ Why do we stress this on these kids?” One teacher concluded, “Once it is done and at the end of the year when you see your students reach their targets, it is rewarding for the students and the teachers. I would definitely say I am a proponent of it.”

Ultimately, teachers expressed beliefs and opinions in support of student target-setting as a means of accountability and ambition-enhancement that has the potential to be beneficial both to students and teachers. While the participating teachers identified what they believed were problems in the implementation process, no teacher saw the process of setting student targets as being without worth. In itself, that acknowledgment of the merits of student target-setting provides some impetus for educational leaders to improve the process in order to meet the needs of teachers as they seek to meet the needs of their students.

Summary of Mixed Methods Findings

A combination of qualitative and quantitative methods was used to explore the research questions. By utilizing a concurrent nested mixed methods design, the researcher

was able to collect narrative and numeric data to explore how teachers make sense of the target-setting process. By gathering data at multiple points of time, the study provided rich descriptions of teachers' decision making process. During the interviews, teachers commented repeatedly on their reliance on one another throughout the target-setting process. The survey and interview data showed that resources that allowed teachers to work through the process with their peers were viewed as the most beneficial. Drawing on findings from all data sources, the researcher was able to conclude that teachers collectively sensemake through an iterative processes of creating and adjusting targets. The mixed methods approach allowed for the exploration of the research questions as related to the sensemaking process and the needs of teachers throughout the target-setting process.

Data triangulation methods were used to validate the quality and credibility of the data collected, the results found, and the interpretation of the findings, thereby augmenting the trustworthiness of the findings of the study. The concurrent nested mixed methods design permitted the use of quantitative and qualitative data collection simultaneously in order to explore the role of teacher sensemaking in the target-setting process. Although qualitative data was the primary data source, the quantitative findings assisted in validating the qualitative findings. Furthermore, the survey data and intensive one-on-one interviews served to corroborate the emerging themes, providing additional research opportunities and suggesting implications that may enhance educators' understanding of policy implementation, specifically as related to student target-setting.

This study used descriptive statistics, frequency data, thematic coding, and contextual data interpretations to generate the findings and conclusions. Researcher bias

was minimized throughout the data collection, analysis of the data, and interpretation of the findings; however, the researcher was the sole investigator. Member-checked transcripts were used to ensure the validity of interview data. This corroboration was an effort to ensure the credibility of the study. Overall, the findings should provide a greater understanding of teacher sensemaking throughout the target-setting process.

Summary

In analyzing the data generated by the quantitative and qualitative measures, several themes emerged. Both in the quantitative and the qualitative measures, teachers indicated that they relied heavily on their peers to understand and implement student target-setting. Most participants identified informal interactions with their peers as the most helpful resource available to teachers seeking to set student targets. The data suggested that teachers engaged in collective sensemaking in order to construct their understanding of the student target-setting process, and that they did so while seeking to safeguard their individual and group interests.

Although the qualitative data indicated that teachers experienced a certain amount of frustration with the implementation of the student target-setting process, particularly as related to the unavailability of promised resources, teachers did express the belief that the concept of setting student targets can be helpful to both teachers and students. Teachers believed that some type of student target can be helpful in motivating teachers and students to do better.

The data generated by the present study provides some clarity regarding the resources that teachers deem most helpful for target-setting. Across the board, teachers

indicated that they lean most heavily upon each other in order to understand the student target-setting process and in setting actual student targets. This data may inspire further consideration of how understanding the sensemaking process can influence and increase the effectiveness of policy implementation.

The goals of this mixed methods study involving the student target-setting process were threefold. First, the study explored how teachers make sense of student target-setting by inquiring about the resources upon which teachers rely in setting student achievement targets and how prevalent that reliance is among the teacher population. A second issue concerned the role of group interaction in student target-setting – specifically, the extent to which teachers valued interaction with their peers in determining student targets. A third goal of the study was to explore any differences that may exist between novice and veteran teachers as they processed messages related to student target-setting and implementation of the target-setting policy, and which resources novice and veteran teachers relied upon in implementing those messages. A comprehensive understanding of the issues represented by these three goals is helpful in understanding how teachers implement policy messages as related to student target-setting, and deepening this understanding is essential for educational policymakers seeking to create an environment more conducive to the effective implementation of policy.

The data generated by the current study is sufficient for the purposes of the current research study in that the researcher was able to discern trends in both the qualitative and quantitative data that were pertinent to the goals of the study. The mixed

methods approach was appropriate in the current study, allowing the quantitative data to buttress the more expansive and comprehensive qualitative data. The quantitative data did enrich and support qualitative data, thus allowing for more confidence in the validity of the study's findings. Ultimately, the present study did yield results, which allow for implications that may be helpful in future research endeavors and in maximizing the efficiency of policy implementation, specifically as related to student target-setting.

The design and data collection methods in the current study were grounded in the research questions. Survey data utilizing Likert scales provided quantitative data relevant to the research questions, and was gathered using baseline and post surveys. The qualitative research data was collected through three separate one-on-one open-ended interviews with novice and veteran teacher participants, thereby allowing the researcher to observe the results and evidences of the teachers' intrinsic processes as related to student target-setting. By combining qualitative and quantitative data collection, the study obtained more comprehensive data as concerning the research questions, which increases the validity of the findings.

The position paper first presents the findings from the data analysis, the findings being grounded in the framework of sensemaking, and then addresses the research questions in light of this framework. The data generated by the quantitative measure employed was analyzed by utilizing SAS. The qualitative findings are presented in themes that emerged as a result of interview data analysis using NVIVO software. Overall themes were discerned using nodes developed in coding. The mixed methods findings, grounded in sensemaking and the research questions outlined herein, are

presented using descriptive statistics as well as narrative and contextual data to describe the teachers' implementation of the student target-setting process.

APPENDIX II-Implications of Findings

A combination of qualitative and quantitative methods was used to explore the research questions. By utilizing a concurrent nested mixed methods design, the researcher was able to collect narrative and quantitative data to explore how teachers make sense of the target-setting process. By gathering data at multiple points of time, the study provided rich descriptions of teachers' decision making process. During the interviews, teachers commented repeatedly on their reliance on one another throughout the target-setting process. The survey and interview data showed that resources that allowed teachers to work through the process with their peers were viewed as the most beneficial. Drawing on findings from all data sources, the researcher was able to conclude that teachers collectively sensemake through an iterative processes of creating and adjusting targets. The mixed methods approach allowed for the exploration of the research questions as related to the sensemaking process and the needs of teachers throughout the target-setting process.

Data triangulation methods were used to validate the quality and credibility of the data collected, the results found, and the interpretation of the findings, thereby augmenting the trustworthiness of the findings of the study. The concurrent nested mixed methods design permitted the use of quantitative and qualitative data collection simultaneously in order to explore the role of teacher sensemaking in the target-setting process. Although qualitative data was the primary data source, the quantitative findings assisted in validating the qualitative findings. Furthermore, the survey data and intensive one-on-one interviews served to corroborate the emerging themes, providing additional

research opportunities and suggesting implications that may enhance educators' understanding of policy implementation, specifically as related to student target-setting.

This study used descriptive statistics, frequency data, thematic coding, and contextual data interpretations to generate the findings and conclusions. Researcher bias was minimized throughout the data collection, analysis of the data, and interpretation of the findings; however, the researcher was the sole investigator. Member-checked transcripts were used to ensure the validity of interview data. This corroboration was an effort to ensure the credibility of the study. Overall, the findings should provide a greater understanding of teacher sensemaking throughout the target-setting process.

APPENDIX III- Limitations of the Study

As with most studies, there were limitations present in this study. The design controlled most threats to validity, although some validity concerns still exist. Threats to internal validity were reduced significantly by addressing the selection threat. This threat was addressed by selecting all teachers who taught in the incentive grant schools as part of the study and agreed to participate. Experimental mortality, which can occur when a participant drops out of participating in a study thus affecting the outcome, was present. Due to this potential threat to validity, the researcher surveyed the maximum number of teachers possible within the two participating schools given the parameters. Originally, the researcher planned to use a random sampling procedure, but ultimately opted to use all willing teachers who taught in the incentive grant schools as participants in the study. Therefore, convenience sampling was implemented, which ultimately increased the sample size to approximately 20 participants. It is important to note that the sampling for this particular study could have been significantly larger, but was reduced due to the fact the researcher was employed in an incentive grant school. However, future studies could include in the population the school at which the researcher is employed, thereby increasing the sample size.

Internal validity was also threatened based on the history of the study. It is possible that a teacher could have a bias against his/her building principal, Learning Leader coach, or peers causing a negative skew of data to occur. To reduce this threat, the survey was administered to teachers at two different schools. Interviews were conducted at one of the two schools in which the principal was viewed positively and as being very “hands-on” by several of the participants. Therefore, one might have assumed

the data would have been skewed in showing an increased reliance on the principal in the target-setting process. However, in spite of the favorable opinion of the principal, teachers expressed consistently the tendency to rely more upon informal teacher meetings and collective sensemaking than upon instruction and input from the principal or administrator. This also may have been due to the fact that teachers might have viewed the principal and administrators differently as concerning student target attainment, since the administration team provided oversight and accountability that directly impacted the teachers financially.

Lastly, it is important to note that, due to technology concerns, teachers had multiple obstacles throughout the target-setting process that did not occur in prior years. There were multiple NWEA testing attempts with computer crashes, some tests given on computer and some given with traditional paper and pencil, deadlines that were extended, and projected scores based on testing windows that had to be adjusted. The repeated delays in data availability and postponed deadlines were anomalies that raise questions about the generalizability of the findings regardless of the sample size.

APPENDIX IV

Email to Potential Participants in the Study

Dear _____,

Good morning. You recently received an introductory email from Dr. Hinton about a doctoral student from UVA completing research on how teachers implement the target-setting policy. I am that student and wanted to take a moment to introduce myself and explain the purpose of my research.

I have worked for 8 years in Henrico County Public Schools; as a high school math teacher at Hermitage High School, as an administrative intern at Highland Springs High School, and as an assistant principal for the last five years at Fairfield Middle School.

Being an administrator in a teacher incentive fund school, I became interested in how teachers process the student target-setting policy. As a building leader, I wanted to assure that administration had the best resources available to teachers in this process. I observed some teachers struggle with how to set challenging, attainable goals and wanted to help but needed to ascertain what resources teachers most utilized. So I decided to explore goal-setting and sensemaking theories and how it might be applied to the student target-setting process.

I would like you to know that as part of the requirements of the Institutional Review Board of UVA, your participation in the research would be voluntary and all data collected would be kept confidential. Pseudonyms will be used for all school leaders, schools, and the district itself. I also want to assure you that I will limit the time required to participate.

I want to thank you in advance if you are willing to participate in the study. You will receive a 2nd email that will include an electronic consent to participate. This consent also outlines the timeframe for 3 1-hour interview sessions that are part of the research and two surveys. Please feel free to email me any questions you might have. If you do not wish to participate, I would appreciate a courtesy reply.

Sincerely,

Angela Thompson

APPENDIX V

Informed Consent Agreement

Project Title: Sensemaking About Target-setting in Elementary Schools: How Teachers Implement the Target-setting Policy

Please read this consent agreement carefully before you decide to participate in the study.

Purpose of the research study: The purpose of this study is to investigate how teachers mediate the student target-setting implementation. Research questions are as follows:

1. Do teachers collectively make sense of the student target-setting policy? If so, how?
2. For teachers engaged in collective sensemaking, what does the process of goal setting look like?
    a. Do teachers utilize formal and informal resources and assistance opportunities to set student targets? If so how?
    b. Do teachers who engage in sensemaking in a similar manner set similar student targets?
3. Do differences exist between the process by which novice and veteran teachers make sense of messages related to student target-setting implementation?

What you will do in the study: In this study, you will be interviewed three times and surveyed two times during the 2013-2014 school year. The proposed interview schedule is September, October, and December. All interviews will be recorded and transcribed. Participants will be provided with copies of the transcripts and will be given an opportunity to clarify or elaborate on any section of the interview that might be incomplete or inaccurate. During the interview, you may skip any question that makes you feel uncomfortable and you can stop the interview at any time.

Questions for the interview will focus on your knowledge of the student targets setting process, how helpful resources provided were to the process, how you ultimately set targets and if you were planning to change set targets and why. Questions will also be asked about communication regarding student target-setting, staff perceptions on the implementation of the student target-setting process, and professional development resources supporting the process.

Time required: You will spend about 1 hour in each interview session. You will participate in 3 interview sessions during the 2013-2014 school year. You will be provided with the opportunity to read transcripts of each interview to edit for clarification and elaboration. That will require about 1 hour for each interview. You will receive 3 interview transcripts through the 2013-2014 school year. You will also be asked to answer survey questions four times throughout the 2013-2014 school year.. The total time for the interviews will be 3 hours; the total time to review transcripts will be 3 hours; the

total time for the surveys will be 1 hour; and the total time for all phrases of the research will be about 7 hours.

Risks: There is a risk that confidentiality will be lost based on demographic information (experience, current position, degree) provided as part of the study. A person within the study site may be able to deduce the identity of the participant based on the demographic information.

Benefits: There are no direct benefits to you for participating in this research study. The study may help us understand how school leaders manage the change process to increase the effectiveness of student target-setting within Henrico County schools. The study will add to the knowledge base of goal-setting theory, policy implementation, and collective sensemaking.

Confidentiality: The information that you give in the study will be handled confidentially. Your information will be assigned a code number. The list connecting your name to this code will be kept in a locked file. When the study is completed and the data have been analyzed, this list will be destroyed. Your name will not be used in any report. The audio tapes of the interviews will be destroyed upon completion of the research. All case study reports will use a pseudonym for participants. The pseudonym will be assigned randomly and will in no way be connected to you personally. Aggregated demographic information will only be contained in the dissertation; it will not be provided in the summary for the school district. Because of the nature of the demographic data, I cannot guarantee your data will be confidential and it may be possible that others will know what you have reported.

Voluntary participation: Your participation in the study is completely voluntary.

Right to withdraw from the study: You have the right to withdraw from the study at any time without penalty. If you chose to withdraw, the audio tape containing your interview will be destroyed at the time of the withdrawal.

How to withdraw from the study: If you want to withdraw from the study, please tell the researcher during the interview and the interview will be stopped immediately. If you would like to withdraw after the interview, please contact the researcher via phone or email. There is no penalty for withdrawing.

If you have questions about the study, contact:
Researcher's Name: Angela Thompson
Fairfield Middle School
5121 East Nine Mile Rd.
Henrico VA, 23223
Phone: 804-328-4020
Email: adthompson@henrico.k12.va.us

Faculty Advisor's Name: Daniel D. Duke, EdD

Curry School of Education
University of Virginia, Charlottesville, VA 22903.
Telephone: 434-924-3979
Email address: dld7g@virginia.edu

If you have questions about your rights in the study, contact:
Dr. Tonya Moon, Ph.D.,
Chair, Institutional Review Board for the Social and Behavioral Sciences
One Morton Dr Suite 500
University of Virginia, P.O. Box 800392
Charlottesville, VA 22908-0392
Telephone: (434) 924-5999
Email: irbsbshelp@virginia.edu
Website: www.virginia.edu/vpr/irb

Agreement:
I agree to participate in the research study described above.

Signature: _____ Date: _____

You will receive a copy of this form for your records.

APPENDIX VI

Questions on Background Information and Demographic Information for Participants

(to be sent via email)

1. What is the highest degree you have earned?
2. How many total years have you served as a teacher or school administrator?
3. Have you ever worked outside of the education profession? If you answered yes, please explain other professional experience.
4. How many total years have you worked in Henrico County?
5. What is your current position?
6. How many total years have you held your current position?

APPENDIX VII

School Learning Leader Coaches Interview Questions

September

1. Please briefly describe your understanding of the student target-setting process, and your experiences in setting student targets.
2. What have you learned about student target-setting since it has been made a component of teacher evaluation?
3. What information or data do you plan to use to assist teachers in the setting of student targets, if any?
4. Have you ever received conflicting messages about student target-setting? If so, how do you make sense of those messages?
5. When a new initiative is put forth, do you attempt to mediate it or do you wait for direction from the county?
6. What actions, if any, will you take during this school year to assist teachers in increasing their effectiveness in target-setting?
7. Do you expect instruction to change through the target-setting process? If so, how?
8. Do you expect student learning to change through the target-setting process? If so, how?
9. What has been your history/perception of program implementation within your school (principals)? Within your district (district administration)?
10. As you are experienced in student target-setting, what resources did you find most helpful, if any, in the 2012-2013 school year?
11. Do you believe student target-setting is important to student achievement? If so, how do you perceive your role in this process?

December

1. What progress, if any, have you seen with regards to teachers' implementation of student target-setting?
    a. What has worked well, if anything? How do you know?
    b. What has not worked well, if anything? How do you know?
2. How have you assisted teachers in the student target-setting process to fit their needs?
    a. Have you adjusted for teacher expectations? If so, how?
    b. Have you adjusted for teacher needs? If so, how?
3. What, if anything, do you perceive as being "key resources" for teachers in the implementation of student target-setting?
4. How have any such "key resources" assisted teachers in the implementation of student target-setting?
5. What method(s) did you use in helping teachers to set their student targets? Why?
6. Do you believe student target-setting is important to student achievement? If so, how do you perceive your role in this process?

7. Have the resources provided by the district, if any, influenced your coaching of teachers as they set student targets? If so, how?
8. Have you perceived that peer conversations have influenced teachers in the setting of student targets? If so, how?
9. Of the resources provided, what resources, if any, do you feel could be improved to assist teachers in target-setting? Why?
10. Have you ever received conflicting messages about student target-setting? If so, how did you make sense of those messages?
11. What elements, if any, of the student target-setting process were most confusing for you?
12. Do you believe student target-setting is important to student achievement? If so, how do you perceive your role in this process?
13. What have you learned, if anything, about the student target-setting process? What has helped you learn it?

Detailed Oriented Probes that may be used during the interview
When did that happen?
Who else was involved?
What was your involvement in that situation?
How did that come about?
Where did that happen?

Elaboration Probes that may be used during the interview
Would you elaborate on that?
Could you say some more about that?
That's helpful. I'd appreciate a bit more detail.

Clarification Probes that may be used during the interview
You said the program is … What do you mean by …
I'm beginning to get the picture that… Could you please explain…
I want to make sure I understand what you are saying, It would help me if you could say some more about … (Patton, 2012, pp. 412-413)

APPENDIX VIII

School Teachers Interview Questions

September

1. Please briefly describe your understanding of the student target-setting process, and your experiences in setting student targets.
2. What have you learned about student target-setting since it has been made a component of teacher evaluation?
3. What information or data do you plan to use for setting student targets? Why?
4. Have you ever received conflicting messages about student target-setting? If so, how do you mediate those messages?
5. When a new initiative is put forth, do you attempt to mediate it or do you wait for direction from the county?
6. What actions, if any, will you take during this school year to increase your effectiveness in target-setting?
7. Do you expect instruction to change through the target-setting process? If so, how?
8. Do you expect student learning to change through the target-setting process? If so, how?
9. What has been your history/perception of program implementation within your school (principals)? Within your district (district administration)?
10. If you have been provided resources by the county (e.g. training workshops, informal meeting with teachers, learning leader coaches, database, administrative meeting) which of those resources, if any, do you anticipate using in student target-setting? Why?
11. If you are experienced in student target-setting, what resources did you find most helpful, if any, in the 2012-2013 school year?
12. Do you believe student target-setting is important to student achievement? If so, how do you perceive your role in this process?
13. Has anyone said anything that caused you to change your views regarding student target-setting?
14. How frequently do you attend:
    a. Formal meetings – Department meetings, staff meetings, administrator or content meetings?
    b. Informal meetings – meeting with teachers at lunch, on the playground, during planning periods, before students arrive, after students are dismissed?
15. Have you discussed student target-setting with other teachers? If so, whom? What did you discuss?
16. How often do you and your colleagues meet to discuss student target-setting?
17. Besides these meetings, could you describe how often you discuss student target-setting with your peers?
18. How do your colleagues in your grade level feel about the student target-setting process?

19. How do you feel about the student target-setting process?

October

1. What progress, if any, have you seen with regards to the target-setting process?
   a. What has worked well, if anything? How do you know?
   b. What has not worked well, if anything? How do you know?
   c. What are the next steps that need to be taken, if any?
2. What resources/programs, if any, have you used to support you in the target-setting process?
3. What support, if any, has been given to teachers in the target-setting process?
4. How will you know that you are effectively setting student targets?
5. Have your peers been helpful regarding the student target-setting initiative? If so, how?
6. How have you perceived teachers responding to the student target-setting process?
7. What resources, if any, have other teachers indicated were helpful to them in the target-setting process?
8. If you benefitted from any resources (e.g. training workshops, informal meeting with teachers, learning leader coaches, database, administrative meeting) provided to you in the student target-setting process, what do you perceive as being the most beneficial resource? Why?
9. What do you perceive as being the least beneficial resource? Why?
10. Of the resources provided, what resources, if any, do you feel could be improved to assist teachers in target-setting?
11. How do you make sense of the data presented to you in the student target-setting process?
12. Have you ever received conflicting messages about student target-setting? If so, how do you mediate those messages?
13. What elements of the student target-setting process are most confusing for you, if any?
14. Do you believe student target-setting is important to student achievement? If so, how do you perceive your role in this process?
15. Has anyone said anything that caused you to change your views regarding student target-setting?
16. Have you discussed student target-setting with other teachers? If so, whom? What did you discuss?
17. How often do you and your colleagues meet to discuss student target-setting?
18. Besides these meetings, could you describe how often you discuss student target-setting with your peers?
19. How do your colleagues in your grade level feel about the student target-setting process?
20. How do you feel about the student target-setting process?

December

1. What progress, if any, have you seen with regards to the implementation of student target-setting?
   a. What has worked well, if anything? How do you know?
   b. What has not worked well, if anything? How do you know?
2. How have you made the student target-setting process fit your needs?
3. Have you adjusted for student expectations? If so, how?
4. Have you adjusted for student needs? If so, how?
5. What have been the "key resources," if any, in the implementation of student target-setting?
6. How have any such "key resources" assisted with the implementation of student target-setting?
7. What method did you use in setting your student targets? Why?
8. Do you believe student target-setting is important to student achievement? If so, how do you perceive your role in this process?
9. Have the resources provided by the district, if any, influenced your setting of student targets? If so, how?
10. Have conversations with peers influenced your setting of student targets? If so, how?
11. Do you plan to adjust your targets? If so, what resources most influenced that decision?
12. If you benefitted from any resources (e.g. training workshops, informal meeting with teachers, learning leader coaches, database, administrative meeting) provided to you in the student target-setting process, what do you perceive as being the most beneficial resource? Why?
13. What do you perceive as being the least beneficial resource? Why?
18. Of the resources provided, what resources, if any, do you feel could be improved to assist teachers in target-setting?
19. Have you ever received conflicting messages about student target-setting? If so, how do you mediate those messages?
20. What elements of the student target-setting process are most confusing for you, if any?
21. Do you believe student target-setting is important to student achievement? If so, how do you perceive your role in this process?
22. What have you learned, if anything, about the student target-setting process? What has helped you learn it?
23. Has anyone said anything that caused you to change the student targets you set?
24. Have you discussed student target-setting with other teachers? If so, whom? What did you discuss?
25. How often do you and your colleagues meet to discuss student target-setting?
26. Besides these meetings, could you describe how often you discuss student target-setting with your peers?

27. How do your colleagues in your grade level feel about the student target-setting process?
28. How do you feel about the student target-setting process?

Detailed Oriented Probes that may be used during the interview

When did that happen?
Who else was involved?
What was your involvement in that situation?
How did that come about?
Where did that happen?

Elaboration Probes that may be used during the interview

Would you elaborate on that?
Could you say some more about that?
That's helpful. I'd appreciate a bit more detail.

Clarification Probes that may be used during the interview

You said the program is … What do you mean by …
I'm beginning to get the picture that… Could you please explain…
I want to make sure I understand what you are saying, It would help me if you could say some more about … (Patton, 2012, pp. 412-413)

APPENDIX IX

Email Sent to Participants for Member Checking Interviews

Dear _____,

I want to thank you for your time and participation in the (first, second, third) interview. The recorded interview was transcribed and I would like to provide you with an opportunity to read over that transcript for accuracy and clarity. In reviewing the transcript, you are invited to provide clarification for any section of the transcript that you feel does not accurately represent what you meant to convey. You may also provide elaboration for any sections that you feel are incomplete. The purpose of this process is to ensure that the transcript provides the most accurate source of data possible. You can make changes directly on the document and e-mail it back to me. Please note that I have changed the names of people and schools in the study in order to protect your identity.

I am hopeful that this study will provide greater understanding of how teachers process the student target-setting implementation. Thank you again for your participation. Please feel free to contact me with any questions.

Sincerely,

Angela Thompson

If you have questions about your rights as a research participant, please contact:
Tonya R. Moon, Ph.D.,
Chair, Institutional Review Board for the Social and Behavioral Sciences
One Morton Dr Suite 500
University of Virginia, P.O. Box 800392
Charlottesville, VA 22908-0392
Telephone: (434) 924-5999
Email: irbsbshelp@virginia.edu
Website: www.virginia.edu/vpr/irb

Sincerely,

Angela Thompson

APPENDIX X

Sensemaking Coding Categories for Learning Leader Teachers and Teachers

Coding Family	Coding Category	Specific Codes [Teacher interview questions mapped back to codes]
Demographic characteristics *	Years of Professional Experience	0-3, 4-7, 8-11, 12-15, 16-19, 20+
	Years Experience in Current Position	0-3, 4-6, 7-10, 10-15, 15+
	Current Position	Learning Leader Coach, Teacher
	Experience in Target-setting	0-1,1-2, 2-3, 3+
	Educational preparation	Bachelor's degree, Master's degree, Educational Specialist, Doctorate
Collective Sensmaking	Gatekeeping	Filtering of messages regarding student target-setting [4a, 7, 8, 9, 12]
	Understanding	Making sense through interpersonal communication [1, 2, 5, 11]
	Negotiating Technical and Practical Details	[3, 10, 14]
	In-facing	Deep conversations about student target-setting; typically informal conversations [4b, 13, 14b, 15, 16, 17, 18]
	Out-facing	Superficial conversations about student target-setting; typically formal conversations [14a, 15, 16]
	Self-Preservation	[19]
Goal-setting	Positive Attitude	Benefits of for student target-setting, View of goal-setting, Focus on goal achievement
	Allocating Time	Promoting/Informing about student target-setting, Professional Development, Collaboration, Long-term commitment, Flexibility

Coding Family	Coding Category	Specific Codes [Teacher interview questions mapped back to codes]
School Leader Facilitation and Support of Sensemaking	Empowering Staff	Collegial discourse, Risk-taking, Professional Development, Soliciting Input
	Creating Wins	Short-term wins, Long-term wins, Open recognition, Morale, Visibility, Widespread
Resources utilized by teachers*	Informal Peer Conversations	Sensemaking between peers in informal settings
	Learning Leader Coaches	Sensemaking through meetings with teachers and coaches
	Database	Student Data Bank for benchmark assessments
	Adminstrative Meeting	Formal meeting with administrator to discuss target-setting
	Training Workshops	Pre-school year sessions on student target-setting process
	Outside Professional Development	Books, resources outside of those provided by the district

* Will only be used as a coding category for non-learning leader coaches (teachers)

APPENDIX XI
Survey for Teachers

Demographics:

1. Including this school year, how many years have you been an employee of Henrico County Public Schools?
    a. 1 - 3 years
    b. 4 - 7 years
    c. 8 - 11 years
    d. 12 - 15 years
    e. 15+ years

2. Including this school year, how many years have you been involved in the student target-setting process at a teacher incentive fund school?
    a. 1 - 2 years
    b. 2 - 3 years
    c. 3+ years

Professional Development Program

1. During the past twelve (12) months, have you participated in a professional development program related to student target-setting?
    a. Yes
    b. No

2. How many total hours have you spent on the student target-setting process?
    a. None
    b. 1 - 2 hrs
    c. 2.5 - 5 hrs
    d. 5.5 - 10 hrs
    e. 10.5 - 20 hrs
    f. 21 - 40 hrs
    g. 41 - 60 hrs
    h. 61 - 80 hrs
    i. > 80 hrs

3. Have you participated in teacher collaboration (defined below) on student target-setting during the past twelve (12) months?
    a. Yes
    b. No

Teacher collaboration is an ongoing activity such as a study group, Professional Learning Community, teacher network, group action research, and any other form of interaction among teachers for the purpose of improving effectiveness of the student target-setting process. Mentoring or coaching is not teacher collaboration. Teacher

collaboration can be formally organized by professional developers or informally practiced by a group of teachers.

4. How many hours total did you spend in teacher collaboration(s) regarding student target-setting during the past twelve (12) months?

a. None
b. 1 - 10 hrs
c. 11 - 20 hrs
d. 21 - 40 hrs
e. 41 - 60 hrs
f. 61 - 80 hrs
g. 81 - 100 hrs
h. 101 - 120hrs
i. >120 hrs

5. Rank the resources provided to assist in the student target-setting process, with "1" being most helpful and "6" being least helpful.

____ Training Workshop
____ Database
____ Learning Leader Coaches
____ Administrative Meeting
____ Informal Meetings with teachers
____ Other (Please explain)
_____

6. How many hours do you spend communicating with your formal learning leader coach during a typical month? Please include both the face-to-face time, email correspondence, and any other forms of communication.

a. < 1 hr
b. 1 - 3 hrs
c. 4 - 5 hrs
d. 6-10 hrs
e. > 10 hrs

Informal Communication

1. Do you have someone other than a formal learning leader coach whom you informally rely on and communicate with regarding the student target-setting process?

a. Yes
b. No

Informal communication refers to planned or unplanned interactions with colleagues or friends outside of the above-listed activities. The following questions are about this person. If you have multiple persons on whom you communicate with for your professional learning of mathematics teaching, please choose the person who most influenced your mathematics teaching.

2. How many hours do you spend communicating with this person(s) during a typical month? Please include all forms of communication.

a. < 1 hr
b. 1 - 3 hours
c. 4 - 5 hours
d. 6 - 10 hours
e. > 10 hours
f. Not Applicable

Interest in participating in future interviews:

1. Would you be willing to participate in three (3) interviews over the 2013-2014 school year regarding the student target-setting process?

a. Yes
b. No

APPENDIX XII

Email exchanges between Researcher and Dr. Jennifer P. Byars
for permission to use appendix items

Hi Dr. Byars,

Dr. Tucker had shared your work with me as an exemplar, and I have found that your interview questions are similar in fashion to what I needed to ask teachers as well. I am studying how middle school math teachers mediate the new student target-setting policy. Would you mind if I used some of your items in the appendix? Obviously, I would cite you in any work that I used.

Thank you for your time,
Angie Thompson

You are more than welcome to use them. No sense in re-inventing the wheel. Best of luck to you.

Jennifer P. Byars, Principal
Deep River Elementary School
12 River Street
Deep River, CT 06417

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