

EXPLORING HOW CONVERSATIONS
MEET TEACHER LEARNING NEEDS

By

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ABSTRACT

This study identified the content of educator conversations and determined how social interactions contributed to participant learning. Data sources included videos from face-to-face conversational sessions and individual, video stimulated-recall (SR) interviews conducted virtually. Participants included fifth and sixth-grade teachers from five Midwest school districts in which a large influx of classroom technology and professional learning were being implemented. Data analysis was conducted through qualitative research design using the constant comparative method. Findings indicated that teachers use these conversations for (a) reflection, (b) sharing resources, (c) validation, (d) gaining new knowledge, (e) lamenting their frustrations, (f) gauging their progress, (g) planning for their future, (h) shifting their perspective, (i) problem solving, and (j) recognizing growth areas. Each of these themes encompassed a different aspect of their professional learning. These results contribute to the growing body of knowledge about the social aspect of adult learning and the importance of including conversation in professional development.

DEDICATION

This dissertation is dedicated to my husband, Scott; my children, Adriana and Brayden; my mom, Lynn; and my dad, Gary. You all served as my support network and my motivating force. I will forever attribute the completion of this work to each of you.

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CHAPTER ONE

INTRODUCTION

In classroom settings, where billions dollars of school district, state, and federal funding have been invested in the purchase of technology, there is still a large majority of equipment that goes unused because teachers have received neither adequate training nor enough support to feel confident in integration and implementation (Park & Ertmer, 2008; Prestridge, 2009; Sugar, 2005). Harris, Mishra, and Koehler (2009) have outlined five different versions of prevalent “technocentric” (p. 395) approaches to professional development currently being practiced in education. They claimed the individual learning needs of teachers are ignored by assuming that, if they know how to use the technology, they automatically know how to teach with it. Sugar (2005) concisely stated that, in the area of technology integration, “there is a definitive consensus that existing professional development programs need to be revised” (p. 549).

Authors such as Easton (2008); Fullan (2007); and Wei, Darling-Hammond, Andree, Richardson, and Orphanos (2009) are beginning to reconceptualize what constitutes high-quality teacher learning. In his article, *Change the Terms for Teacher Learning*, Michael Fullan (2007) stated that “Professional development as a term and as a strategy has run its course” (p. 35). Wei et al. (2009) argued that “*professional development* does not always lead to *professional learning*” (p. 1), while Easton (2008) offered an alternative to the development or worse, the training of teachers, by suggesting that teachers need to become professional learners who can learn to change and adapt on an ongoing basis, versus the idea that teachers are developed or trained by others. Easton (2008) stated that the phrase professional development needs to be replaced with

professional learning as a more accurate depiction of the type of behaviors required of educators in the 21st century.

Statement of the Problem

The researchers already discussed, along with a multitude of others (Bogler & Somech, 2004; Doppelt et al., 2009; Harris et al., 2009; Little, 2003; Palak & Walls, 2009; Prestridge, 2009) have called for an abrupt change in the mind-set, method, and approach to teacher learning. One shot, sit-and-get professional development days, where teachers are the passive receivers of information, have undergone a tremendous amount of scrutiny but still tend to prevail as the leading methods of delivery (Wei et al., 2009). Fullan (2007) detailed his ideas for an effective overhaul of teacher learning. Five key ideas support his argument for systemic change in education: (a) “professional development,” where teachers are the receptors of knowledge, has “run its course” and must be reconceptualized; (b) teacher learning needs to be conducted in the authentic setting of classrooms; (c) teachers must be learning continuously in order for students to learn; (d) teaching needs to be “deprivatized” so that all teachers are working collaboratively to “continuously improve instruction” through peer observations and feedback; and, (e) teacher work conditions (i.e., “structures, norms,” p. 35) and the focus of teacher learning must be improved. Elmore (2002) argued that, in order to accomplish changes such as those outlined by Fullan (2007), a “knowledge gap” must be filled, which would provide “more explicit guidance about how to bring these practices into the mainstream of school life” (Elmore, 2002, p. 11).

With the signing of the 2009 American Recovery and Reinvestment Act (ARRA) stimulus reform bill, the federal government responded to these calls for action and paid

out a one-time, \$650 million investment in Education Technology Grants. The investment came with the caveat that professional development and teacher learning opportunities had to be redesigned to be job-embedded, collaborative, student-centered, data-driven, and sustained for over a two-year period (USDOE, 2009). It called for training to be provided to highly effective educators who could serve as teacher leaders and coaches. It also encouraged the purchase of effective technologies for classroom use with appropriate training and support.

The ARRA stimulus funds effectively tripled the number of schools that, during the 2010/2011 school year, could participate in the Technology Rich Classroom (TRC), Kansas State Department of Education initiative. Entering its 8th year of funding, the TRC program was previously funded through the competitive arm of the Enhancing Education Through Technology (EETT), Title IID initiative from No Child Left Behind (NCLB). Ninety-one Kansas school districts have applied for funds to purchase and integrate technology and professional development effectively into over 324 third through sixth grade classrooms (TRC, 2011).

While the term “professional development” has been used to describe the work performed in TRC, the program reflects the type of teacher learning for which researchers such as Fullan (2007) and Easton (2008) have called. As defined by Darling-Hammond, Wei, Andree, Richardson, & Orphanos (2009), “effective professional development is intensive, ongoing, and connected to practice; focuses on the teaching and learning of specific academic content; is connected to other school initiatives; and builds strong working relationships among teachers” (p. 44). In order to participate in TRC, Kansas school districts must apply for a team of four teachers and one, job-embedded coach

(facilitator) who agree to function as a cohesive professional learning community (PLC) (Servage, 2008). This PLC participates in an intensive, two-year, sustained program that is content (math, science or reading) centered and designed to complement current district initiatives, school-wide demographics, classroom-based needs, and the individual learning needs of each teacher. TRC teachers and facilitators meet on a regular basis to collaborate and participate in professional learning that is focused on classroom practice, grounded in their individual curricula, and supported by the technology tools that were purchased by the grant.

At the 2009 State Education Technology Directors Association (SETDA) annual meeting, this researcher, as TRC Project Coordinator, and Melinda Stanley, Education Technology Director of the Kansas State Department of Education, were asked to share the TRC program model and methods of evaluation with representatives from across the nation. States are trying to determine the best method for changing the way they have supported teacher learning in the area of technology integration, and Kansas is recognized as one of the primary leaders, primarily because of already established alignment with ARRA professional development requirements (since 2003) and application in more than 30% of all Kansas school districts (TRC, 2011). Many state and federal leaders are interested in replicating this model of professional learning.

The purpose of this study was to focus on a specific component of the TRC model that has received a great deal of positive, anecdotal feedback from participants, but has very little research-based evidence that shows it is effective. In the first year of funding, TRC teams are brought together from across the state at four different times (July, September, January and April) for statewide professional learning days. During these

professional learning days, the TRC leadership team reserves 30 to 60 minutes for collaboration, where TRC teams are divided and regrouped into grade-level and/or content area clusters to collaborate with other teachers and facilitators from across the state, to discuss and share their experiences. Grade-level conversations help differentiate TRC professional learning from traditional sit n' get professional development methods. Researchers such as Clark (2001), Craig (2007), Danielson (2009), and Fullan (2007) agreed that conversations empower teachers to take an active role in their own content and skill acquisition. Interactive, two-way dialogue, where educators have equal opportunities to instigate and drive conversations, is a proven method for teacher learning (Craig, 2007; Little, 2003; Meirink, Meier, & Verloop, 2007; Tillema & Orland-Barak, 2006), and teachers have reported high levels of engagement and perception of worthiness when conversations are used as a method of professional learning (Danielson, 2009).

TRC grade-level conversations were the focus of this study. By observing teachers during these conversations and by interviewing participants, post conversation, the researcher has determined the content and perceived learning benefits of these blended PLCs. Members of these grade-level conversations are typically experienced teachers who are novice technology integrators. TRC facilitators serve as guides during the conversation and bring strong teaching and technology integration experiences to the group. All members of these blended groups are attempting to implement the same program (TRC) and use similar tools (laptops, projectors, etc.) while using a similar pedagogy (student centered, higher order thinking) and content (Kansas standards) base. The findings of this study contribute to the more purposeful design of TRC professional

learning opportunities and could be applied to other statewide initiatives (Response to Intervention (RTI), wide-scale software implementation, and other school reform efforts) that focus on school-based teams and provide statewide collaborative opportunities.

Purpose

The purpose of this qualitative study was to conduct a constant comparative analysis (Merriam, 2002) to describe the content and nature of TRC teacher and facilitator grade-level conversations and to determine how these social interactions contribute to participant learning. The following research questions guided this study:

- Q1: What content themes emerge during Technology Rich Classroom teacher and facilitator grade-level conversations?
- Q2: How do these teachers and facilitators describe their participation in grade-level conversations?
- Q3a: What do teachers and facilitators report to have learned through their participation in grade-level conversations?
- Q3b: How is this learning different from what they gain from their local TRC team?

Summary

In Chapter One, the historical context of the problem and the purpose of this research was introduced. In Chapter Two, pertinent research about conversation-based professional development, the role of dialogue in teacher learning groups, and conversation-based professional learning when teachers are integrating technology is analyzed. In Chapter Three, the methodology used to conduct initial grade-level conversations and follow-up interviews is explained. In Chapter Four, an analysis of the

grade-level conversations and follow-up interviews is provided. In Chapter Five, recommendations for implementing conversations in professional learning are discussed and areas for future research are suggested.

CHAPTER TWO

LITERATURE REVIEW AND CONCEPTUAL FRAMEWORK

A review of the current literature revealed that few empirical studies are focused on the content and nature of educators' professional learning conversations within the context of technology integration. Many studies have analyzed conversation-based professional development (Craig, 2007; Grossman, Wineburg, & Woolworth, 2001; Levine & Marcus, 2007; Levine & Marcus, 2010; Miller, 2008; Nelson & Slavit, 2008; Prestridge, 2009; Tillema & Orland-Barak, 2006). Additional studies have looked at the role of dialogue within various teacher-learning groups (Bogler & Somech, 2004; Craig, 2004; Craig, 2007; Darling-Hammond et al., 2009; Deglau, Ward, O'Sullivan, & Bush, 2006; Doppelt et al., 2009; DuFour, DuFour, Eaker, & Many, 2006; Fullan, 2007; Hindin, Morocco, Mott, & Aguilar, 2007; Lave & Wenger, 1991; Little, 2003; Servage, 2008). A small collection of researchers have analyzed what constitutes effective, conversation-based professional learning when teachers are integrating technology (Prestridge, 2009; Stevenson, 2004; Sugar, 2005). The theory that learning is social, and the research that supports conversation-based professional development and collaborative professional learning for teachers, provided a conceptual framework for this study.

Conversation-Based Professional Development

Research supports the idea that learning is socially constructed through conversation (Craig, 2007; Grossman et al., 2001; Levine & Marcus, 2007; Levine & Marcus, 2010; Miller 2008; Nelson & Slavit, 2008; Prestridge, 2009; Tillema & Orland-Barak, 2006; Vygotsky, 1978). Vygotsky (1978) introduced the zone of proximal development as the resulting lag between when external learning occurs and when

knowledge is internalized. He argued that “interpersonal” dialogue with peers or mentors is a necessary process to move a learner towards higher-level cognition through their own “intrapersonal” (intrinsic) speech (p. 56). Levine and Marcus (2007) referenced Vygotsky’s theory of the internalization of external operations in their discussion on the types of professional development that schools can provide to shrink the achievement gap. Levine and Marcus (2007) encouraged professional development leaders to create “spaces for teachers to talk and engage in practices together rather than seeking to control individuals and deprive them of opportunities to question or alter practices” (p. 124).

Feiman-Nemser (2001) focused on specific characteristics that lead to teacher learning when she differentiated common teacher interactions from professional discourse. She stated that typical conversations between teachers “feature personal anecdotes and opinions and are governed by norms of politeness and consensus.” (p. 1043) The types of conversation that lead to teacher learning “involve rich descriptions of practice, attention to evidence, examination of alternative interpretations, and possibilities” (p. 1043). This distinction between types of teacher talk helps establish that simple interactions between educators are not sufficient substitutes for high quality learning conversations.

Tillema and Orland-Barak (2006), Miller (2008), and Clark (2001) further delineated characteristics of conversations that they believed were imperative for fostering powerful dialogue. Tillema and Orland-Barak (2006) stated that good conversations must “raise problem understanding, shift perspective, and elicit commitment” (p. 595). Meaning the exchange in information needs to be perceived as

being relevant to the participants' own situations, worthy enough to advance their own knowledge, and interesting enough to inspire future action in the classroom.

In a study that analyzed the problem-based conversations between preservice student peers, Miller (2008) analyzed the types of knowledge that conversation participants shared and the factors that effectively supported engagement in those conversations. He found that participants needed to have a common experience (in his case, being novice teachers) so that they felt safe enough to discuss their problems “without fears of supervisory judgment” (p. 92). The participants also had to have enough time to articulate and explore their “growing theoretical and practical knowledge base” and receive feedback from their peers. Finally, participants needed to feel like the conversations were relevant and timely enough to meet their most pressing needs.

While Miller (2008) explored the benefits that conversations had for preservice teachers, Clark (2001) explored the benefits of authentic conversations in inservice settings and defined “good conversations” as those that:

- 1) demand good content (something that all participants can get intense about), 2) are voluntary, 3) happen on common ground, 4) require safety, trust and care, 5) develop over time, and 6) have a future (p. 176).

The list that Clark developed is a nice summary of Tillema and Orland-Barak's (2006) and Miller's (2008) lists. In order for teachers to benefit from conversations, they need to feel like all participants have similar needs and goals and they need to feel safe and confident enough to contribute. In addition, good conversations provide participants with content that is worthy of the time spent conversing and compelling enough to take back to their classrooms and attempt to implement it.

One of the predominant reasons this researcher wanted to study conversations at TRC professional learning days was because TRC has received consistent session evaluation data and anecdotal reports from participants, stating that the best part of the statewide training days are the 30 to 60 minute opportunities where teachers have the opportunity to talk in grade-level groups. Through their work with high school teachers, Grossman et al. (2001) found that group conversations can stimulate and renew the intellectual growth of teachers and also are a key component of successful professional learning because the collective knowledge of the group is far greater than that of any one member. Grossman et al. (2001) found that conversations during professional learning opportunities for teachers should include social opportunities where teachers are encouraged and allowed to share what they know with a broader audience. While Grossman et al. worked with experienced teachers who had a great deal of knowledge to share, Miller (2008) worked with novice, preservice teachers who voluntarily participated in problem-based, peer-to-peer conversations which served as a “mechanism to pool their collective knowledge” (p. 92) where they could share specific examples of student learning, “offer connections between their teaching and learning theories and the experiences of others” (p. 92), and where they could discuss and build upon the experiences of their peers.

Grossman et al.’s (2001) research about experienced teachers and Miller’s (2008) study about novice teachers highlighted the contributions educators at various stages of practice can bring to a conversational situation. TRC participants are experienced educators who are novice users of instructional technology. The results of this study

provide insight into how conversations help veteran teachers, who are also neophyte technologists, learn.

Teacher Learning Groups

The previous section highlighted research supporting the use of conversation in professional learning. In addition, there is a large research base surrounding organized teacher learning groups (Bogler & Somech, 2004; Craig, 2004; Craig, 2007; Darling-Hammond et al., 2009; Deglau et al., 2006; Doppelt et al., 2009; DuFour et al., 2006; Fullan, 2007; Hindin et al., 2007; Lave & Wenger, 1991; Little, 2003; Servage, 2008), which also provided evidence that conversations contribute to professional learning. This research base is explored in the following pages, to help define the professional learning communities that are formed within TRC at the local district level and, in turn, to begin to explain how those group members contribute to a different type of teacher learning group at the statewide professional learning days.

Hindin et al. (2007) stated there is no standard definition of a “teacher learning group,” but each variation provides collaborative opportunities for teachers to share pedagogical methods, discuss alternative perspectives and “stimulate reflection and professional growth” (p. 349). Their study focused on the teacher knowledge that was gained through collaborative conversations surrounding literacy instruction and how it translated into the classroom. Based on researcher observation, Hindin et al. found that teachers did indeed use their new knowledge in classroom practice “but to differing degrees and in different ways” (p. 372).

Much of the research surrounding teacher learning groups references the concept of a “community of practice,” as outlined by Lave and Wenger (1991). Lave and Wenger

described how groups of individuals who are passionate about a common topic can come together to co-construct knowledge. Craig (2007) highlighted one such “community of practice” in her work with K-12 “Knowledge Communities.” She defined Knowledge Communities as groups that:

- 1) begin with originating events; 2) enable teacher intra/inter-school dialogue; 3) allow teachers’ experiences to resonate with one another; 4) evolve and change;
- 5) cohere around teachers’ storying/restorying of experience; 6) fuel ongoing reflection in community; 7) develop shared ways of knowing; 8) feature reciprocity of members' responses, and 9) bring moral horizons into view. (pp. 621-622)

Craig (2007) elaborated on her definition of knowledge communities and explained that originating events are those in which educators gather in a group with a shared meaning. She described how important narratives and dialogue are for knowledge communities because they allow educators to share stories, which may not be appropriate or applicable in other educational settings, with like-minded colleagues. Craig asserted that without narrative and the ability to share stories, teachers are “unable to hold, express, or grow their knowledge as professionals individually or collectively” (p. 633).

An additional version of a teacher learning group that helps to define the TRC conversational group is the Professional Learning Community (PLC). Servage (2008) defined a PLC as a group of educators who come together and share “three core beliefs”:

- (a) professional development is important for teacher learning, (b) professional development needs to be “collaborative and collegial,” and (c) collaborative efforts need to be problem-based and conducted in “authentic contexts of daily teaching practices” (p.

63). She also held the belief that PLCs have the power to transform teaching practice and the potential to transform the current model of public schools.

While Craig (2007) and Servage (2008) provided working definitions of specific teacher learning groups, Deglau et al. (2006) offered examples of teacher learning that are produced through their work with one particular community of practice. Deglau et al. conducted video-stimulated interviews to determine the content and nature of PEP-Talks, where physical education teachers, who were participants in district-initiated professional development grants, could gather in after-school sessions to share, discuss, and reflect upon their roles as grant participants. They stated that collaborative opportunities can be designed so that educators feel “comfortable and confident” enough to share their moments of success as well as their failures. They also found that teachers “relied on their own expertise” (p. 426) by independently reaching out to their colleagues for support and providing answers to their peers, effectively maintaining a discussion with little need for redirection by university facilitators who were there for that purpose.

This idea from Deglau et al., that teacher learning groups begin to rely on the internal expertise of the collective group, is one that Little (2003) defined as the “collective capacity” (p. 914) of a professional community. Her research provides additional insight into the benefits that educators can derive from teacher learning groups. In one particular study, Little (2003) used three in-depth case studies to examine the content and nature of “out-of-class interactions” (p. 913) conducted within professional communities and how teacher learning translates into classroom practice. She wanted to better understand the “optimistic premise of professional community,” which is a theory that states “intellectual, social and material resources of professional community” lead to

“individual development, change in practice, and collective capacity” (p. 914) in the teachers who participate.

Through videotaped observations of collaborative conversations, follow-up interviews, and survey data, Little (2003) found that teachers in learning communities “display dispositions, norms, and habits conducive to teacher learning and the improvement of teaching practice” (p. 938), including a willingness to problem-solve, share struggles, and elicit peer advice. In addition, the teachers in these case studies believed it was their role, as educators, to help students succeed through innovative practices and collaboration with their colleagues.

Little (2003) explored the idea that, through conversation, individuals can learn from the “collective capacity” of a teacher-learning group. Tillema and Orland-Barak (2006) explored a similar idea in their research on the construction of knowledge in conversations between mentor teachers in practicum schools and teacher educators from a teacher education institute. They evaluated conversations based on three criteria to “gauge the . . . knowledge productivity of collaborative knowledge construction with respect to professional learning” (p. 595). Those criteria included (a) raising problem understanding, (b) shifting perspective, and (c) eliciting commitment from and within professional learning groups. They found that knowledge construction does occur in professional conversations, but that it is predominantly implicit to the learner and requires an openness to new ideas, which “leads to conceptual change and knowledge transformation” (p. 602). Tillema and Orland-Barak (2006) explored the idea that learning through conversation is an internal experience, brought about from the external stimulation of a conversation. Follow-up interviews were conducted for this study to

derive what happens in the minds of participants while they appear to be conversing about fairly concrete topics (i.e. resources and strategies).

The research that provided defining characteristics of various teacher learning groups, and the multiple ways that conversation enhances teacher learning in these groups, contributes to the overall contextual understanding of how conversation can be a powerful method of teacher learning. The specific scenario found in TRC grade-level conversations, where teachers from separate PLCs come together to blend their knowledge in less formal interschool groups, creates a unique setting for this research. Sociology has a parallel construct for the use of conversations in professional learning, which has previously been researched primarily in the business world. Granovetter (1983) wrote about Social Network theory and posited that individuals belong to two types of groups, which he defined by their level of “closure,” either high or low-density. High-density local networks include families, friends, and co-workers. Within these high-density groups, individuals maintain “strong ties” to one another and these are fairly closed networks, meaning members tend to interact predominantly with one another and remain closed off to outsiders. Low-density social networks are the affiliations that individuals maintain outside of their family, friends, and work environments, including special interest groups, clubs, and recreational teams, and these groups tend to be more open to new members.

The ties between members of low-density groups are referred to as “weak,” meaning collaboration is not as intense or frequent as required to create strong ties. Granovetter (1983) argued that weak ties act as bridges from closed networks to the outside world, providing (brokering) information that would not otherwise be available to

them. Brokerage is a key for any social network. Without new information, any social network runs the risk of becoming stagnant, “fragmented and incoherent” (p. 202). The more weak ties or bridges that a person creates with outside groups, the higher their “social capital.” The results of this study demonstrate how TRC grade-level conversations provide educators with weak ties between a low-density social network (TRC grade-level peers) and the local school network to which they will return. TRC educators increase their social capital through participation in grade-level conversations and serve as a potential bridge, or knowledge broker, between both their local network and their TRC colleagues.

Conversation-Based Professional Learning and Technology Integration

Very little research has been done to analyze what constitutes effective, conversation-based, professional learning when teachers are learning to integrate technology into their classrooms (Prestridge, 2009; Stevenson, 2004; Sugar, 2005). The teachers and facilitators who make up the grade-level conversation groups are all at various levels of competence and confidence regarding their integration of the grant-funded technology into their classrooms. The following discussion of research from Prestridge (2009) and Stevenson (2004) identifies some of the ways that teachers have successfully used conversations to negotiate the integration of technology.

Prestridge (2009) conducted a study that looked at the types of “collegial-dialogue” (p. 53) that occur in professional learning communities, both face-to-face and online. The participants in the study were teachers involved in a yearlong technology integration professional development program. Prestridge found two types of conversations: collegial discussions help teachers establish common understandings,

while critical discussions assist teachers in the transformation of beliefs. Prestridge focused on a community of learners, which was established for the purpose of collaboration. Stevenson (2004), on the other hand, looked at the impact of informal conversations that occurred between teachers in break rooms and in the hallways outside of classrooms. Stevenson analyzed with whom the elementary teachers in her study collaborated regarding technology integration, and for what reason. She found that teachers collaborate “to address a need,” and those needs tend to center around “curriculum and how-to information” (p. 139). She also asserted “when teachers need information regarding technology use they value informal collaboration as a more effective method of professional development than organizationally planned or sponsored activities” (p. 133).

Prestridge (2009) and Stevenson (2004) produced studies that focused on formal and informal conversations between teachers. The conversations that take place within the TRC grade-level interactions have a semi-formal nature to them. They are not taking place within a traditional PLC (as Prestridge’s did) but they are also more structured than Stevenson’s informal hallway conversations. Instead, these semi-formal conversations bring together members of separate PLCs, break the members up into grade-level groups, and actually blend the knowledge of TRC participants from across the state. These are not spontaneous, informal groups because they are provided with a set time and place to collaborate, but they are also not as rigorous as a formal PLC conversation because members are not as familiar with one another as a typical PLC group would be. These semi-formal groups meet only four times in their first year as grant participants, but they share a common initiative (TRC). This study analyzes the conversations that develop

because of these unique circumstances and the reasons that teachers believe they are learning.

Another contribution to the semi-formal format of the TRC conversation involves the TRC facilitators. Simply putting teachers in a room together will not necessarily lead to powerful conversations (Levine & Marcus, 2007; Hindin et al., 2007), so each grade-level conversation has at least one facilitator who has been given three to four guiding questions that can be used, if necessary, to help guide the conversation. Sugar (2005) conducted research on a job-embedded coaching model for technology integration and found that the role of the coach is key, especially in conversations. The coach must help the teachers acquire the skills and confidence necessary to integrate technology, but they must also “provide an inviting, empathetic, and patient environment for teachers to learn and adopt new technologies [or teachers will] remain reluctant” (p. 568) and feel uncomfortable with integrating technology into their classroom. The ability to communicate and collaborate is an important skill in any technology mentor (Sugar, 2005). The presence of a facilitator and the semi-structured nature of blended grade-level conversations help define the content of these interactions.

Researcher Interest

The researcher currently manages the Technology Rich Classroom program in Kansas and was interested in understanding the professional development activities that were most beneficial to the teachers in TRC. The TRC Leadership Team (consisting of the researcher, the director, a research specialist, and support staff) meets directly with the TRC teachers four times during their first year of the grant and two additional times with the TRC facilitators. Careful consideration goes into planning these professional

learning days, with a focus on supporting the ongoing teacher and facilitator learning efforts currently being conducted in the field. During the six-hour day, 30 to 60 minutes are set aside for grade-level and/or content-based conversations. This time tends to be scored as the most beneficial in post training evaluations and is highly requested by participants. This study helped the researcher gain a better understanding of the content and participant perceptions of acquired learning from these conversations. It also assisted in more effective facilitation of practical dialogue within the TRC program.

Summary

This study is based on the theory that learning is social and the idea that teachers can learn from and with one another. Previous research on conversation-based professional learning and teacher-learning groups provides a conceptual framework for the unique social setting of TRC grade-level conversations. Educators in grade-level conversations are from separate local school districts with established teacher learning teams. The semi-formal nature of statewide conversation stimulates interpersonal dialogue about teaching practice and implementation efforts, as well as, intrapersonal functioning within individual educators. In order to justify the use of grade-level conversations for teacher professional learning, the researcher designed the following study. Chapter 3 will describe the research methods, Chapter 4 will summarize the findings, and Chapter 5 will explore recommendations for the field.

CHAPTER THREE

METHODS

Research Questions

The purpose of this qualitative study was to conduct a constant comparative analysis (Merriam, 2002) of the content of TRC teacher and facilitator grade-level conversations and to determine how these social interactions contribute to participant learning. The following research questions guided this study:

- Q1: What content themes emerge during Technology Rich Classroom teacher and facilitator grade-level conversations?
- Q2: How do these teachers and facilitators describe their participation in grade-level conversations?
- Q3a: What do teachers and facilitators report to have learned through their participation in grade-level conversations?
- Q3b: How is this learning different from what they gain from their local TRC team?

Research Participants and Sites

The TRC program operates in two yearlong “phases.” The 2010-2011 school year represents the eighth phase of funding. Districts respond to a state issued request for proposal (RFP) with a budget large enough to fund 4 third through sixth grade classrooms with equipment such as laptops (with a ratio of two students to one laptop), projectors, interactive whiteboards, and digital cameras. In addition, districts must budget for a part-time facilitator who is a teacher leader and technology specialist (based on minimum requirements laid out in the RFP). The facilitator spends a minimum of four hours per

week in each of the teacher classrooms helping to mentor, team-teach and support the classroom teachers and students in the implementation and use of classroom equipment.

In the first year of funding, the team is required to conduct 10 days of local professional learning where they collaborate, co-plan and explore technology integration. They also attend four statewide events (July, September, January and April) where they have the opportunity to interact with other teams participating in their funding phase, including 30-60 minutes that are set aside for grade-level conversations. The researcher wanted to conduct this study because previous teacher report data (verbal and written) suggests that these conversations, in the context of TRC statewide professional learning days, have powerful and positive implications for the teachers and facilitators who participate.

The conversations being explored in this study took place at the April, face-to-face, statewide professional learning day. The April collaborative conversations were chosen for this study for several reasons. First, the July training is the program “Kickoff” and is sometimes the first time that TRC teachers become fully aware of how their lives are about to undergo profound changes as novice participants. July is when they are introduced to the technology, to their roles as teachers or facilitators, and to the program expectations. They are introduced to the ways that their teaching will change as they not only begin to integrate this tremendous influx of classroom technology, but also how they will be asked to work within a PLC and change their instruction to integrate additional higher-order thinking and student-centered experiences. The July conversations tend to be opportunities for participants to simply “get to know” one another.

The conversations during the September training were not chosen because, while

teachers have a better understanding of TRC and have been attempting to integrate the program into their classrooms for several weeks, they are still primarily interested in the technical components of the grant and the basic classroom management issues that accompany technology integration. Very few teachers are ready to share and explore their pedagogy with other TRC participants outside of their newly formed, local PLC. Typically, the September conversations are a little stressful and tend to center around the technical problems that teachers are working through, versus the instruction. September is still a tough time in the implementation of this initiative, and teachers use the conversations to “vent” more than they use them to learn.

The January conversations tend to have a nice balance between successes, frustrations, technology talk, and pedagogical conversation. Teachers are feeling more confident in their, and their students’ use of the technology itself, and they have begun to take steps toward pedagogical change. Teacher evaluations of the January sessions have an increased number of requests (as compared to July and September) for additional collaborative sharing time under the “what could be improved upon for future TRC professional learning days” question. It should be noted that the researcher had intended to analyze the January conversations, but two large snowstorms forced the leadership team to first postpone, and then completely cancel the January event.

The April professional learning day is the program “Celebration” event where teachers have the opportunity to share their work with the rest of the TRC participants in formal presentation formats. The grade-level conversations serve as an additional opportunity for teachers to gather and discuss their experiences from the previous school year. The conversations fall toward the end of the day, after teachers have completed

their formal sharing of projects, and before the closing awards ceremony.

The April, 2011 Celebration event was held at a mid-western university with enough breakout rooms to facilitate five conversational groups. Phase 8, Year 1 TRC teachers ($n=37$) and facilitators ($n=8$) were divided into five grade-level groups, including a combined third and fourth grade group ($n=11$), 3 fifth-grade groups ($n=8$, 8, and 9), and 1 sixth grade group ($n=9$). Teachers randomly self-selected the grade-level group at which they typically taught. Facilitators were assigned to the grade-level group that the majority of their TRC teachers represented.

One or two TRC facilitators acted as discussion facilitators in each group and referred participants to three guiding discussion questions, ensuring that participant conversations stayed focused on the questions at hand, and making sure that all participants who were interested in contributing had a voice in the conversation (i.e., no one person dominated the conversation). The provision of guiding questions that could be used, if necessary, to keep the conversation going while also establishing that these conversations are opportunities to share and learn, helped produce more powerful learning than simply putting teachers in a room and asking them to chat (Levine & Marcus, 2007). In addition, color-coded note cards were used to allow the teachers to pre-write their thoughts on each discussion question in order to stimulate ideas and increase the flow of the conversation. See the Appendix for the Conversation Tips and Instructions sheet given to each facilitator along with their color-coded note cards and pens.

Pilot Study

A pilot study (2010) was conducted to refine the methodology used in the dissertation including research questions; interview questions; technology used for conducting, collecting and analyzing the conversations; and follow-up interviews. It also helped confirm that the conceptual framework and literature review used in the study were “on the right track.” In addition, it provided seven themes related to how grade-level conversations help teachers learn, which would eventually be applied and explored in the ensuing dissertation.

The purpose of the pilot study was to describe the content of TRC teacher and facilitator grade-level conversations and to determine how these social interactions contribute to participant learning. The following paragraphs summarize the findings from a constant comparative analysis of a specific grade-level conversation that took place between TRC participants, as well as an analysis of follow-up, video-stimulated recall interview data of participants from that initial conversation.

In January of 2010, a 60-minute conversation of 1 fourth-grade group was recorded. In order to determine the content of this grade-level conversation, the video was transcribed and analyzed and three content themes emerged, indicating that teachers use these conversations to (a) *reflect* with peers and mentors in similar implementation situations, (b) *share resources*, teaching strategies, classroom management tactics, and differentiation ideas, and (c) *problem solve* specific teaching and technical issues.

The researcher then conducted follow-up, video-stimulated recall (video-SR) interviews with the conversation participants to help further explicate the benefits of these interactions. Interview questions were created to further develop the content

themes, to determine how TRC participants describe their participation in grade-level conversations, and to discover how participants report to have learned through their participation in grade-level conversations. Themes resulting from the follow-up interviews confirmed the content themes that had been revealed through the observation. Four additional broad themes emerged, including how these grade-level conversations help teachers (a) *gain validation* for their struggles, fears and hopes, (b) *gauge their progress* with technology use and the overall implementation of the TRC program, (c) *plan for future* personal learning and classroom teaching, and (d) *shift their perspective* with regard to some aspect of their learning.

The pilot study helped test the qualitative methods to be used in the dissertation while simultaneously refining the specific technologies (i.e., camera placement during the actual conversations and video conferencing, screen sharing, and screen capturing software during the interviews). The pilot study participants consistently stated that the use of three cameras during their grade-level conversations did not influence their participation. In fact, each of them stated that, while they were initially aware of the recording devices, it took only a couple of minutes for them to completely forget they were there.

Another component of qualitative research that was refined through the pilot study was the video-stimulated recall method used for the interviews. By asking participants to “recall their cognitive activities” (Lyle, 2003, p. 861) during the original grade-level conversations, several months after the conversation took place, it was important to ensure that the interviewees could transport themselves back and effectively recall their thoughts. The video segments helped expedite the interviews, whereas asking

teachers to read several minutes of transcript may have cut into the depth and richness of interview question responses. In addition, by replaying the actual grade-level conversation segments during the interview, the participant and interviewer had a common account on which to base the conversation and avoided any confusion or frustration that could have occurred by relying on memories generated by text alone (versus recorded video). Finally, additional insight into the participants' emotions was gleaned by watching them watch themselves on video as they interacted with their peers in conversation. Their body language and facial expressions helped to further solidify several of the emergent themes.

One final note regarding technology and the "sites" for data collection, interviews were conducted over the free video-conferencing program SKYPE. Participants were at three different schools in Kansas and the pilot study tested the technology that made multiple interviews of participants from across the state feasible. SKYPE allowed interviews to be conducted with teachers in their classrooms, where it was convenient and where they were comfortable, A free program called CamTwist allowed the SKYPE video feed to show the participants video clips of their participation in grade-level conversations and iShowU was a program that allowed the researcher to record the live interview for future transcription and analysis. The researcher learned several lessons regarding the timing of video playback, proper audio settings, the necessary prompting required to ensure participant comfort levels, and tactics that could be implemented to increase the overall flow of the interviews.

Data Collection

Qualitative methods were used for this interpretive study to describe the content of TRC teacher and facilitator grade-level conversations and to determine how these social interactions contributed to participant learning. Data collection of the videotaped conversations took place during professional learning sessions where this interaction typically occurred. The follow-up video-stimulated recall (video-SR) interviews (Lyle, 2003) took place in the school where the participant was employed. SKYPE and Adobe Connect were used to facilitate follow-up interviews. Screen sharing options within both programs allowed video clips from the grade-level conversations to be sent from the interviewer and viewed by the interviewees. In addition, a program called ScreenFlow recorded the interview for later transcription.

Data sources included transcripts of videos from the conversational sessions, observational field notes of the videos, transcripts of individual video-SR interviews, and elicited (verbal and non-verbal) responses from the participants through individual video-SR interviews. Collecting information from a variety of sources allowed for triangulation of the data in order to achieve a “broader and more secure understanding” (Maxwell, 2005, pp. 93-94) of the content and perceived learning benefits of the conversations.

Videotapes and Corresponding Transcripts

During the Celebration event in April, 2011, two separate video cameras and boom microphones were set up to capture 3 one-hour, fifth through sixth grade, grade-level conversations. Taped conversations were transcribed and analyzed for emergent themes. The videotaped records helped “reveal aspects of teacher community that were less readily apparent in interview or survey data alone” (Little, 2003, p. 938). The

themes derived from these observations helped answer the first research question regarding what content themes emerged during grade-level conversations.

Observations and Field Notes

As conversations were transcribed, the researcher made detailed observational field notes describing the verbal (laugh, giggle, grunts) and non-verbal (furrowed brow, head nodding, shrugs) cues of participants to further inform the data. Walsh (1996) argued that only by taking into account the non-verbal cues of participants can we “truly be able to document an experience as it was lived” (p. 384).

Interviews and Elicited Responses

Based on the themes developed by analyzing the grade-level conversations, semi-structured video-SR follow-up interviews, approximately 30 to 60 minutes in length, began in July, 2011. According to Lyle (2003), video-SR interviews “provide a vehicle for accessing cognitive processes [and are] particularly suited” (p. 875) for conducting research where “interactive teacher/practitioner behavior” is under study (p. 875). These interviews not only provided additional information, context, and perspective surrounding the emergent themes, but the interviews also added and contradicted established themes that may or may not have been obtained initially from the videotaped transcripts and observation notes alone (Maxwell, 2005). They also helped answer the remaining three research questions that involve teacher perceptions of learning through grade-level conversations.

Interview Protocol

First, participants were given a brief introduction, reminding them of the purpose of the study and of the consent form that they had signed in April. Interviewees were also reassured that nothing in the conversations or the interview would be used to evaluate or judge them. Interviewees were asked to confirm their permission to be video taped during the interview and were given the opportunity to decline further participation if they chose. They were also reminded that the interviews were being video taped and that, at any time, they could choose not to participate. They were then asked if they had any questions and if they were amicable to moving forward.

Participants were then informed that the researcher would replay a section of the conversation that they were a part of and that it was intended to help them recall their thought processes during those moments in the grade-level conversation. The conversations were previewed ahead of time and small, one to three minute clips, were selected where the participant was either directly involved or, by their verbal and nonverbal cues, appeared to be interested in the conversation. Based on the pilot study results, it was determined that seven to twelve video clips per participant would suffice to provide adequate context for proper recall of the content and a strong description of how the conversation was being experienced by the participant. After viewing the clip, participants were given a brief sentence summarizing the content and then asked the first interview question regarding what their thoughts were while they were participating in that particular interaction. The interview would then proceed either with follow-up questions stemming from their responses, or to another video clip with the same initial question. It typically took two or three clips for each participant to engage in a reflective,

conversational pattern with the researcher. They had to get used to watching a video of themselves, transporting their minds back to that April day, and then reflecting outwardly to the researcher about their thoughts. Each of the 17 participants were able to take themselves back, although some required more clips or more reminders of the content of the videos than others. Once the researcher felt like they were at ease with the interview process, additional interview questions were introduced.

Interview Questions

Based on the theory that learning is social (Vygotsky, 1978) and that conversations can support teacher learning, the following interview questions were designed to clarify the content of grade-level conversations and the learning benefits perceived by participants. It is important to note that the researcher conducted a practice round of interviews prior to the pilot study, with three different TRC participants and much of the clarification and prompting (for instance, on question 1) were a result of that initial practice. Some minor grammatical tweaks resulted from the pilot study experiences as well.

1. To help frame your thoughts as you watch the videos, I want to let you know about two specific questions that I will ask, in succession:
 - a. In that moment, can you tell me what your thought process was while you were engaged in that interaction? (Q2)
 - b. By watching that interaction via video, what are your thoughts about what was occurring at the time? (Q2)
2. What, if anything, did you *learn* from witnessing and/or participating in that interaction? (Q1; Q3a)

- a. What do you think the other TRC participants involved in that conversation learned? (Q3a)
3. Overall, how do these conversations contribute to your professional learning as a TRC teacher? (Q3a)
4. What experience and knowledge do you feel you contributed to the conversation group? (Q2)
5. What experience and knowledge do you feel other members of the group contributed to the conversation? Feel free to name specific people when you respond. (Q1; Q2)
 - a. What contributions do you believe that the facilitator made to the conversations? (Q1; Q2)
6. Do you think we could create the same experience within your local TRC team? (Q3b)
7. In summary, what do you perceive as the benefit of participating in these conversations? (Q1; Q2; Q3a)
 - a. Ask about individual and group perspective, depending on initial answer.
8. Did the presence of the video camera change the way that you participated in the conversation?
9. Does my role as a project manager in TRC impact your responses to these interview questions?

As mentioned previously, two or three clips typically would need to be viewed, along with the first interview question, before the researcher proceeded to questions 2 through

5. Spontaneous follow-up questions were frequently asked to clarify participant responses and increase response depth (Merriam, 2002). The researcher made a concerted effort to ensure that spontaneous questions elicited responses that accurately reflected the nature of the research questions (Maxwell, 2005). Question 7 was asked after all of the clips for that interviewee had been viewed and discussed. It served as the culminating question and was an opportunity for interviewees to summarize their thoughts regarding the benefits of grade-level conversations. Questions 8 and 9 were asked just before the interview was complete. Participants were then thanked for their time and the connection was ended.

By using the video-SR strategy, participants were asked to recall their “concurrent cognitive activity” (Lyle, 2003, p. 861) at the time of the conversation. In order to increase the validity of the video-SR interviews, the researcher followed recommendations put forth by Lyle (2003) and (a) decreased participant anxiety by providing a safe, quiet space with few interruptions; (b) decreased the perception of evaluative or “judgmental probing” (p. 873) by giving the participant enough information about the research intentions without revealing the nature of the study; (c) reduced the time between the “experience” (conversation) and the recall interview by scheduling the interview as soon as the themes had been established from the conversation transcript; and (d) allowed the participant to have “unstructured” and “open” responses to stimulated (versus leading) questions. Interviews were videotaped for future transcription and analysis for emergent codes and themes. The researcher took field notes, which served as another data set and further enhanced analysis (Merriam, 2002).

It should be noted that the researcher collected and analyzed three of a possible five grade-level conversations and conducted interviews with corresponding participants before saturation was reached and it was apparent that the same information was being repeated and no new information was being presented (Merriam, 2002). The researcher had been asked by her committee to inform them of tentative findings once saturation was reached. It was agreed that the remaining two conversations and participants did not need to be analyzed and that the researcher could proceed to final analysis.

Trustworthiness of Data

As the primary instrument of data collection and analysis in this study, the researcher needed to ensure consistency in data gathering and organization before attempting to interpret it (Merriam, 2002). Prior to the pilot study, three practice interviews were conducted with other members of the pilot conversation in order to polish interview skills and to confirm the procedures and protocols for the various technical components involved. In order to clarify the intentions of the researcher to interviewees, slight adjustments were made to interview questions and protocol. The pilot study was conducted with additional conversation participants, which helped to further hone the interview skills and technical protocols used by the researcher.

For this study, the researcher used multiple methods of data collection including transcripts of video tapes, observations of the video-taped interactions, and stimulated-recall interviews, which were triangulated to ensure consistency and dependability across the data (Merriam, 2002). All conversation sessions and follow-up interviews were videotaped to avoid data loss and to enable review of material in case the researcher's field notes lacked clarity.

Qualitative methodologists recommend that researchers maintain detailed *memos* (Locke, 2007) to journal about their experiences in collecting and analyzing data. I engaged in this practice to maintain organization as questions arose, categories and subthemes emerged, and conclusions were drawn.

Validity

Researcher Bias and Reactivity

As the primary researcher of this study and the manager and lead professional developer for the TRC program, researcher bias posed a threat to validity. As described by Maxwell (2005), “reactivity” (p. 108) or researcher influence on the participants needed to be anticipated and addressed. This study was performed because the researcher had received consistent positive feedback from participants regarding the worthiness of these conversations, and the researcher was interested in better understanding why participants found these interactions so beneficial. The results of this study will allow the TRC team to be more purposeful in the planning and design of professional learning days. The researcher had a general idea of the types of interactions that took place during these conversations because the researcher had observed them in action for the previous five years. No in-depth analysis had ever been performed, and provision of the time and opportunity for participant collaborations has continued because participants request it.

The researcher addressed biases and reactivity threats to the validity of this study with the following approaches, as derived from Maxwell (2005) and Merriam (2002):

Intervention. The fact that the researcher, who is also the program manager, wanted to conduct research was not a foreign concept to these participants because the leadership team sent out multiple surveys and conducted classroom observations for the

purposes of program evaluation throughout the school year. Thankfully, the researcher is considered to be a resource and whole-group facilitator by the participants since all evaluative activities have been reserved for separate members of the program leadership team. Even so, it was important for the researcher to be continually cognizant of possible biases and to make every attempt to remain objective during all observations, interviews, and analyses, to document situations where biases may have altered a situation and to address those biases in the interview and results will be provided in Chapter Four of this study.

During the actual conversations, the researcher maintained the typical role of whole group facilitator by moving from group to group, eavesdropping on conversations and assisting the small group facilitators with time management. During the follow-up interviews, the researcher maintained an inquisitive and attentive disposition so that the participants understood that the researcher was curious and attempting to derive meaning from their interactions and was in no way evaluating their performance or knowledge level. The researcher's established role as a resource and a professional development provider (versus an evaluator) served this study well. The researcher addressed this possible threat with participants at the end of their interviews and results will be provided in Chapter Four of this study.

The previous intervention paragraphs address the threats that the role of the researcher could have had on the results of this study. Another possible intervention threat could have been the use of multiple video cameras in the professional learning conversations. For each of the statewide professional learning days that led up to April 26, 2011, the teachers had at least one camera video taping the entire session. The TRC

leadership team constantly encouraged reflective practices, through the use of video, throughout the year by providing video cameras to each participating site and asking them to use those cameras in their own classrooms, as they taught, so that they could take the resulting footage and analyze their own instructional strengths and weaknesses. The leadership team modeled this practice during all statewide professional learning days by having cameras recording around the room. The ongoing presence of a single video camera had the potential to be disconcerting for some of the teachers and facilitators and the addition of at least two more cameras, focused on fairly small conversation groups, had even greater chances of increasing participant discomfort.

The researcher let the participants know, ahead of time, that the study was for a dissertation and that multiple camera angles would be arranged to ensure that the entire conversation was captured. The researcher reiterated that study findings would in no way be used to evaluate or judge them and that no names would be used in the final write-up. The researcher asked the participants, ahead of time, to complete the human subject form before the grade-level conversation to grant permission to videotape and interview them. They had the option to opt out of the study at any time. In addition, during the follow-up interviews, the researcher asked participants whether the cameras served as a distraction or a depressant for conversations, and addressed this issue in Chapter Four of this study.

Triangulation. The multiple data sources in this study enhanced the validity of the findings by contributing to the “richness” (Maxwell, 2005, p.110) of the data and ensuring that corroboration across inputs aligned with emergent categories and subthemes. The multiple data sources included: (a) verbatim transcripts of videotaped conversational sessions; (b) detailed observational field notes of the videotaped

conversations; (c) verbatim transcripts of individual video-SR interviews; and (d) detailed observational field notes of the elicited (verbal and non-verbal) responses from the participants through individual video-SR interviews.

Respondent Validation. Throughout the study, the researcher performed member checks (Merriam, 2002) where each participant was presented with various forms of the raw data for clarification and additions. The stimulated-recall video interviews gave the participants an opportunity to review the video of the actual conversation sessions and the researcher asked participants to comment on any clarifications that they deemed worthy.

As the researcher began to triangulate the data (video transcripts, interview transcripts, and observational field notes) and began to generate some tentative findings, member checks were performed with a few participants to see if the conclusions lined up with what they believed was actually happening during the conversational sessions.

Peer Review/Inter-rater Reliability. An inter-rater reliability test was conducted during the research process to ensure consistency of code names and properties (Marques, 2005). This test was performed with an unbiased inter-rater who had a Ph.D. and who had previously performed qualitative studies. Portions of the conversations and interviews were randomly selected for four attempts at simultaneous coding. After each coding session, the inter-raters compared discrepancies and the researcher spent time further developing the definitions of each code. Upon completion of the fourth attempt, 90% agreement was achieved.

Ethical Issues

As mentioned previously, the researcher served as the project coordinator and this role could have served as a threat to participants. Participants may have felt that as a project coordinator, the researcher could be evaluating their responses to interview questions. The researcher stated, up front and throughout the study, that this research was not in any way used to evaluate or judge them, but, rather, was a way for the researcher to better understand conversations in professional learning situations. The researcher reassured the participants that pseudonyms would be used to avoid identifying any participants.

Approval was obtained from the University Human Subjects Committee to perform this data collection and analysis. On the day of the April conversations, all willing participants were asked to read and sign a consent form, agreeing to participate. Any participants who did not wish to participate in the study had the option of sitting off camera, fully participating in the conversations but with their participation and subsequent communications in the conversation omitted from the transcripts and observation notes. The researcher made this option clear to the participants the morning of the April professional learning day and asked them to discretely let the researcher, their facilitator, or one of the other members of the TRC leadership team know if they wanted to sit off camera, and the leadership team would simply insure that they were not being filmed. This possible threat was addressed by a specific interview question (i.e. Does my role as a project manager in TRC impact your responses to these interview questions?) and results will be included in the results section of this write-up.

CHAPTER FOUR

RESULTS

Overview

The purpose of this study was to describe the content of TRC teacher and facilitator interschool grade-level conversations and to determine how these social interactions contribute to participant learning. Chapter Four includes the findings from a constant comparative analysis of three 45-minute grade-level conversations that took place between TRC participants, as well as an analysis of seventeen 45-minute follow-up interviews with participants from those initial conversations. Results are divided into three sections. The first section is a summary of the research process. The second section is a description of the context, including the setting and the participants. Each participant is profiled, and individual data results are delineated using the research process as a writing framework. The participants' exact words were used as often as possible to illustrate each theme (Rothaupt & Morgan, 2007) and their names were changed to ensure confidentiality. Chapter Four culminates with summaries of the subthemes, themes, participant responses to perceived learning from interschool grade-level conversations, and results from validity and reliability measures.

Results from this study are summarized in Figure 1 and include the broad themes of Interpersonal Functions and Intrapersonal Functions, associated subthemes, and code distribution within each subtheme. The Interpersonal Functions theme had five subthemes, which were developed from observation of initial conversations and indicated that teachers use grade-level conversations for (a) *validating* struggles, fears and hopes; (b) *reflecting* on previous experiences; (c) *sharing resources*, teaching strategies,

classroom management tactics, and differentiation ideas; (d) *lamenting their frustrations*; and (e) *problem solving* specific teaching and technical issues.

Follow-up interviews were conducted to further explain the Interpersonal Functions theme, to determine how educators described their participation in grade-level conversations, and to discover how teachers and facilitators reported to have learned through their involvement in grade-level conversations. Follow-up interviews confirmed the interpersonal subthemes revealed through observation, while adding the broad theme of Intrapersonal Functions and four associated subthemes, which describe how teachers use grade-level conversations for (a) *gleaning information*, (b) *futuristic planning*, (c) *shifting their perspective*, and (d) *gauging their progress* with technology use and the overall implementation of the TRC program.

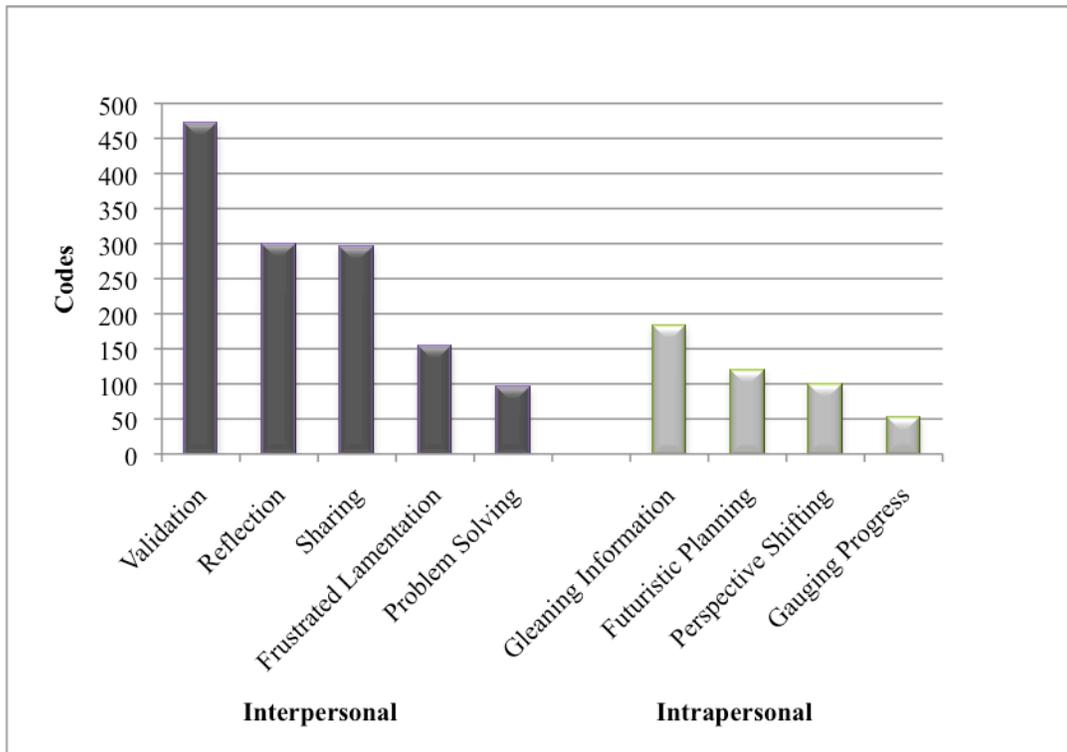


Figure 1. Summary of themes, associated subthemes, and code distribution within each subtheme.

Four research questions guided this study:

- Q1: What content themes emerge during Technology Rich Classroom teacher and facilitator grade-level conversations?
- Q2: How do these teachers and facilitators describe their participation in grade-level conversations?
- Q3a: What do teachers and facilitators report to have learned through their participation in grade-level conversations?
- Q3b: How is this learning different from what they gain from their local TRC team?

Research Process

Data collection and analysis were performed to answer these questions using the constant comparative analysis method (Glaser, 1967). Three iterative phases of data analysis, organization, collection and member checks were completed. This was an “interactive process” (Erlandson, Harris, Skipper, & Allen, 1993) between data analysis, organization, collection, and member checks. Figure 2, The Qualitative Study Design, shows a visual of the inductive and iterative process used in this study and is further elaborated in the following paragraphs as three phases (I-III) and six steps per phase.

Step 1: Overview

During the first step of the research process, a thorough review of all three of the taped conversations was performed, with the intent of locating “key issues, recurrent events or activities in the data that [would] become core categories of focus” (Glaser, 1967).

These preliminary findings were written in field notes with corresponding references to segments of the conversation (Merriam, 2002). The sixth-grade conversation

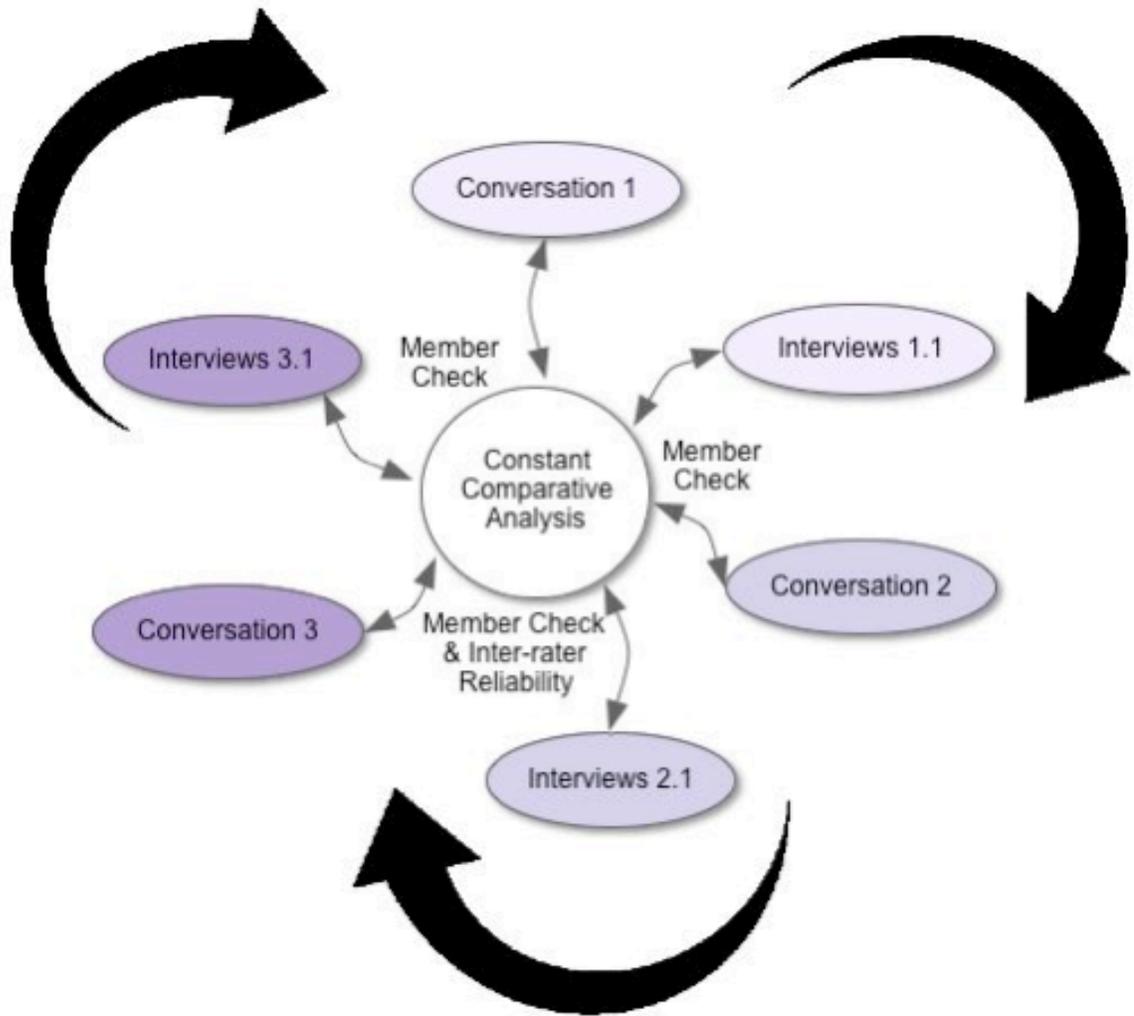


Figure 2. Qualitative Study Design. Iterative data collection and analysis occurred simultaneously and began with Conversation 1, which was analyzed before conducting Interviews 1.1. Member checks occurred upon the completion of each round of interviews. As various themes and subthemes emerged, the researcher would return to previous analysis to compare across occurrences. Phase I includes Conversation 1 and Interviews 1.1, Phase II includes Conversation 2 and Interviews 2.1 and Phase III includes Conversation 3 and Interviews 3.1.

was then randomly chosen as a starting point for verbatim transcription and coding, marking the beginning of Phase I.

Step 2: Initial Coding of Conversations and Corresponding Field Notes

The second step in the process was to fracture the data and code it into essential information units. An essential information unit is defined by Lincoln (1985) as “a single piece of information able to stand by itself” (p. 194) and can take the form of a single sentence or paragraph, depending on the context necessary to interpret it. For example, in the sixth-grade conversation, one teacher commented, “My kids did a lot with Glogster this year.” This unit was coded as a *resource*. Another teacher said, “I had a group of kids who just could not make a decision on their own. So we made a rule, you have to ask three [other students] before me, and that helped a lot.” This unit was coded as a *teaching strategy*. Through the constant comparative analysis process, these essential information units were compared to one another and it was noted that both are forms of *sharing*. Thus, the subtheme of sharing was formed. Comparing across similar and dissimilar incidents (like the resource and teaching strategy above) helped the researcher better understand the various properties and dimensions within each subtheme (Glaser, 1967, p. 106).

Step 3: Clip Creation

The third step was to break the conversation down into discreet sections or “clips” in preparation for the follow-up video-stimulated-recall interviews (Lyle, 2003). Clips were designated based on the beginning and end of a conversational topic and were labeled with keywords. Participant names were also added to the clip labels if they were verbally participating or if their body language indicated they were actively listening (e.g., nodding or leaning toward the speaker). For instance, a pause occurs in the overall conversation and a teacher begins a new topic by stating: “I was so surprised by how fast

my students learned new programs.” Another teacher nods her head in agreement, while a third teacher comments: “Yes! And I was surprised by how many programs are out there!” All three of those teachers would be included in the naming of that clip. The clip ended when the topic clearly changed focus, typically with another pause in the conversation. There were 51 clips across three conversations. Clips averaged 2:00 minutes in length and ranged from 0:54 seconds to 3:40. Prior to each interview, the researcher pulled the clips for the designated interviewee and created a customized folder, which was then loaded into the designated video conferencing software (Adobe Connect or SKYPE). Each interviewee averaged eight clips per interview.

Step 4: Interview and Corresponding Field Notes

The fourth step in the process was to conduct interviews with the teachers and facilitator from the sixth-grade conversation. Semi-structured interviews were performed to check the accuracy of the content previously coded in the conversation, while also gaining additional descriptive data from the participants involved (Maxwell, 2005). Interview questions guided exploration of each topic, while the researcher “remained free to build a conversation within a particular subject area, word questions spontaneously, and establish a conversational style” (Brott, 1999, p. 341). After watching a clip, the researcher asked the interviewee: “In that moment, can you tell me what your thought process was while you were engaged in that interaction?” Follow-up questions would further probe interviewee responses and, periodically, return back to the predetermined interview questions, systematically moving through each clip. The researcher maintained field notes throughout the interview.

Step 5: Initial Coding of Interviews, Field Notes

The fifth step in the process involved verbatim transcription and coding of the interview and corresponding field notes. Codes for all three data sources constantly were compared against incidents that were coded in the same way, to find similarities and differences across the themes (Glaser, 1967). For this reason, as codes are described for each interview, comparisons to corresponding incidences in grade-level conversations will be highlighted. These contrasts are critical because the resulting similarities and differences are what led the researcher to develop further the themes and subthemes in this study. For example, a teacher in the grade-level conversation describes a language arts teaching strategy using a program called PhotoShop. This was coded as *sharing* in the grade-level conversation. During her interview, this teacher tells the researcher, “I thought it was amazing that I was sitting there enlightening other people” because she had a rough start to her TRC experience and felt self-conscious about her existing knowledge base. This revelation in the interview (“I did not realize...”) was coded as a *perspective shift*.

Step 6: Summary and Analysis.

The sixth step in the research process involved compiling the data for each individual and analyzing their dominant, moderate, and minor experiences with grade-level conversations. This step helped the researcher answer Research Question 1 (content of grade-level conversations) and Research Question 2 (participant descriptions of grade-level conversations) for each individual. In addition, the researcher will summarize what the participants said that they learned from grade-level conversations (Research Question

3a) and whether or not they believed that the state-wide conversations can be repeated at their local level (Research Question 3b).

Steps 4, 5, and 6 were repeated for each interviewee in the sixth-grade conversation until all interviews were complete. Phases II and III mirrored Phase I and explored each of the two fifth-grade conversations and their corresponding follow-up interviews. Comparisons between incidents across all three grade-level conversations (two fifth grade and one sixth grade) and interviews were made continuously as participants were interviewed and new theme properties were found and explored.

Reliability Verification:

At the completion of Phases II and III, member checks were performed “to ensure dependability” of the emerging themes and subthemes (Merriam, 2002). In addition, an inter-rater reliability test was conducted between Phases II and III in order to ensure consistency in code names and properties (Marques, 2005). This test was performed with an unbiased inter-rater who had a Ph.D. in education and who had previously conducted qualitative studies. Portions of the conversations and interviews were randomly selected for four attempts at simultaneous coding. After each coding session, the inter-raters compared discrepancies and the researcher spent time further developing the definitions of each code. Upon completion of the fourth attempt, 90% agreement was achieved.

Context

To further set the context of these conversations, the following section includes descriptions of the setting where the conversations took place and participant profiles. The six steps of the research process described above serve as the organizational

framework for each profile. Descriptions of the interview process (Step 4) and subsequent coding decisions (Step 5) will be combined.

Setting

The conversations took place at the 2011 TRC end-of-year event held in the Student Union at a Midwestern University with enough breakout rooms to accommodate all five of our grade-level conversations. For the purpose of the study, three of the five conversations were analyzed. The sixth-grade conversation took place on one side of a ballroom around a rectangular table. All nine participants fit easily around the table and appeared relaxed and comfortable throughout the conversation. Both of the fifth-grade conversations included in this study took place in small classrooms where rectangular tables were situated so that all participants could be seated comfortably around them.

Participants

Demographic data for participants is shown in Table 1. The first grade-level conversation included 7 sixth-grade teachers and 2 sixth-grade facilitators. The second and third grade-level conversations included 7 fifth-grade teachers and 1 fifth-grade facilitator, respectively. Follow-up interviews were conducted with 17 of the 21 teachers and facilitators involved in the initial conversations. Five mid-western school districts (TRC sites 1-5 in Table 1) were represented in these conversations; all are considered Title I and all but one of the districts is considered rural.

In the following pages, individual participants are profiled using the data found for them in each step of the research process. Any time a subtheme is referenced, it will be italicized. Brackets [] are placed around words that were added to a quote in order to

Table 1

Participant Demographics

Name	Grade Level	Gender	Age	Degree	Certifications & Endorsements	Experience in Edu. (Years)	TRC Site	School Setting
LeeAnn	6th	F	35-44	M	RS	14	1	Urban
Justine	6th	F	45-54	M	RS	14	1	Urban
Kathie	5th	F	25-34	B	ESL	9	2	Rural
Lynn	5th/Fac.	F	45-54	B		14	3	Rural
Ruth	5th	F	25-34	B		3	4	Rural
Jane	5th/Fac.	F	45-54	M	TL	14	4	Rural
Charlotte	5th	F	25-34	M	MSLA	5	2	Rural
Lijah	6th	F	45-54	M	ESL, EC	15	5	Rural
Betty	5th	F	45-54	M	SPED	25	1	Urban
Julie	5th	F	45-54	M		24	5	Rural
Shelly	5th	F	35-44	M	ESL	11	4	Rural
Lindsay	5th	F	25-34	B	ESL	5	2	Rural
Cammy	5th	F	25-34	B		3	4	Rural
Brayden	5th	M	25-34	B		6	3	Rural
Sommer	6th	F	25-34	B		9	5	Rural
Linda	6th	F	45-54	B		21	4	Rural
Adriana	5th-6th/Fac.	F	25-34	M	ESL, BL, DL, LMS	9	5	Rural

Note: Fac. is a TRC Facilitator. F and M are female and male. M and B are Master’s and Bachelor’s Degrees. ESL, RS, BL, DL, SPED, EC, LMS, MSLA, and TL are English as a Second Language, Reading Specialist, Building Leadership, District Leadership, Special Education, Early Childhood, Library Media Specialist, Middle School Language Arts, and Teacher Leader, respectively.

increase clarity. Data will be described by frequency, using the words dominant,

moderate, and minor. Dominant subthemes are those that comprise 15% or more of the

essential information units or codes for an individual. Moderate subthemes are those that comprise 6%-14.9% of the codes for each individual. Minor subthemes are those that comprise 5.9% or less of the codes for each individual.

Subtheme frequency tables for each grade-level conversation, broken down by participant can be found in Tables 2-4. The profile for the first participant, Sommer, includes a description of each step in the data collection/analysis process. Subsequent profiles are organized in the same manner, but the researcher did not explicate each step of the research process after Sommer.

Sixth-Grade Conversation.

The first seven profiles are for sixth-grade conversation participants who agreed to be interviewed by the researcher. They are introduced in the order in which they initially spoke during the conversation, which was organized in a round-robin format with each participant taking a turn to speak. There were 562 codes in the sixth-grade conversation, and participants averaged 80 codes each (see Table 2). Subtheme dominance in this conversation (represented by shading in the bottom row of the table) matched the overall frequency pattern with the following exceptions:

1. *Frustrated lamentation* was moderate for the overall study and for this group, it was a minor subtheme.
2. *Perspective shift* was minor for the overall study and for this conversation, it was moderate.

Table 2

Sixth-Grade Data Summary Including Frequency of Subthemes, Percent of Totals and Levels of Individual Subtheme Dominance

Participants	V	R	S	GI	FL	FP	PeS	PrS	GP	Sum
Sommer										
Conversation	4	7	3	0	0	1	0	0	0	15
Interview	2	7	7	3	4	5	3	0	0	31
Field Notes	1	5	3	2	4	2	3	0	0	20
Total	7	19	13	5	8	8	6	0	0	66
% of Total	11	29	20	8	12	12	9	0	0	
Lijah										
Conversation	7	7	4	0	2	0	0	0	0	20
Interview	4	3	5	4	1	4	1	2	2	26
Field Notes	7	8	1	5	2	2	4	1	1	31
Total	18	18	10	9	5	6	5	3	3	77
% of Total	23	23	13	12	7	8	7	4	4	
LeeAnn										
Conversation	5	8	3	2	1	1	0	1	0	21
Interview	12	9	5	1	0	6	5	0	3	41
Field Notes	10	5	7	2	0	4	0	2	2	32
Total	27	22	15	5	1	11	5	3	5	94
% of Total	29	23	16	5	1	11	5	3	5	
Justine										
Conversation	4	5	7	0	1	1	0	0	0	18
Interview	4	12	5	4	0	5	3	5	0	38
Field Notes	4	1	5	5	0	3	1	0	0	19
Total	12	18	17	9	1	9	4	5	0	75
% of Total	16	24	23	12	1	12	5	7	0	
Linda										
Conversation	3	3	6	2	2	2	1	1	0	20
Interview	8	4	7	8	3	3	5	3	3	44
Field Notes	7	5	1	5	3	0	6	2	0	29
Total	18	12	14	15	8	5	12	6	3	93
% of Total	19	13	15	16	9	5	13	7	3	
Cammy										
Conversation	5	7	8	0	0	0	0	0	0	20
Interview	4	5	2	2	3	3	5	2	2	28
Field Notes	5	8	8	2	0	1	4	3	1	32
Total	14	20	18	4	3	4	9	5	3	80
% of Total	18	25	23	5	4	5	11	6	4	
Adriana										
Conversation	3	0	0	0	0	0	0	0	0	3
Interview	4	6	11	8	1	7	6	2	4	49
Field Notes	4	5	0	4	2	3	4	0	3	25
Total	11	11	11	12	3	10	10	2	7	77
% of Total	14	14	14	16	4	13	13	3	9	
Total	107	120	98	59	29	53	51	24	21	562
% of Total	19	21	17	11	5	10	9	4	4	100

Note: V, R, S, GI, FL, PeS, FP, PrS, and GP are 9 subthemes: validation, reflection, sharing, gleaning information, frustrated lamentation, perspective shift, futuristic planning, problem solving, and gauging progress, respectively. Color-coding represents subtheme dominance: dark gray is dominant, medium grey is moderate, light grey is minor.

Sommer.

Step 1: Overview. The first step in the research process was a general overview of the sixth-grade conversation. The researcher noted that Sommer was a young, confident sixth-grade teacher who expressed clear ideas regarding teaching and learning. During the sixth-grade conversation, when she was not contributing directly, Sommer listened intently to her colleagues and maintained a jokingly self-described “non-expressive slightly mad looking face.” When she did speak, she used her hands to emphasize her points, and she had a dry sense of humor that frequently elicited laughter from her colleagues.

Step 2: initial coding of conversations. The researcher then moved to the second step in the process, which was the transcription and coding of the essential information units in the sixth-grade conversation. *Reflection* was the dominant subtheme experienced by Sommer in the grade-level conversations. She was not shy about discussing her ideas on teaching and her confidence in using technology and took several opportunities to *reflect* upon her experiences with the group. For instance, she conveyed that she worked hard throughout the year to ensure that she was not using technology purely for technology’s sake: “That’s a waste of time for me.” She continued,

I don't wanna just be like “Oh look, we did technology!” Cool, but we got nothing covered this first quarter and now I’m behind. . . . And so, for me, I think it [the previous school year] was trying to figure out, okay what [technology] can help me still get everything addressed that we need to, but engage kids.

Sommer went on to *reflect* on a professional learning moment when she heard that another “less-techy” teacher expressed how easy the clickers were to use. Sommer told

the group that she had not taken the time to try her set in the classroom, “For some reason in my mind, it was gonna take time, and I don’t waste time on stuff.” She said that she got them out the next day and discovered, “That was so easy!” Her colleagues reacted to her comments with validating laughter, smiles, nods, and similar stories of their own.

Step 3: clip creation. During clip creation, the researcher pulled the context surrounding the quotes listed above, as well as several other clips where Sommer was either actively contributing to the conversation or, by her body language (facial expressions, eye movements or attention), she appeared to be paying close attention. Eight clips were selected and prepared for Sommer’s interview.

Steps 4 & 5: interview and initial coding. The interview with Sommer was conducted via SKYPE from her classroom. When the clips were being played, Sommer grinned and raised her eyebrows as her peers were laughing or sharing their stories. When she was observing herself, she was stoic and listened intently. At the conclusion of each clip, Sommer rarely needed prompting from the researcher; she simply began to share her thoughts from that April day. She said that the grade-level conversation helped her to *reflect* on her previous year. “As Lijah was sharing, I was thinking of similar experiences in my own classroom” and “it jarred a lot of memories in me.”

When the clip that included Sommer *reflecting* on clicker usage and “wasting time” ended, she indicated that it was also a moment of *sharing* for her. She was trying to impart a message to her colleagues:

I want teachers to understand: technology doesn't have to be this scary thing. I teach Social Studies, and one of our vocab words is always technology, and it's

anything we do to make life simpler. If we're using technology to make life more complicated or harder . . . then that's really not the benefit of it.”

Sommer further revealed to the researcher that this *sharing* was not only for the group in general, but also targeted a specific colleague from her local team. She explained that they were departmentalized and rotated the students through various subject areas throughout the day. One of her colleagues taught the same group of students as she did, but did not allow the students to use the equipment very often, for fear that they might disrespect it. This colleague also struggled on a daily basis with behavior issues. Sommer told the researcher, “a lot of those kids kind of became different students when they walked into her [colleague’s] class.” Sommer told the researcher that it was an ongoing quandary for their team. During the grade-level conversation, she was thinking, “yes, we had a challenging group of kids, but we have this great stuff [technology], get the kids using it and you’re gonna see that some of the behavior issues are going to go away.” The grade-level conversation gave her another forum where she could *share* her ideas on using technology to increase engagement and learning, without having to confront the teacher directly. During her interview, she revealed that she was actually *lamenting over frustrations* with this colleague and was hoping that the ensuing conversation surrounding student-centered learning would help convince her colleague to use the technology more and release some control of the learning to her students.

When asked about the overall benefits of grade-level conversations, Sommer highlighted the need for *validation*. She spoke of “ongoing battles” with releasing

control to her students and “conflicts” surrounding management of the shared equipment between team members. She told the researcher,

If you’re able to have that outlet to talk about it, share your concerns, it doesn’t bottle it up. Like you’re able to laugh, see that you’re not alone, so then you’re maybe willing to try something different next time.

Step 6: summary and analysis. In sum, the dominant subthemes for Sommer were *reflecting* and *sharing*. Moderate subthemes for Sommer included *validation*, *gleaning information*, *perspective shifting*, and *futuristic planning*. Sommer had no minor subthemes and data were not found for her under the subthemes of *problem solving* or *gauging progress*. Examples of subthemes that were not observed during the conversation, but were later revealed through the follow-up interview included, *lamenting frustrations* (as mentioned above), *gleaning information*, *perspective shifting*, and *futuristic planning*.

When asked what Sommer learned from her participation in grade-level conversations, she referenced the subthemes of *gleaning information* in the form of “getting new ideas” and *validation* by saying the conversation gave her an “outlet” to laugh about day-to-day challenges. When asked if she felt like the conversations at the statewide meetings could be replicated with her local team, Sommer replied, “Yes, it does already” and shared how they were planning a similar district-wide professional learning day for the near future.

Lijah.

Step 1: overview. Lijah always made eye contact with the speaker in the grade-level conversation. She was quick to smile and frequently offered her peers smiles and words of encouragement. When she spoke, she talked with her hands, frequently laughed at herself, and pointed at her note card when she referenced one of the points that she had written on it.

Step 2: initial coding of conversations. Dominant codes found for Lijah included *reflecting* on her own experiences, *sharing* instructional strategies from successful experiences, and *validating* her peers during her grade-level conversation. She *reflected* on her successes from the year:

Kids were more on task with things, more actively involved experiencing things. I found students drive more of the lessons and they were constantly coming in with something I hadn't planned on doing, but it was something they were asking questions about, so we were able to take it and apply it.

She *shared* a biography unit where she had the students use My Fake Wall, which is a closed social network for education that resembles FaceBook. She *shared* with the group:

I had them read a biography and before [TRC] they would get up there and read their PowerPoint and you never really knew if they really understood what the book was about. So I had them use My Fake Wall. What impressed me was, I would ask them about certain statuses, just to spot check them, and they wouldn't have to read them, it came from within them, but they knew, they understood that person.

During another point in the conversation, LeeAnn and Justine referenced Lijah when they shared their version of a biography unit. They used a program called Stixy, which allowed students to brainstorm with online post-it notes. Lijah *shared*, “And I gave them actual sticky notes that they could stick in their book as they went.” From that conversation, Justine revealed that she had also used My Fake Wall and how the students “were able to do so much more” with their biography unit. Lijah *validated* her by saying, “I know! And the thought process—they had to think about their [subject of biography] friends and what kind of friends they were and what kind of status remark they would make.”

Later in the conversation, when the teachers were discussing challenges from the year, Lijah *reflected*, “Time was an issue.” She elaborated with an example,

We did soil testing and before long, I had students bring in soil from home and it was like, okay, this isn’t where this was supposed to go. And it took time from class. And so now, I didn’t get all the curriculum in science covered, there’s no way I could. We were taking things to a deeper level though. So I didn’t get all that factual stuff covered, but you know what, they understand how to ask a question and that’s something I was after. And sometimes, I would come up with other ideas for them and I had to be careful because I was getting off task, too [laughter].

Step 3: clip creation. Lijah contributed throughout the grade-level conversation, whether it was with her own sharing or a simple one-sentence validation of someone else’s struggles. The researcher prepared eight clips for Lijah to review during her follow-up interview.

Steps 4 & 5: interview and initial coding. The interview was conducted with Lijah via Adobe Connect in her classroom. It was after school and the student chairs were on their desks and could be seen behind Lijah while she spoke. The first clip in the interview was predominately of Lijah reflecting on the successes of her year. She mentioned how “the students drive more of the lessons” and how they “were constantly coming in with something I hadn’t planned on doing, but it was something they were asking questions about.” After the clip played, the researcher asked Lijah why she shared that information with the group. She replied, “I think the group was all about sharing our experiences from the classroom. I was listening for things that I could change or things that reinforced what I was doing in the classroom.” The researcher coded her description of the conversation as *gauging progress* because while she appeared to be *reflecting* on her own experiences, she was actually conveying her experiences to the group, hoping to prompt similar stories, which would help her “make sure that everything was going the way it was supposed to be going” in her own classroom.

When Lijah viewed the clip of her sharing the biography unit and the resource My Fake Wall she told the researcher she was also *reflecting* on the year,

I remember being so impressed with what the kids had created and I felt like when they created the projects with technology, they dug more into what they had read about. I just wanted to share that I was really impressed with the knowledge that they came away with.

She went on to say that she could ask them a year later and they still could tell her the information that they learned about that person, and that was a big improvement from “the way we were doing book reports before.”

Another clip replayed the conversation of the ways that LeeAnn and Justine had done their own version of biographies using a program called Stixy. Lijah commented, “I think listening to her ideas about how they did their biography helped me to think I could readjust a little bit, because she had great ideas too.” This was coded as a *gleaning information* because she had not thought to use Stixy the way that Justine had, and it was also coded as *futuristic planning*, because she was considering how she would use the new ideas in her classroom the next time she taught her biography unit.

Lijah also told the researcher that she found the comments from Justine regarding releasing control of strict lesson planning to be *validating*, “I agreed with her that sometimes we get so rigid with lesson plans that we aren’t flexible enough in letting the kids take ownership in what is going on.”

After watching the last clip in the interview, where Lijah shared that she was unable to get through all of the science curriculum, she commented,

I struggle with that here, because we do have people that say, “You’ve gotta cover every one of those [standards and benchmarks],” but sometimes we cover it so rapidly--and if the kids don’t remember it the next week, what good are we doing?

Originally it was coded as *reflection*, because she was thinking about her experiences from the year and she told the group that she was getting off task too. After speaking with her during the follow-up interview, she confirmed that she was “struggling” with moving too quickly through the curriculum and that she was indeed *reflecting* during the grade-level conversation.

Step 6: summary and analysis. In sum, the dominant subthemes for Lijah were *validation* and *reflecting*. Moderate subthemes for Lijah included *sharing*, *gleaning information*, *frustrated lamentation*, *perspective shifting*, and *futuristic planning*. Minor subthemes for Lijah included *problem solving* and *gauging progress*. Examples of subthemes that were not observed during the conversation, but were later revealed through the follow-up interview included, *gleaning information*, *problem solving*, *futuristic planning* and *gauging progress*.

When asked what Lijah learned from her participation in grade-level conversations, she referenced the subthemes of *gauging progress* in that “it reinforces that you’re headed in the right direction,” *gleaning information* in the form of “hearing about different programs,” *problem solving* where “you hear how they handled [frustrations] and it gives you some answers on how to handle it next time,” and *validation* ,saying, “you hear others having the same frustrations.” When asked if Lijah felt like the conversations at the statewide meetings could be replicated with her local team, she replied, “I think we’re doing it” and then offered an example of local conversations.

LeeAnn.

Step 1: overview. LeeAnn was an attentive listener and an animated speaker during the grade-level conversation. When other participants were speaking, her body language included encouraging nods, smiles and laughter. When she spoke, she used her hands to emphasize her points and alternated eye contact with multiple people around the table. Interestingly, LeeAnn co-taught with Justine, who was sitting next to her during

the grade-level conversation, and quite frequently, the two of them shared simultaneously, prompting one another to share and completing sentences for each other.

Step 2: initial coding of conversations. Initial coding of the sixth-grade conversation indicated that LeeAnn participated by *reflecting, sharing* and *validating* her peers. *Reflection* was coded when she told the group that she was becoming more independent of her facilitator in her planning of projects and that she was “weaning herself” from always asking the facilitator for integration ideas. Another instance of *reflection* was observed when LeeAnn told a story about bandwidth issues in her district: “We’ve known that bandwidth is an issue, but nobody believed us. [Chuckling around the table] They believe us now and they fixed it!” In addition, she *reflected* about her teaching style and the fact that they have a two to one student to computer ratio.

We have two to one computers, but it would be such a perfect world if we had one to one. Justine and I, we go on the fly, so that’s been a big deal this year because you have to really plan ahead with technology [if you want to borrow enough computers from the other grade level to have one to one].

Another exchange of ideas took the form of *sharing* and *problem solving* when one teacher mentioned that her “gifted students can go much further on their own with the technology” and LeeAnn jumped in saying, “And I don’t even say that it’s the gifted kids, I think it’s the kids that have access at home.” Follow-up comments from other participants included agreement with both points, and Cammy shared that she has students who academically are considered “lower,” but who frequently teach the gifted kids how to use the technology.

Step 3: clip creation. Clips were created for LeeAnn not only when she spoke, but also when her co-teaching partner, Justine, spoke. The researcher noted that these two teachers spoke simultaneously and wanted to be sure that their experiences were explored from both perspectives.

Steps 4 & 5: interview and initial coding. LeeAnn connected with the researcher through Adobe Connect. She was in her classroom and upside-down chairs with tennis balls on each leg could be seen over her shoulders. We started with the clip where she was reflecting to the group about how she had changed during the year and was “weaning” herself from her facilitator. After the clip played, she *reflected*, “Because I’m not independent like I should be, but I feel like I’ve grown so much with technology.” The researcher then asked her reasons for saying that to the group, and she commented, “Part of me wanted to see if they were in my boat. I wanted to see if I was the only one.” While LeeAnn’s exhibited behavior was *reflection*, she was also seeking *validation*.

After viewing the clip where the teacher shared her ideas about gifted students going further with the technology, LeeAnn chuckled,

I had to laugh because my first thought—and then I said it right afterwards—was that it wasn’t just your gifted kids. In fact, it’s almost the other way. The highly intelligent kids aren’t necessarily playing at home on the Internet. It was a really good experience for our middle levels and even some of our lows. They were able to hop on the computer and just do. And it gives them that empowerment to feel like they’re the top kids helping the others.

Initially, this exchange was coded as *problem solving* across the participants, with LeeAnn *reflecting* throughout. During her interview, LeeAnn explained that she was also

sharing with the other participants because she wanted them to recognize that “it was almost the other way” and that her students with lower ability levels could be more empowered by the technology than her “gifted kids.”

LeeAnn also revealed several *shifts in perspective* that were caused by the conversation. She commented on one such shift,

To be totally honest, when I first went in [to the grade-level conversation], I thought what in the world are we gonna talk about? When we sat down and we shared, it [ended up being] a way to help me reflect on the things that I did in my classroom that helped me to be a better teacher. I thought it was very beneficial to sit with everybody and hear their perspectives, their stories on what they were doing, because it gave me a chance to reflect on what I was doing and I thought well, maybe I do know what I’m doing!

This *perspective shift* gave her the opportunity to *reflect* on her experiences and then *gauge* her own *progress* through the year.

Step 6: summary and analysis. In sum, the dominant subthemes for LeeAnn were *validation*, *reflecting* and *sharing*. She had one moderate subtheme of *futuristic planning*. Minor subthemes for LeeAnn included *gleaning information*, *frustrated lamentation*, *perspective shifting*, *problem solving* and *gauging progress*. Examples of subthemes that were not observed during the conversation, but were later revealed through the follow-up interview included, *perspective shifting* and *gauging progress*.

When asked what she had learned from her participation in grade-level conversations, LeeAnn referenced the subtheme of *reflection*, saying “I reflect daily on how lessons go, but as far as sitting down and looking back, this worked better.” She

also referenced *perspective shifting* and *gauging progress*, as mentioned above. When asked if she felt like the conversations at the statewide meetings could be replicated with her local team, LeeAnn replied, “Me personally, I wouldn’t have changed my thoughts if I wouldn’t of talked to people from different schools.” She went on to explain that the dynamics of her local team are such that she is on the lower end of technology integration and the conversation helped her see that she was not “the only one feeling the thoughts that I was feeling about my level of technology knowledge.”

Justine.

Step 1: overview. Justine sat next to LeeAnn. The two of them were co-teachers in their school. They are officially two separate classes, but have co-taught the entire sixth grade for several years with the help of a removable wall and dual projection system so that both classes can see the same teacher and projected image. As mentioned previously, LeeAnn was outspoken and buoyant, while Justine was much quieter. Frequently, Justine would mention a resource or strategy and LeeAnn would give the details of their use. When Justine did share, she was soft-spoken and insightful.

Step 2: initial coding of conversations. When the researcher initially coded the conversation, Justine was observed to be *sharing* resources and ideas, *reflecting* on her experiences and *validating* the comments from her peers. For example, she and LeeAnn *shared* a site called Stixy, where students can collaboratively use online post-it notes on a simulated corkboard to brainstorm. She also *shared* a site called Bit.ly that allows the user to organize a long list of URLs for students. She compared it to an alternative resource, “whereas the Fur.ly, once you make it, that’s what it is, but the Bit.ly lets you adjust it [later on].” Justine also shared her use of My Fake Wall, which was akin to

FaceBook for kids. “I used it with Greek Gods and Goddesses and they created their characters, chose pictures, and responded to one another; they were able to do so much more.”

Reflection was another dominant code for Justine:

I think I’m just amazed at what the kids can do, and that’s what I—she [nods at LeeAnn] was talking about “lesson learned” because I was one that needed my lesson plans typed and I needed to have it in an order- this, this, this, and this, and my kids just couldn’t care less. If I get them on that site [Bit.ly], give them a little bit of direction, [snaps fingers], and off they go, they go past me in like two minutes. I need to quit wasting my time making out those lesson plans!

Later in the conversation, when the teachers where discussing what they wanted TRC to look like in their classrooms the following year, Justine *validated* one teacher: “You [Linda] just covered it (she points to her notecard) [laughter] I’m thinking ‘Getting rid of some traditions, making room for projects.’” Justine then added her own *reflection*, “Time is just the biggest thing. To be able to find all of those [projects and resources from that year], and look at them again.” She also *validated* comments from Sommer and LeeAnn when they were discussing the coming school year and how the fifth-grade students would be headed to sixth-grade with a strong foundational knowledge of technology. LeeAnn said, “They’ll teach us!” and Justine *validated* her statement with her own, “We’re gonna have to take them higher. That higher power. Right, right.”

Step 3: clip creation. As with LeeAnn, the researcher chose not only clips where Justine was speaking, but also where LeeAnn was talking. Justine and LeeAnn shared the same experiences during the year and when one spoke, the other was nodding

confirmation or interjecting pieces of information. The researcher selected seven clips for Justine to review during her interview.

Steps 4 & 5: interview and initial coding. Adobe Connect was used to connect Justine and the researcher one afternoon in late August. Justine and her students had just completed a series of MAP testing and Justine was relieved to have it done. Justine shared that she was unsure how she was going to “remember back that far” to the April conversation. She and the researcher shared a laugh, and then discussed how the video clips were designed to stimulate her memories.

The first clip viewed during the interview was of LeeAnn and Justine sharing their use of Stixy. When asked what her thoughts were during that exchange in April, Justine replied, “I think other people were thinking how to use it in their classroom.” The next clip showed Justine comparing Fur.ly and Bit.ly and telling the group that she needed to “quit wasting time making lesson plans.” After the clip played, Justine reflected,

That was my big epiphany from the whole year. I would spend hours writing up step-by-step instructions for the kids, and then they’d be through that in two minutes and on to more higher [order] stuff than I was planning anyways. I really learned that I am more of a guide. That’s what I wanted to get across. Hopefully, they got something they can take back to their classroom and use. Then, also, our trials and errors: “It’s a waste of time to type everything out.” “Use the Bit.ly instead of the Fur.ly, save yourself some time.” That’s what I want to take from these groups. I want something that I can use right away in my classroom.

These comments from Justine corroborated the initial coding of *sharing* from the conversation, because Justine's intentions were to give the teachers practical ideas and resources. In addition, she had told the group that she needed to "quit wasting time on lesson planning." During the conversation, it was coded as *futuristic planning*, and during her interview, the researcher noted that she was simultaneously *reflecting* on her own learning about becoming a more student-centered educator who guides students instead of directing them.

The next clip was of another teacher saying that gifted kids could take the technology much further, and LeeAnn interjected saying that she actually thought it was the opposite, that students with middle to lower abilities can actually go further. When the clip was over Justine said,

I was thinking not necessarily the gifted kids. LeeAnn and I had just talked about that—it's like, who are the kids we can count on when we're doing this project? They're a different group than that kid you can count on to get the math assignment. It could be one of your lower kids that really takes to the technology. They feel that self-confidence that "wow, they're good at something".

This was another example of Justine listening to the comments of her peers and using them to *reflect* on her own experiences. After coding the interview with Justine, the theme of *reflection* stood out twice as strongly as any other theme. Several of her responses in the interview began with statements such as, "I was thinking . . . I was recalling . . ." and "I was remembering . . ."

The final clip in the interview was Sommer reflecting on what the incoming sixth graders will be prepared for next year. Justine had *validated* Sommer by agreeing with

her and saying that they would have to take the students to a higher level of learning. When asked what her thoughts were at that time, Justine replied, “I was agreeing with her (*validation*) and feeling a little anxiety there. We’ve got to take our students a step higher [next year] (*futuristic planning*).” She continued, “It’s nice to know I’m not the only one” (*validation*) and “to learn some of those mistakes or problems that they had (*gleaning information*) and we can fix them ahead of time” (*futuristic planning*).

Step 6: summary and analysis. In sum, the dominant subthemes for Justine were *validation, reflecting* and *sharing*. Moderate subthemes for Justine were *gleaning information, futuristic planning* and, *problem solving*. Minor subthemes for Justine included *frustrated lamentation*, and *perspective shifting*. Examples of subthemes that were not observed during the conversation, but were later revealed through the follow-up interview included, *gleaning information, perspective shifting* and *problem solving*.

When asked what she had learned from her participation in grade-level conversations, Justine referenced the subtheme of *validation*, saying “I think a big part of it was we’re not the only ones.” She also referenced *gleaning information* in the form of “finding something I can use in my classroom.” She also said that through the conversation she knew she would experience *problem solving* and receive “support that things are gonna work out, you’re gonna get some help, and some ideas.” When asked if Justine felt like the conversations at the statewide meetings could be replicated with her local team, she gave multiple examples of how they already “do a lot of sharing” and that her school is “a great building to work in.”

Linda.

Step 1: overview. Linda is from a small rural school and is the only sixth-grade teacher in her building. When asked how she has changed as a TRC participant, she told the group, “I am completely changed because this is my 21st year, and I was probably, out of the four of us [other local TRC team members], the least knowledgeable about technology. And so I’ve learned a lot.” She also shared with the group that she was back in school obtaining her master’s degree in school counseling and, by adding that to TRC and her regular teaching duties, it “has really stressed me out a lot. It’s been a lot of work, but it’s all good.”

Step 2: initial coding of conversations. Initial coding of the conversation showed that Linda predominately used the conversations to *share* and *reflect*. She *shared* resources, such as Glogster and Wordle, and also *shared* practical integration strategies. For instance, when she *shared* Wordle, she told the teachers that she had her students create unit reviews and then she *reflected*, “I think they learned more that way than by me telling them [what to study].” She also *shared* a helpful classroom management strategy, “I had a group of kids who just could not make a decision on their own. So we made a rule, you have to ask three [other students] before me” and then she *reflected*, “and that helped a lot.”

Linda also instigated a conversation surrounding the organization and sharing of her laptops and iPods with the other TRC teacher in her building. She *lamented*: “That’s one thing that’s frustrating for me is that all the stuff is in the fifth grade teacher’s room. So if I want them [students] to do something with them, we have to go over there to get

them.” Several other teachers *validated* her *frustrated lamentation* by agreeing and telling similar stories of their own.

Gleaning information was coded when Linda received a suggestion from Cammy about sending an assigned “technology kid” over each morning to get the charged iPods and leave them on student desks all day, “We leave them out on the desks and they are just barely starting to die at the end of the day.” Linda questioned her, “Even with the iPods?” Cammy confirmed, explaining how she and another teacher worked out a system so that while one set is in use, the other is being charged. One teacher commented: “That’s a good idea.”

Step 3: clip creation. The researcher pulled seven clips for Linda to view. Typically the researcher would pull a few clips in which the participant may not have spoken, simply to gain another perspective on each participant’s experience, whether they spoke or not, but Linda had varying degrees of verbal participation in each of selected clips. In two, she only had one or two words of validation for the person speaking. This was deemed a diverse enough mix to adequately recall her thoughts from that day of sharing.

Steps 4 & 5: interview and initial coding. The researcher and Linda met after school via SKYPE from her fifth-grade classroom. She sat in a corner, with a closet door behind her and a large, black, plastic pocket organizer covering the door. The researcher had originally coded Linda in the conversations to predominately be *sharing* and *reflecting*. The interviews revealed several other ways that Linda was participating in the conversations.

The first clip the researcher showed her was of several teachers talking about a biography unit and using the online tool Stixy to generate post-it notes for brainstorming. Linda said she was “following along” with what was being discussed because she was familiar with it, but that she did “like the idea of trying the actual sticky notes first, so that they had them organized on their desk and understood how to move them around” once they got online. She continued, “I learned something that could make it better in my classroom—maybe a better way to introduce it than just throwing them on the computer.” In the grade-level conversation, she had *shared* some information about Stixy with the colleagues sitting across from her. When the researcher showed her the clip during her interview, she added that the exchange of ideas was not only of her *sharing*, but she was also in the midst of *gleaning information*. She learned of an alternative way to introduce the site that she had *shared*, by beginning her lesson with the physical post-it notes. She explained, “You not only get the people who have never tried it or heard of it, but from my point of view, I learned a way to make it better.”

The next clip was of a veteran teacher who was sharing how her class “lacked self-control” and how hard her year was because she struggled to let the students use the technology for fear they couldn’t handle it. When the clip was over Linda commented,

I related to her a lot because I think she started out in this [TRC] the same way that I did. I mean, it terrified me. Just pens, paper, and books. That’s what we need to do. That’s how they should learn. That’s the way we’ve always done it. I realize now I’m one of the old teachers. I’m like an old dog that you have to teach all these new tricks to. I could understand and feel everything that she said because I felt the same way. I was like, uh-huh. That’s me, too. The thing I keep

reminding myself is I have learned a lot, and I'm still learning a lot. You can't go anywhere but up for us I guess.

Originally, this was coded as the other teacher *reflecting*. When Linda watched that clip, she revealed that the *reflections* from the other teacher served as a *validation* of struggles that Linda had been dealing with throughout the year. Statements such as, "I related to her a lot" and "I could understand and feel everything that she said" led the researcher to code those moments as *validation* in the interview. She also gauged her own progress when she made the comment, "I keep reminding myself that I've learned a lot."

The next clip in the interview was of Linda telling the other sixth-grade teachers how long she had been teaching, how much TRC had changed her, and how much she had learned that year. Originally, that was coded as Linda *reflecting*. During the interview, however, Linda said that she was also *sharing*. She said she wanted them to understand "Fear." She further explained, "I think it's interesting for those people whom this [technology] comes easy to. I think they need to hear what it's like for those of us that it's not." She continued by explaining that at the beginning of the year, she would sit down with her local team of teachers and "those other three girls would just take off, talking at the same time, and I have no idea what's going on." She worked with her facilitator to customize some of the professional learning because she "didn't want to be somebody who sat on the sidelines all the time. I wanted to learn from where I was." She continued,

I think that it's important that people need to hear that, in the beginning, you may not be on the same level as everyone in your group, but by working together,

you're going to learn some things. If you don't get something, don't be afraid to ask.

When Linda viewed the clip where she was lamenting her frustrations about sharing and storing iPods and Cammy offered her a suggestion, the researcher originally coded it in the conversation as *sharing* by Cammy, and *gleaning information* by Linda. In the interview, Linda revealed that Cammy not only taught her a classroom management strategy (*sharing* by Cammy and *gleaning information* by Linda), but that she also *shifted her perspective*: “that’s something logical...why didn’t I think of that? That happens so much when you share in groups like that. It’s so beneficial.” Another *perspective shift* for Linda came toward the end of the interview when the researcher asked Linda to summarize the benefits of grade-level conversations. Linda replied,

I think the conversation helped me realize that I have learned a lot and I’m not super computer tech by any means, but I have learned that you don’t have to be. I mean, you just learn at your own pace, and do what you can do, and have the kids teach you. Don’t be afraid to let them. I mean, that’s, probably, the best benefit for me was realizing that I have learned a lot.

Another instance in the interview where Linda revealed learning beyond what was originally coded in the conversation came at the very end, when another teacher said that she was going to refine her method of grading projects. Originally, the teacher talking was coded to be *planning for the future* and Linda *validated* her comment by nodding and saying, “Right.” Linda then said in the interview that she was indeed *validating* the teacher, “I totally agree with that. I think sometimes the projects that we did took too long.” She then said that the comment from the other teacher got her *planning for the*

future and how she would work with her facilitator to “help her with ways to evaluate projects” the following year.

Step 6: summary and analysis. In sum, the dominant subthemes for Linda were *gleaning information, validation* and *sharing*. Moderate subthemes for Linda were *reflection, frustrated lamentation, perspective shifting*, and *problem solving*. Minor subthemes for Linda included *futuristic planning* and *gauging progress*. Examples of subthemes that were infrequently observed during the conversation, but were later emphasized in her follow-up interview included, *gleaning information, perspective shifting* and *gauging progress*.

When asked what Linda learned from her participation in grade-level conversations, she referenced the subtheme of *gleaning information* saying, “there’s nothing better than teachers being able to talk about something that they’ve learned because you can learn so much from others.” She also referenced a *shift in perspective*, “seeing a different perspective of the way you think can kinda help you grow in the way that you think about things.” When asked if Linda felt like the conversations at the statewide meetings could be replicated with her local team, she replied, “I don’t think so. There is just something about talking with people that don’t know you or that you don’t know. You just learn so much more. It sounds crazy, but I think that’s true.”

Cammy.

Step 1: overview. Cammy was an out-going third-year teacher who was very willing to speak during both the grade-level conversation and her follow-up interview. She told the group, during the grade-level conversation, that she was overwhelmed that school year. She explained that she was trying to implement the TRC program, teach

full-time, be the technology support person for her building, and she was a new mom. She spoke quickly and for large chunks of time, frequently quoting her students and herself when retelling her experiences. For instance, she was reflecting on how she empowered her students to become the experts in her classroom by imparting pieces of their exchange:

“Sixth graders, come on. Let’s go to the computer lab.” And, they’ll sit there like, “Ms. Taylor, we’re doing this, we just need the administrator password, and this, and then this.” and within five minutes they’ve fixed the computer lab [chuckling] with me.

Step 2: initial coding of conversations. During the conversation, Cammy was only coded under *validation*, *reflection* and *sharing*. She began by *reflecting* on the conversation that took place between her and her administrator regarding the grant. She had told him that she already used technology in her classroom, “but I’ve learned so much, that it still surprises me just how much farther I’ve gone with technology even though I thought I was using it quite a bit.” She *shared* several integration strategies for her interactive whiteboard, iPods and laptops. She also *shared* how she empowers her students to tell her what they want to learn and with what tools. Then she takes their suggestions and builds their project around them, and said, “they are really teaching me how to teach it back to them.”

Step 3: clip creation. Cammy did not participate verbally until the second half of the grade-level conversation. The researcher selected a couple of clips from the beginning of the conversation, simply to remind Cammy of the context of the day. In addition, several of her clips were predominately of her speaking for two to three minutes

at a time and then the conversation would change. There were only a few times where Cammy responded to someone else and it was typically to validate his or her statements.

Steps 4 & 5: interview and initial coding. During her follow-up interview, the researcher asked her what her intentions were in telling the group the story about the students helping fix the computer lab, and when the students helped construct the classroom projects. She replied:

I just wanted to make sure I got some of my successes out with them [the other participants], and [share] how much the kids really took-on a lot of my classroom [and were] leaders for our school district. That was a success in my classroom.

Her response helped reaffirm the initial coding of *reflection* for that portion of dialogue. After watching a clip from the grade-level conversation where Cammy shared a resource called Poll Everywhere that served as a personal response device or a “clicker” for her kids, Cammy told the researcher, “I was excited to share Poll Everywhere because that was something new in my classroom and my kids really enjoyed it.” Again, this corroborated the initial grade-level coding of *sharing*.

When the researcher asked Cammy to summarize the benefits of grade-level conversations, she said that they give her the opportunity to *reflect* on her experiences from the year, *share* her successes and frustrations, and *problem solve* with other members of her grade-level group. She shared an example from the conversation when a couple of teachers lamented that they were struggling with the management of iPods in their classroom. She *shared* how she handled her own management and stated that it helped those teachers “develop a solution” (Cammy *problem solving*). She also

commented on the *validation* that she experienced as a grade-level conversation participant,

It re-motivates you to want to try something that maybe you didn't try; it makes you want to, you know, “Oh, well, they did that; maybe I should try it. They’re having the same issues I’m having, so I shouldn’t get all stressed out right now because those are similar issues.”

Step 6: summary and analysis. After initial coding of the conversation, the only three subthemes found for Cammy were *validation*, *reflection* and *sharing*, and these ended up being her dominant overall subthemes as well. Cammy also had two moderate subthemes, *perspective shifting* and *problem solving*. She had four minor subthemes including *gleaning information*, *frustrated lamentation*, *futuristic planning* and *gauging progress*. When asked what she learned from the conversations, Cammy replied, “To see another teacher do something that you failed at, it makes me more motivated to want to take it back to my classroom (*shift in perspective* and *futuristic planning*). She also referenced *validation*, “It was good to hear that other teachers had the same fears [as me].

When asked if the collaborative conversations experienced at the statewide days could be replicated locally, she described how she was the only sixth-grade teacher in her rural school and that the conversations give her the opportunity to talk to other sixth-grade teachers, and “it’s good to see people who are teaching the same curriculum.” She shared that other grade level teachers do not always understand the needs and frustrations specific to the sixth-grade.

Adriana.

Step 1: overview. Adriana is a TRC facilitator for two of the teachers in the sixth-grade conversation. She is warm, soft spoken, and passionate about helping students and teachers. She is a half-time facilitator and a half-time library media specialist in her district. She has multiple teaching endorsements and frequently assists with building and district leadership decisions.

Step 2: initial coding of conversations. During her follow-up interview, Adriana revealed that she was actually ill on the day of the grade-level conversations and was doing everything she could to “keep from passing out.” She was glad to have another facilitator with her during the sixth-grade conversation so that the conversation was not hindered by her lack of verbal participation. The researcher did, however, note that Adriana served as a facilitator in many ways throughout the conversation. When the teachers responded to questions, they made eye contact with Adriana and she smiled, nodded and frequently laughed along with the participants. Specific eye contact was made on multiple occasions with the two teachers who were from her school. In particular, when Sommer was telling her story about the clickers and wasting time on things, Adriana chuckled knowingly when Sommer started to share, and frequently laughed along with her as the story was told. All of these verbal and non-verbal responses were coded as *validation*, which was the only code assigned to Adriana during the conversations.

Step 3: clip creation. Clip creation for Adriana was somewhat of a challenge, because she really did not speak during the conversation. The researcher, instead, chose

clips where her body language indicated that she was actively engaged or where her local, team teachers were speaking.

Steps 4 & 5: interview and initial coding. Despite her illness and lack of outward participation, Adriana revealed a great deal of learning during her follow-up interview. She stated that the conversation around her helped her to *gauge the progress* of her team and she learned “that my teachers are right where they need to be” with regard to the implementation of the TRC program. She also revealed several instances where the conversation helped to *shift her perspective* regarding the learning of her teachers. By listening to their conversation, she realized that she may have overloaded them at the beginning of the year and needed to go back over some of the resources they had already covered. She also stated that the projects that “I thought maybe they enjoyed the most throughout the year maybe really weren’t what they enjoyed the most or what they were most proud of.”

As she reviewed the video segments of the conversation, she pointed out multiple instances where she felt teachers were sharing and gaining knowledge from one another, and she said that she had been using those moments to *reflect* on the previous year. She also indicated that the conversation allowed her to do some *futuristic planning* as a facilitator:

Just getting ideas of what direction I need to lead the team in, where they feel like they’re at or where they perceive and share that they’re at with another person, some ideas, like when they hear somebody else talk about something that they’ve taught, I can kinda see them spark up, their body language, like something that

might excite them. An idea that I could give them or a resource that I could share that could tie right into that.

Step 6: summary and analysis. The researcher had very few codes associated with Adriana during the conversation; however the interview revealed that Adriana thought that the conversation was predominately an opportunity for teachers to *share* and *learn* from one another. For herself, she said that *reflection, validation, futuristic planning, gauging progress, and perspective shifting* served as the personal benefits gleaned from the conversation. Adriana summarized the benefits of *sharing* in grade-level conversations and the *perspective shift* that she experienced because of the sharing that her teachers did:

It's nice to hear the teachers talk to each other, because I know what they say to me and I hear them talk within the team. To hear them share their favorites, and what they learned, and what their surprises were when they're sharing with outside people was interesting.

In sum, the dominant subtheme for Adriana was *gleaning information*. Moderate subthemes for Adriana were *validation, reflection, sharing, and perspective shifting*. Minor subthemes included *frustrated lamentation* and *problem solving*. Since Adriana was ill during the conversation, all subthemes except validation were revealed through her interview.

When asked what she learned from her participation in grade-level conversations, Adriana referenced the sharing from her teachers and *gleaning information* about their learning from the year. She also noted the *perspective shifts* that she underwent because what her teachers shared as their favorite things did not align with her own understanding

of what they learned and enjoyed the most that year. She also referenced *validation*, saying that, “Hearing from other teachers that teach the same grade level as you is probably one of the best ways to learn because they’re in your shoes.” When asked if she felt like the conversations at the statewide meetings could be replicated with her local team, Adriana replied with a mixed response. She said that her teachers do a great deal of ongoing sharing, but that “hearing from other people is really valuable” because “outside thoughts and ideas can trigger your own memories and ideas” and offer alternative methods for instruction.

First Fifth-Grade Conversation.

The following seven profiles are those of participants in the fifth-grade conversation. The organization of this conversation was different from that of the sixth-grade in that they did not take turns sharing around the table. Instead, the facilitator opened the floor for comments in response to the first conversation prompt, and people began sharing freely. By far, this conversation was the most active. There were 961 total incidents of coding and each of the seven participants who were interviewed averaged 137 codes (see Table 3). Subtheme dominance in this conversation followed the overall frequency pattern.

Jane.

Step 1: overview. Jane was the facilitator in the first fifth-grade conversation. She was an active participant in the discussion and frequently prompted teachers with follow-up questions after they made a statement. She encouraged the participants by laughing, smiling and reassuring them with short phrases of encouragement. Jane shared

Table 3

Fifth-Grade (1) Data Summary Including Frequency of Subthemes, Percent of Totals and Levels of Individual Subtheme Dominance

Participant	V	R	S	GI	FL	FP	PeS	PrS	GP	Sum
Jane										
Conversation	44	5	8	7	0	0	3	6	0	73
Interview	9	7	1	2	4	0	1	1	3	28
Field Notes	12	2	3	5	2	0	2	2	3	31
Total	65	14	12	14	6	0	6	9	6	132
% of Total	49	11	9	11	5	0	5	7	5	
Shelly										
Conversation	30	8	7	3	6	2	5	8	1	70
Interview	1	12	5	6	4	8	3	6	3	48
Field Notes	7	6	10	2	5	6	2	5	3	46
Total	38	26	22	11	15	16	10	19	7	164
% of Total	23	16	13	7	9	10	6	12	4	
Ruth										
Conversation	31	23	15	4	15	4	3	7	1	103
Interview	4	10	3	2	3	1	0	1	3	27
Field Notes	10	7	12	2	4	2	4	2	1	44
Total	45	40	30	8	22	7	7	10	5	174
% of Total	26	23	17	5	13	4	4	6	3	
Julie										
Conversation	43	16	2	12	1	5	2	4	0	85
Interview	7	8	1	3	0	4	2	0	2	27
Field Notes	19	4	6	9	0	3	2	0	0	43
Total	69	28	9	24	1	12	6	4	2	155
% of Total	45	18	6	15	1	8	4	3	1	
Betty										
Conversation	12	5	1	4	3	3	1	1	0	30
Interview	5	11	4	6	3	3	2	1	0	35
Field Notes	3	9	4	5	3	2	2	1	0	29
Total	20	25	9	15	9	8	5	3	0	94
% of Total	21	27	10	16	10	8	5	3	0	
Kathie										
Conversation	8	9	23	1	25	7	0	3	0	76
Interview	7	1	3	3	5	2	1	0	1	23
Field Notes	8	1	8	3	9	1	0	0	0	30
Total	23	11	34	7	39	10	1	3	1	129
% of Total	18	9	26	5	30	8	1	2	1	
Charlotte										
Conversation	26	6	9	0	17	2	0	1	0	61
Interview	5	0	4	3	1	0	1	3	1	18
Field Notes	9	1	11	3	6	4	0	0	0	34
Total	40	7	24	6	24	6	1	4	1	113
% of Total	35	6	21	5	21	6	1	4	1	
Total	300	151	140	85	116	59	36	52	22	961
% of Total	31	16	15	9	12	6	4	5	2	100

Table 3 (continued)

Note: V, R, S, GI, FL, PeS, FP, PrS, and GP are 9 subthemes: validation, reflection, sharing, gleaning information, frustrated lamentation, perspective shift, futuristic planning, problem solving, and gauging progress, respectively. Color-coding represents subtheme dominance: dark gray is dominant, medium grey is moderate, light grey is minor.

that she was a facilitator for two of the schools in the current phase of TRC and she had also been a TRC facilitator in a previous phase of the program.

Step 2: initial coding of conversations. As an active facilitator of the conversation, Jane was coded 44 times providing *validation* to the other participants. Several of these validation codes can be attributed to short phrases of *validation* that served to prompt additional sharing from the speaker. For instance, one teacher lamented her frustrations with the lack of time to figure out, and use, iPods at the beginning of the year. Jane *validated* her statements by nodding her head and saying, “And it was frustrating.” Later on, after several other teachers had shared similar frustrations with using iPods, Jane *validated* several of them by saying, “And it is a lot to navigate and learn.” Several teachers nodded and continued to share their experiences.

Sharing was a moderate subtheme for Jane. She would frequently join in on dialogue where teachers were actively problem solving a question posed by a peer, and offer knowledge of a program or situation that might help increase understanding. For instance, one teacher shared a program called Prezi and explained how her students were teaching her about how to use the tool (i.e. change fonts and styles) and mid-sharing, another teacher interrupted saying, “and what were you working on? What’s that?” The teacher answered the question, “Prezi, it’s another free program.” Jane then interjected and *shared*, “It’s a presentation software like PowerPoint, only non-linear.” This prompted additional discussion from the group about that particular program.

During the conversation, one other prevalent theme for Jane was *gleaning information*. Frequently, a teacher would make a broad statement such as, “It takes a lot more time to teach units” and “I’ve had to cut out a lot of stuff [content] because the things that I am doing are taking twice as long.” After a pause, Jane asked, “So, do you feel like that is too big of a compromise?” The teacher then replied, “No. Before, they just got all surface level stuff and now we don’t cover as much, but what we do cover, it’s much deeper.” By posing questions and pulling answers from the teacher, Jane was *learning* more details about the way this teacher felt about losing content to longer projects.

Step 3: clip creation. The researcher chose nine clips for the follow-up interview with Jane. She was an active participant throughout the conversation, so finding clips where she was speaking was not a challenge. However, the researcher wanted to keep the interview to 45 minutes, so clips were chosen where Jane or one of her teachers were most actively engaged.

Steps 4 & 5: interview and initial coding. The researcher showed Jane a clip that included her *validation* of the frustrations that the teachers were sharing over iPods. When asked what her thoughts were during that exchange, Jane said, “Well that was a very frustrating part [of the year] and I was thinking about that (*frustrated lamentation*) and understanding their frustration (*validation*). I didn’t have a lot of time to really play with them [iPods] either (*reflecting*).” The researcher then probed further and asked what Jane thought the benefit was for the teachers to sit and talk about those things on that April day. She replied, “They heard that each other had the same frustrations. They know that somebody else understands what they had gone through” (*validation*).

The researcher showed Jane the clip about Prezi and she revealed that not only was she *sharing* the explanation of the tool itself, but she was also *reflecting* on the part of that teacher's sharing, where she mentioned that she was letting the students teach her. Jane elaborated:

That particular [revelation] is one of the things that you see—well, that I saw the first year I did this [TRC facilitator], and I saw again. The students getting to the point where they're so comfortable they're helping the teachers, and the teachers get to the point where they appreciate that. Not all teachers really appreciate being taught by their students, so I was glad to hear so many of them [grade-level conversation participants] saying, "Yeah, they could teach me" and "Okay, I don't have to know it all."

The researcher then showed Jane the clip where the teacher spoke about losing content to more in-depth projects and Jane had asked her if it was "too big of a compromise." The researcher asked what Jane's thoughts were in that moment. Jane replied, "As she was talking about that, I was thinking, 'but they're getting a deeper understanding of what you are trying to teach.'" Jane went on to say, "That was another success for TRC, because they were recognizing that they could spend some more time, and go deeper, and give the students more autonomy, and take it a little bit further" (*reflecting*).

Step 6: summary and analysis. In sum, the dominant subtheme for Jane was *validation*. Moderate subthemes for Jane were *sharing*, *reflection*, *gleaning information*, and *problem solving*. Minor subthemes for Jane included *frustrated lamentation*, *perspective shifting*, and *gauging progress*. No data were coded under *futuristic planning*

for Jane. Examples of subthemes that were infrequently observed during the conversation, but were later emphasized in her follow-up interview, included *frustrated lamentation* and *gauging progress*.

When asked what she learned from her participation in grade-level conversations, Jane referenced the subtheme of *validation*, saying that the conversations validated “accomplishments, decisions, and teaching approaches.” She also commented that the teachers used the conversations as “a measuring stick” and offered them reassurance that they are “doing a good job” with TRC (*gauging progress*). When asked if she felt like the conversations at the statewide meetings could be replicated with her local team, Jane replied, “It would be difficult because they [her four local teachers] are so comfortable with each other, it’s hard to keep them on task [for that level of sustained collaboration].”

Shelly.

Step 1: overview. The researcher noted that Shelly was expressive when she spoke and while she listened to her peers. She frequently laughed aloud, crinkled her nose in frustration, and widened her eyes in surprise. She was also very supportive of the other teachers, giving them affirmative nods and phrases when they were speaking and offering them ideas when they expressed a frustration or concern.

Step 2: initial coding of conversations. Initial coding of the conversation indicated that Shelly offered a large amount of *validation* to her colleagues. Many of these instances of *validation* were in the form of enthusiastic laughter, smiles, head nods, and short phrases that reaffirmed something someone else said. For instance, two teachers were sharing their year-long frustrations with having too many initiatives to implement, not enough support from administration, and broken technology. Shelly

validated them several times: “Right, you’re expected to keep up with everything else and integrate [TRC]. Yeah, I’ve taught in [that district], I know what you’re talking about, it’s just the way it is.”

Other dominant themes for Shelly in the conversation were *reflection* and *sharing*. She *reflected*, “My classroom is more student-centered than teacher-centered and I am learning from the kids.” She provided an example of how she showed her students an online presentation program called Prezi, and she thought she understood the features fairly well. However, the students almost immediately started showing her advanced settings, “and I said ooo, go around and show everybody else!” This story triggered a teacher to ask her about Prezi, and Shelly was then able to *share* information about what it was and how it worked.

Shelly was involved in multiple episodes of *problem solving*. When one of her colleagues was sharing a frustration or concern, Shelly would offer a suggestion to try and assist. In one instance, she instigated a *problem solving* series through her own *futuristic planning*. She told the group, “One thing I thought I might like to try next year is to assign a program to a kid in class, tell them to research and learn it and then, instead of me introducing it, have them introduce it.” Two other teachers immediately validated her idea, saying, “They would love that” and “Yeah, make them the experts.” Shelly then turned to her facilitator, Jane, and asked, “Do you think that would work?” Jane agreed and then Shelly started *problem solving* her own idea to the group, “Tell them to set up their own account and just play around and then put them up in front of the class.” This led to additional brainstorming with other group members regarding the merits of the idea.

Step 3: clip creation. The researcher chose clips for Shelly based on the coding from the conversation and the degree of her participation. Ultimately, eight clips were selected for Shelly to review.

Steps 4 & 5: interview and initial coding. The researcher met with Shelly via SKYPE during the morning of a teacher workday. She sat at her desk with a wall behind her. There was a colorful bulletin board over one shoulder, and a wireless router over the other. The first clip that the researcher showed Shelly was her reflection about how her class had become more student-centered, and sharing the resource Prezi. At the conclusion of the clip, Shelly *reflected*,

I remember talking about Prezi and I can remember thinking about how, when I go to present something to the kids, how I think I know it and then I set them off. Then they show me things that I didn't know. I get so excited 'cause I'm like, "Wow, I didn't know how to do that. You just showed me how to do that. Go show other people!" I love that piece of it.

The second clip was originally selected because validation was a dominant theme for Shelly, and the researcher wanted to show her multiple instances of her validating others, to see what her thought processes were during those times. This clip was of another teacher who was lamenting over how long it takes to get the computers out and boot them up. Shelly validated her by saying, "Yes, they waste so much time!" Another teacher then shared a resource called Kidblog that can be used on the iPods and can boot up immediately, even when the students may be waiting for their laptops to start. After watching the clip, Shelly said,

When we share ideas, it gets me thinking about another way to do something (*perspective shifting*). Sometimes I think there's an easier way. The whole Kidblog thing on the iPods, it doesn't take near as long to start up. It's instant, right there. I like that idea (*gleaning information*).

The researcher then showed Shelly the clip where she was problem solving her own idea, which was letting students learn about new programs and then teach the class what they found. Shelly confirmed the *problem solving* code:

I remember feeling that as quickly as I was incorporating these new programs [that we were learning through TRC] I was feeling overwhelmed. I was thinking, how can I feel not so stressed and so overwhelmed? What could I do to take the pressure off myself? The kids love this stuff. They would love for me to say here, take off with this program and show me what you learned. It would make them feel so great!

Step 6: summary and analysis. In sum, the dominant subthemes for Shelly were *validation* and *reflection*. Moderate subthemes for Shelly were *sharing*, *gleaning information*, *frustrated lamentation*, *perspective shifting*, *futuristic planning* and *problem solving*. The minor subtheme for Shelly was *gauging progress*. Examples of subthemes that were infrequently observed during the conversation, but were later emphasized in her follow-up interview included, *gleaning information*, *futuristic planning* and *gauging progress*.

When asked what she learned from her participation in grade-level conversations, Shelly referenced the subtheme of *perspective shifting*, and said that the conversation “helps me realize that I don't have it so bad, and I'm thankful for the way I have it.” She

also referenced *gleaning information* and offered the KidBlog conversation as an example of something concrete that she could use in her classroom. The researcher inadvertently omitted the question about recreating grade-level conversations at the local level.

Ruth.

Step 1: overview. Ruth was a young teacher with a demonstrative personality. She participated in each topic of discussion during the grade-level conversation. Whether verbally or through her facial expressions, it was apparent that she was actively engaged in every exchange.

Step 2: initial coding of conversations. Coding of the initial conversation showed that Ruth had more essential information units associated with her than any other participant in this study. In the grade-level conversation alone, she had 103 codes. The predominant theme for her was *validation*. She would frequently validate a comment from one of the other participants and then she would add an insight of her own. For example, one teacher reflected, “I’ve gotten so dependent on technology, there was one day when our power went out—” Ruth gasped, “Ohhhhh!” The teacher continued, “Oh my God, what do I do now? ‘Cus I use it all the time and I’ve kinda forgot—.” Ruth interjected with a combination *validation* and *reflection*, “My board was down for a week and a half this year.” The other teacher validated her, “See, now that would have been awful.” Ruth concurred, “It was awful! That was a frustrational week and a half!” In another instance, two teachers from the same district were lamenting about the technology issues and lack of administrative support the previous year. They shared the specifics of a reading initiative that they were trying to implement, along with TRC.

Ruth exclaimed, “You were doing [reading program] AND TRC?” Both teachers replied, “Yes,” and Ruth sighed and dropped her eyes to the table in dismay for them, *validating* their frustrations.

Another dominant theme for Ruth was *reflection*. She gave the other participants numerous summaries of her experiences from the previous year. For instance, she *reflected* to the group how she had changed through her participation in the TRC program and said, “I definitely think that I have [changed]. I was never able to let go of my classroom and just let my kids go.” She then told the other participants about an impending technology fair “where all of the students and staff in the whole district (nervous chuckle) are going to come around and look at what our kids do. And I’ve had to let them go . . . they’ve done wonderful, but I’ve kinda been like (she sits up, takes a big deep breath) Woo!”

Ruth also exhibited multiple instances of *frustrated lamentation* when she told the assembled group about some of her challenges from that school year. For example,

The biggest challenge for me was time. And at the beginning it was iPods ‘cus I wanted to use them and it seemed like it took forever and they were just sitting in the room and the kids wanted to use them and I wanted to use them, but I didn’t know how. I mean, it was like \$6,000 just sitting at the front of my room.

Her lamentation spurred a series of similar stories when several other teachers spoke of their struggles with exploring and implementing the iPods at the beginning of the school year.

Step 3: clip creation. Clip creation and selection for Ruth was a challenge because she was so active throughout the conversation. Ultimately, the researcher chose

eight clips that exhibited each of the themes observed during the grade-level conversation.

Steps 4 & 5: interview and initial coding. The researcher met with Ruth via Adobe Connect after school one day. Ruth was excited about the clarity of Adobe Connect and asked the researcher clarifying questions about how she could obtain a copy of the software and use it for a relative who had to undergo radiation treatments in Florida. She shared, “This would be great for her.”

The first clip that she and the researcher viewed was of her validating the teacher who was dependent on technology. Shelly confirmed the *validation* code during her interview: “The technology going down, that’s tough. It really is. You get so used to it and so dependent on it and then it’s just gone.” She then told the researcher how she was *reflecting* while that teacher was sharing.

My bulb went out . . . and we had to get a new one sent to us. It was a long time. It was hard for the kids to adjust because they were used to the faster pace and it made them talk more in between [transitions] and it just showed me how much time was wasted when I’m not using the [interactive] whiteboard.

The next clip under review was of Ruth reflecting on how she had learned to “let her kids go.” After watching the clip, she told the researcher, “Even though I’m a younger teacher, I guess I have an ‘old school mind’. I had a hard time letting go of my classroom...letting the kids do more of their own learning rather than me guiding completely.” When the researcher asked her why she told the group about her struggles, she responded,

It was a reward to me saying, “Okay, I think you’ve done it right, I think you’ve done a good job, because other people were doing it too” (*gauging progress*).

Then hearing one girl that said, “That’s the part that I’m still struggling with,” I guess it made me feel better to know that I’m not the only one that’s like, “Oh, I don’t wanna let my class go” (*validation*).

Another clip in the interview was of Ruth lamenting frustrations about the delay in using the iPods. “Yeah, the iPods at the beginning of the year last year was really frustrating to me. The kids wanted to use them and we just didn’t have anything to do on them, and that was tough” (confirms *frustrated lamentation* coding). When further probed by the researcher as to why she told the group about her iPod troubles, Ruth said, “Everybody was sharing the same frustrations I think, and then you feel better knowing that it wasn’t just us not getting to ours. Nobody was getting to use those ‘cause nobody had any ideas for a while” (*validation*).

Step 6: summary and analysis. In sum, the dominant subthemes for Ruth were *validation, reflection, and sharing*. Moderate subthemes for Ruth were *frustrated lamentation* and *problem solving*. The minor subthemes for Ruth were *gleaning information, perspective shifting, futuristic planning, and gauging progress*. The only subtheme that was more dominant in the interview than in the conversation was *gauging progress*.

When asked what she learned from her participation in grade-level conversations, Ruth said,

It’s nice to be able to bounce ideas off each other (*problem solving*) and share frustrations (*frustrated lamentation*). It makes you feel like you’re not the only

one in the world that's having that problem and it makes it a little bit easier to deal with (*validation*).

When asked if she felt like the conversations at the statewide meetings could be replicated with her local team, Ruth replied, "No, because we are in the same building and we'd be having the same frustrations, it's nice to hear that other people are having those frustrations.

Julie.

Step 1: overview. Julie was a laid back, easy-going participant in the conversation. She rarely instigated a topic of conversation, but she frequently asked questions about, or responded to, the comments of her colleagues.

Step 2: initial coding of conversations. Initial coding of the conversations revealed that *validation* was the predominant subtheme for Julie. As mentioned before, she rarely initiated a topic of conversation; however, she was an active participant because she frequently reaffirmed the reflections and frustrated lamentations of her colleagues. For instance, one of the other teachers was lamenting about her resistance to try new things on the laptops because turning them on and logging in is a waste of time. Julie *validated* her frustration with a statement of confirmation, "You're right, that's very time consuming. Getting the laptops out, turning them on, that takes forever."

Another dominant subtheme for Julie was *reflection*. When one of her colleagues made a statement, or told a story, Julie would respond with a similarly illustrative story of her own. For instance, when Shelly shared how her students taught her the program Prezi, Julie followed her story with a *reflection* of her own: "My students come up with

their own ideas now, like we might be doing something and they go, ‘Oh, can we video tape that with the flip camera?’ things that I wouldn’t think of.” She went on to say,

I also had a behavior issue that I think was not a behavior issue because of the technology. He was one of those that I was told, ‘Oh, watch out for him.’ And I think technology is what really kept him focused this year.

Another dominant subtheme for Julie was *gleaning information*. She asked multiple questions of her colleagues throughout the conversation. For instance, one teacher was lamenting about her classroom set of iPods saying, “they were just sitting in the classroom, not being used.” Julie was compelled to ask, “What did you want to use them for, like, listening to stories?” The teacher replied, “I didn’t know, I just wanted to use them,” and the teacher continued to lament about lack of training and not having time to learn. Julie then asked a follow-up question, “Did you let the kids train you though? They know it pretty well . . .” The teacher replied, “Well, I never let them get them out because I didn’t want to get ‘em out, just to play with them.” Julie nodded in understanding and replied, “Oh, Angry Birds during recess (giggles around the table).”

Step 3: clip creation. Nine clips were chosen for Julie to view. The researcher noted that the interviewees before Julie seemed to jump right into reflections when a clip finished playing. Julie was different in that she would hesitate at the end of a clip and say, “I’m trying to remember how that clip started.” The researcher began giving Julie a quick summary of each clip, after it had played, and that increased the flow of the interview. She had no problem relaying her thoughts to the researcher after a one sentence summary.

Steps 4 & 5: interview and initial coding. The researcher connected with Julie via Adobe Connect in her classroom one October afternoon. She sat at her desk with a tall metal filing cabinet behind her and a pink stuffed animal perched atop it. The first clip the researcher showed Julie was of her sharing about how independent her students are now. When asked what her thoughts were while she was sharing on that April day, Julie confirmed that she had been *reflecting*:

That's exactly how it went in my classroom too. Because the students would learn how to do something and teach each other and I never really always knew what they were doing. I was just always there to watch. I couldn't even show you how to do some of the stuff they did this year [laughter].

That particular clip also included her reference to the "behavior issue that wasn't a behavior issue because of technology." Julie *reflected*:

I was thinking about that student who had come to my classroom with this bad reputation of having behavior issues and remembering how I really felt like the technology kept him grounded last year.

When asked why she shared that information with the group, Julie revealed that while she had been *reflecting*, she was also *sharing*:

I did hear somebody say, "really?" Maybe they would've thought that this could be a way to help kids with behavior issues also. I really hadn't thought of it as a way to improve behavior, but I think it accidentally did.

The next clip Julie watched was of the teacher lamenting about the time it took to get out laptops and Julie validating those sentiments. After the clip played, Julie confirmed that she was, indeed, *validating* the other teacher while simultaneously

reflecting, “Just to know that other people were experiencing the same feelings that I was--it was fun to hear that. ‘Cause I remember that last year it took twice as long to do everything I did.” She continued, “It makes you feel better to know that you’re not the only one that’s taking forever to learn something or that projects take as long as they do. It just seemed like we all had a lot in common and that’s kinda reassuring.”

After the clip about iPod usage played and Julie had watched herself ask questions of the other teachers, she recalled,

I remember thinking a lot last year that a lot of people ordered iPods and I couldn’t figure out how you would use them in the classroom for educational reasons. I’m still kinda not sure about that. I mean, I know they can be used. I just don’t know how.

Julie went on to say that she knew that they would be receiving iPods the following year, and that she was trying to figure out how she was going to use them with her students. While Julie appeared to be *gleaning information* from her peers about iPod uses in the classroom, she was also *planning for the future* and preparing for how she would handle the technology once she had it.

Step 6: summary and analysis. In sum, the dominant subthemes for Julie were *validation*, *reflection*, and *gleaning information*. Moderate subthemes for Julie were *sharing* and *futuristic planning*. Minor subthemes for Julie included *frustrated lamentation*, *perspective shifting*, *problem solving*, and *gauging progress*. The subtheme that was not observed during the conversation, but was later emphasized in her follow-up interview was *gauging progress*.

When asked what she learned from her participation in grade-level conversations, Julie said that the conversations are a way of “finding out that what we’re doing is similar to what other people are doing (*gauging progress*), but mostly getting ideas from other people (*gleaning information*).” When asked if she felt like the conversations at the statewide meetings could be replicated with her local team, Julie replied, “Yes, we have really great conversations already.”

Betty.

Step 1: overview. Betty was very reserved and did not speak very often during the grade-level conversation. She was an active listener and frequently smiled and laughed with the other participants. She was also observed nodding her head in understanding when other participants were exchanging dialogue.

Step 2: initial coding of conversations. The predominant theme coded for Betty during the grade-level conversations was *validation*. The majority of her *validations* were in the form small phrases of affirmation after one of the other participants shared their thoughts. Two examples occurred at the very beginning of the conversation when the first teacher to reflect said that her students were much more engaged. Betty *validated* her thought by saying, “I wrote that too.” Another instance of *validation* occurred when a teacher recognized an area of personal growth and told the group that she struggled with classroom management when her students needed to do audio recordings for their projects. Betty *validated* her feelings by saying, “Right” and nodding her head in agreement. Another participant suggested in jest that they needed to install a sound booth for the classroom and Betty laughed along with her saying, “But we need a bigger classroom to have that.”

Another subtheme that was coded for Betty was *reflection*. One example came toward the end of the conversation, when the teachers were sharing their vision of TRC the following year. Betty said,

I think the monthly training days are invaluable. To have time, first of all to be taught how to use the websites and different things and then, to have time to actually learn how to use it—figure out how you’re going to implement it.”

Another teacher validated Betty’s reflection by sharing her appreciation for those local days of learning as well.

Betty also took advantage of the conversations to *glean information* from the other participants. On one occasion, she asked if any of them “had lots of visitors into your building from the district or outside?” Several participants said no, while others commented that they had quite a few at the beginning of the year (which was before they knew what to do with all the new technology). Now, no one comes and they have it figured out. Betty and the group shared several laughs over that shared phenomenon. Another example of *gleaning information* was coded when Betty asked the group, “Do any of you have a one-to-one laptop to student ratio?” Julie replied, “I wish we did.” Betty then continued with a *frustrated lamentation*, “I wish we did because then I think it would eliminate that time to get it out and on and have it out all day.” The topic of one-to-one computer-to-student ratios then morphed into sharing and storage of computers, with everyone wishing they had more computers for their students.

Step 3: clip creation. Despite the fact that Betty did not speak very frequently during the conversation, the researcher was able to assemble seven clips where she appeared to be actively engaged in the dialogue.

Steps 4 & 5: interview and initial coding. The interview with Betty was conducted via Adobe Connect. The researcher connected with her after school on an October afternoon, right before grade cards were due. First, Betty watched the clip where the teacher lamented over not having enough supervision to permit her students to do audio recordings for their projects. Betty had validated the teacher by agreeing with her frustration. After watching the clip, she confirmed that initial code of *validation*, “I was agreeing...no matter what you do, you wish you had more hands. It’s too loud in the classroom, so they go in the hallway and you can’t go back and forth, so that’s pretty hard.”

The next clip was of Betty reflecting on how “invaluable” the local professional learning days were for her. When asked what her thoughts were when she was sharing that information with the group, she confirmed the initial coding of *reflection*:

Those monthly training days were the best thing that we did. I mean, we were taught how to use different websites and different programs. Then we had time to learn how to use it before we would implement it and brainstorm with each other on how we would use that in the classroom. Those were the best.

After Betty viewed the clip of her asking the group whether any of them had a one-to-one, student-to-computer ratio, Betty told the researcher,

My biggest thought is the one-to-one laptop ratio is huge. I wish somewhere in this grant that had been required. I could do without some of the other technology pieces if every student had their own computer. It just makes your lessons take twice as long. I really want to know where the money goes and why some have one-to-one, while others don’t.

When asked why she raised that question to the group she replied, “Just hearing how different things work in different buildings. It’s always valuable to hear.” Initial coding of the question that Betty posed to the group regarding one-to-one laptops was gleaning information. During her interview, she revealed that she was indeed *gleaning information*, while simultaneously *lamenting over frustration*, wondering where the money in her grant had been spent and wishing that her projects did not take as long.

Step 6: summary and analysis. In sum, the dominant subthemes for Betty were *validation, reflection, and gleaning information*. Moderate subthemes for Betty were *sharing, frustrated lamentation, and futuristic planning*. Minor subthemes for Betty included, *perspective shifting, and problem solving*. No data were found for Betty under the subtheme of *gauging progress*. Examples of subthemes that were infrequently observed during the conversation, but were later emphasized in her follow-up interview included, *reflection and gleaning information*.

When asked what she learned from her participation in grade-level conversations, Betty referenced *gleaning information*: “You always come back with new ideas, things to use in the classroom, helpful hints on what has and hasn’t worked in their classrooms and strategies for specific students.” When asked if she felt like the conversations at the statewide meetings could be replicated with her local team, Betty replied,

I don’t think so. I think you need both. I mean, I love that time with my local team because we have similar needs, different grade levels, but we know what our kids need. We’ve had their kids, they’ve had some of our kids, so we can expand on just what we need at our local level. Then when we have those state days, we can hear across the state what other people are doing, other ways they’ve

implemented the same thing, so I think it would be expanding upon what we're doing at the local level.

Kathie.

Step 1: overview. Kathie and her colleague, Charlotte, experienced a tough year of implementation in their district. Their participation in the grade-level conversation reflected the tension and struggles that bothered them throughout the school year. Despite the obstacles that Kathie had to overcome that year, she was optimistic regarding the future and frequently followed negative comments with statements reflecting a more positive outlook.

Step 2: initial coding of conversations. The predominant theme found for Kathie through observations of the grade-level conversation was *frustrated lamentation*. Two fundamental issues hindered her success that school year, including lack of initial start-up support from technology personnel and lack of overall instructional support from her administration. The first issue was revealed at the beginning of the conversation when she *lamented*, "I was surprised how many problems we had getting everything set up and running. I don't feel like we actually got to use the equipment until Christmas." She shared that the district personnel were unsure who was in charge of setting up the equipment or who was in charge of troubleshooting problems. She also *lamented* that beyond the technology frustrations, there was a lack of support from administration regarding implementation of various district-wide initiatives. She told the group that TRC was frequently perceived by the administration to be in misalignment with other content related initiatives, and she received mixed messages on how she should teach. She *lamented*,

Finding a good combination of the technology with those other programs was very challenging. I don't feel like we had the support to be successful. I don't feel like I did the best job I could of done using the technology.

Kathie would *lament her frustrations* and then conclude with an optimistic statement. For instance, after sharing the technology issues, she told the group “We are working past it (making boxing punches in the air and leaning into Charlotte, her district colleague who imitated the air punches).” After sharing the frustrations about lack of support, she told the group that the next year would bring new administrators and a new TRC facilitator and “I think that is gonna help.”

Another prevalent subtheme for Kathie, in the grade-level conversation, was *sharing*. She told the group, “I'd like my classroom to look like the one we saw at [named school]. We watched them and that was very—amazing. So I'd love to get close to that.” Her sharing touched off a flurry of questions from the other participants regarding the district, their site visit, and what the teachers witnessed while they were there.

Step 3: clip creation. The researcher selected seven clips for Kathie to review. The clips were a mix of examples from the dominant themes discussed above. The researcher wanted to ensure that there was a balance of positive versus negative participation for Kathie to watch so that she was able to reflect on her overall contribution to the grade-level conversation.

Steps 4 & 5: interview and initial coding. The interview was conducted with Kathie after school. We paused once so that she could help solve a math problem for one of her students who was working with a tutor in a nearby room. The first clip was of

another teacher sharing how surprised she was by the volume of online websites and apps available for educators to use. Kathie *validated* her statement by agreeing and then commenting on her realization regarding “how easy some of the programs were to use.”

The next clip was of Kathie lamenting to the group about how long it took for her grant equipment to be set-up and functional for student use. When the clip was over, she recalled,

It was so frustrating. When nothing would work and nobody knew what to do or whose job it was—it’s almost like, why do we have it if they weren’t going to make it a priority and encourage us to use it?

When the researcher asked why Kathie told the group that information, she replied,

I won’t lie, probably a little bit of sympathy. And, I was curious if anybody else had the same problems. Was it just our district that was very, very slow getting up and running? All those schools had problems; they had issues that they encountered, but it seemed like we had the most. It seemed like they were just leagues above us with everything they had done.

These instances, when Kathie asked who else shared her troubles, or even who felt sorry for her, were all coded as *validation*. She was hoping someone could “make me feel better” by relaying similar problems, or simply empathizing and acknowledging that what she went through was not easy.

Kathie became animated after the clip played of her and Charlotte sharing their trip to the district who had a strong iPod initiative in place. She confirmed the initial coding of *sharing* in the conversation,

I think it would be very beneficial if they [the other participants] went. We wanted to let them know, “Hey, this exists and you guys need to go see it ‘cuz if you’re still questioning how to use them or what it could look like, that’s a prime example right there of how you could.”

Step 6: summary and analysis. In sum, the dominant subthemes for Kathie were *validation, sharing, and frustrated lamentation*. Moderate subthemes for Kathie were *reflection* and *futuristic planning*. Minor subthemes for Kathie included, *gleaning information, perspective shifting, problem solving* and *gauging progress*. Examples of subthemes that were infrequently observed during the conversation, but were later emphasized in her follow-up interview included, *gleaning information, futuristic planning* and *gauging progress*.

When asked what she learned from her participation in grade-level conversations, Kathie replied,

They make me feel more relaxed, knowing that other schools and teachers have the same struggles (*validation*). It makes me a little more comfortable in trying new things because other people haven’t done it either, so I’m not that far behind (*gauging progress*). The learning part of it—different programs and apps (*gleaning information*)—encourages me to go out and try them in my classroom (*futuristic planning*). I’m learning that way, learning how to think outside the box and then writing lessons so that I can incorporate more of those [programs, apps and ideas] (*perspective shift*).

When asked if she felt like the conversations at the statewide meetings could be replicated with her local team, Kathie said “no” because “I don’t have any other science teachers that I can talk to that use iPods.

Charlotte.

Step 1: overview. The researcher noted that Charlotte did not speak until well into the grade-level conversation. She sat quietly, periodically shifting in her chair and not smiling. It took the moment when her colleague, Kathie, was prompted to tell a funny story about a student before she smiled. From that point on, she laughed, smiled and participated in the various topics of conversation.

Step 2: initial coding of conversations. Initial coding of the conversations revealed that Charlotte predominantly *validated* the comments of her peers and *lamented her frustrations* to the group. The first example of these two subthemes was observed after Ruth had shared her frustrations about not having utilized the iPods until well into the year. Ruth said, “I felt like it was \$6,000 just sitting at the front of my room.” Charlotte *validated* her by saying, “And that was the thing that my kids were most excited about.” She then *lamented*, “’Cus when we had Open House, they were so excited about it and we literally did not get them out until December or January.” While Charlotte was speaking, several of the other teachers were nodding and interjecting validating comments such as, “My kids were too.” Julie then asked her, “Did the kids train you though? ‘Cus they know it pretty well.” Charlotte then *lamented*, “I didn’t want to get them out, just to get them out and play with them, I wanted them to be an educational tool. I didn’t want them to become recess.”

Another instance of *validation* from Charlotte was observed during the conversation when Betty voiced her wish for a one-to-one, student-to-laptop ratio. Charlotte *validated* Betty by responding, “Yep, and then you would know who’s was who’s.” She then *shared*,

I had some kids look up some inappropriate words and I didn’t know how many hands this [lifts iPod] had gone through or who did it. If they each had their own, I could tell right then and that one person could have had a consequence.

A secondary subtheme for Charlotte was *sharing*, as seen several times above. Another example, was observed when Kathie brought up the visit to the district with an iPod initiative. Charlotte *shared*,

That was the most beneficial training we had and it was because we went to a school and actually saw it being used and saw it implemented instead of just talking about it and trying to imagine it.

Step 3: clip creation. Eight clips were pulled for Charlotte, including one from the beginning of the conversation when she did not speak. The researcher hoped to gain some insight into her initial silence.

Steps 4 & 5: interview and initial coding. The researcher connected with Charlotte via SKYPE one morning before school started. She sat at a table with a cream cinderblock wall and a vinyl-shaded window behind her. After the first clip played, where Charlotte had said nothing, she did not need prompting from the researcher. She simply began to explain that she was lamenting frustrations. Listening to the other teachers had frustrated her, because her experiences did not match theirs:

It [the school year] had been such a rough start, I remember thinking that I just wanted somebody—I think it was a venting moment—I wanted them to know how frustrated I was (*frustrated lamentation*). Then, I had heard other people did not have as many problems as we had had with getting it [TRC] up and going. And looking back on it now, I'm like, oh man, we really turned that conversation from where it started, to what Kathie and I wanted to vent about at that moment [Laughter]. I think when I left that day, and I had vented that out, I left thinking, “Okay, that's going to be me next year. I feel better now; we can move on. I know where I'm going from here” (*validation and perspective shift*).

The next clip was of Charlotte, Ruth, and several other teachers lamenting about their frustrations with iPod utilization at the beginning of the school year. After the clip played, Charlotte said,

It's so important that technology be used for a purpose and I remember thinking, “I want to make sure I make this point.” I feel like there were a couple people in the discussion who I thought, “I'm not sure if they understand that, and maybe I can help them by making that point to them.”

During the conversation, her iPod discussion had been coded as *frustrated lamentation*. Post interview, the subtheme of *sharing* had to be added, because her intentions were to “make a point” about the proper integration of technology.

The final clip was of Charlotte and Kathie sharing their trip to the district with the iPod initiative. Charlotte confirmed the initial coding of *sharing*, “I thought that it would be something everybody should be able to do because it had helped me so much.” Charlotte also added that she was specifically speaking to the facilitator in the group,

because “maybe it would spark an idea to take her group to watch another school in action.”

Step 6: summary and analysis. In sum, the dominant subthemes for Charlotte were *validation, sharing, and frustrated lamentation*. The moderate subtheme for Charlotte was *reflection*. Minor subthemes for Charlotte included, *gleaning information, perspective shifting, problem solving* and *gauging progress*. Examples of subthemes that were infrequently observed during the conversation, but were later emphasized in her follow-up interview included, *gleaning information, problem solving* and *gauging progress*.

When asked what she learned from her participation in grade-level conversations, Charlotte referenced *gleaning information* and the sharing from Ruth about Kidblog. “I had just started using iPods at that point, but now I do that—what she was talking about—I do that in class every day. I listened to her suggestion, I took it, and I use it.” She also talked about *problem solving*, “A lot of times I come with specific questions or management things or problems and I was able to say, ‘Okay, here was my problem; how did you fix that?’” When asked if she felt like the conversations at the statewide meetings could be replicated with her local team, Charlotte replied, “If I have a problem, I’ve probably already asked [my local team of teachers] and maybe I didn’t get an answer that would work for me. I think it’s all about getting ideas from people that you don’t get ideas from on a regular basis.”

Second Fifth-Grade Conversation. The final three profiles are participants from the second fifth-grade conversation. The researcher elicited interviews for all seven of the participants in this conversation, but due to technical difficulties and lack of response,

circumstances generated three. The organization of this conversation was a hybrid of the two previous conversations. Participants initially shared around the table (similar to the sixth-grade group) and then loosened up and began ping-pong back and forth across the table (similar to the first fifth-grade group). Two hundred thirty-three total incidents of coding were analyzed and, of the three participants who were interviewed, each averaged 78 codes (see Table 4).

Table 4

Fifth-Grade (2) Data Summary Including Frequency of Subthemes, Percent of Totals and Levels of Individual Subtheme Dominance

Participant	V	R	S	GI	FL	FP	PeS	PrS	GP	Sum
Lynn										
Conversation	23	3	9	12	0	0	0	7	0	54
Interview	5	0	4	6	0	0	1	1	2	19
Field Notes	10	2	2	9	0	1	3	2	3	32
Total	38	5	15	27	0	1	4	10	5	105
% of Total	36	5	14	26	0	1	4	10	5	
Brayden										
Conversation	7	2	6	1	0	1	0	3	1	21
Interview	2	3	2	1	0	1	3	0	0	12
Field Notes	4	6	6	1	0	1	1	3	1	23
Total	13	11	14	3	0	3	4	6	2	56
% of Total	23	20	24	5	0	5	7	11	4	
Lindsay										
Conversation	7	10	15	2	2	0	0	1	0	37
Interview	2	0	1	2	0	1	1	0	1	8
Field Notes	4	0	11	4	5	1	2	1	0	28
Total	13	10	27	8	7	2	3	2	0	73
% of Total	18	14	38	11	10	3	4	3	0	
64	26	56	38	7	6	11	18	8	234	
Total										
Total	27	11	24	16	3	3	5	8	3	100
% of Total										

Table 4 (continued)

Note: V, R, S, GI, FL, PeS, FP, PrS, and GP are 9 subthemes: validation, reflection, sharing, gleaning information, frustrated lamentation, perspective shift, futuristic planning, problem solving, and gauging progress, respectively. Color-coding represents subtheme dominance: dark gray is dominant, medium grey is moderate, light grey is minor.

Subtheme dominance in this conversation matched the overall frequency pattern with the following exceptions: (a) *Reflection* was dominant for the overall study, but for this group it was a moderate theme, (b) *gleaning information* was a moderate theme for the overall study, but for this group it was dominant, (c) *frustrated lamentation* was moderate for the overall study but for this group, it was a minor subtheme, (d) *futuristic planning* was moderate for the overall study but for this group, it was minor, and (e) *problem solving* was minor for the overall study but for this conversation, it was moderate.

Lynn.

Step 1: overview. Lynn is a TRC facilitator for the program and the facilitator for the second fifth-grade conversation in this study. She had an attentive and humble demeanor, which helped set the tone for a comfortable and smooth conversation. The majority of her dialogue was encouraging or in the form of a question.

Step 2: initial coding of conversations. Initial coding of the conversation revealed that Lynn spent the majority of her time *validating* the statements made by teachers in her group and *gleaning information* from them through specific questions. Lynn rarely gave the teachers short phrases of *validation*, such as “Right” or “Yeah.” Instead, they tended to be detailed and insightful. For instance, one teacher in the conversation told the group that her laptops were borrowed for two weeks during the

assessment window. The teacher lamented how hard it was to revert back to teaching without technology. Lynn *validated* her statement by saying, “That’s right, a lot of teachers say that about SmartBoards or Promethean Boards. ‘How do you teach without them anymore?’”

In another instance, the teachers shared how some students learned better using technology and collaborative group work than when they worked individually with paper and pencil. These same students may have struggled with learning in previous grades, and one teacher commented that this was their opportunity to teach the other kids something. Lynn *validated* her reflection by saying, “That little leadership piece--for kids that might not have ever recognized their ability. They become so engaged, don’t they?”

The subtheme of *gleaning information* was frequently paired with *validation* when Lynn interacted with the teachers. For instance, one teacher lamented her frustrations about being out of the classroom too much for professional learning days that past year and shared a specific example of how she “was missing the last half of my class getting to present today.” Lynn nodded empathetically in *validation* and said “Sure.” Then she *gleaned additional information* by asking, “Do you think that difficulty was for the students too. I mean you all felt that, but do you think the kids felt that too?” Three of the teachers then took turns sharing how their students did not like their teacher being out of the classroom so much.

Two moderate subthemes found for Lynn were *sharing* and *problem solving*. An example of *problem solving* was observed when one teacher shared a resource called LiveBinders that allowed her to organize websites into folders for her students, online.

Another teacher, who also happened to be from the school that Lynn facilitates, started asking questions about the details of the resource and comparing it to Linkable, which was a resource with which she was previously familiar. Lynn began *sharing* her knowledge of the tool, “It’s different than Linkable. It is like a little portfolio.” The teacher started to write it down and Lynn stopped her. “It’s blocked [by their Internet filtering software].” Another one of Lynn’s teachers said, “Don’t write it down.” Lynn then *shared* with her teacher, “Don’t write it. I’ve already requested it to be unblocked ‘cus I wanted to show you all that for next year. That would be really good for you guys to use as a portfolio.” The teacher was obviously discouraged and then Lynn asked her to *share* about Linkable, which was a site that was not blocked by their Internet filtering software, but had similar capabilities. The teacher perked up, started *sharing* Linkable with the group, and another series of problem solving with the other teachers in the group ensued.

Step 3: clip creation. Three of the teachers in this fifth-grade conversation were teachers in the school that Lynn serves as a TRC facilitator. The researcher chose seven clips for Lynn to review, paying attention to ensure there was a nice mix of all seven of the people who participated in the conversation.

Steps 4 & 5: interview and initial coding. Lynn met with the researcher via Adobe Connect from her office. The walls of a blue and gray cubicle could be seen behind her. The subthemes of *gleaning information* and *validation* were prevalent in both the grade-level conversation and the interview with Lynn. She offered some insight into her preference for *gleaning information*:

I really like listening to other people's ideas and how they implement something, what they use, their lesson plan ideas, how they were able to take a lesson plan and do something else with it. I am the overall picture of wanting to take it all in, just so I can learn more. I'm a scavenger for information.

She also referenced the need for *validation*:

In these meetings, everybody's a little nervous to say anything. I don't think it's because they don't want to share it. I think it's because they're afraid. It won't matter; it's not relevant; it's something they already know. Then they realize (*perspective shift*) that that's the way we all are. I mean, that's how everybody is. I think that's good.

When the researcher asked Lynn what she perceived as the overall benefit in participating in grade-level conversations, she referenced *sharing* and *gleaning ideas*:

I think it is sharing of information and collaborating. I think everybody's pretty much figured out it's hard to have original ideas anymore with all the information that's coming at people 24/7, and in their pocket [references iPhone], and everybody can get on the Internet and learn. I think teachers still want to see it, and they want to hear it, and they want to know if it was successful because they don't have time to invest in something that is not gonna be successful.

The next clip under review was of the group engaged in problem solving the online portfolio sites. Lynn, initially, began to share about the merits of one resource and then problem solve another option when she realized that one of her teachers would not be able to access it due to Internet filtering software. After watching the clip, Lynn recalled,

It was a good exchange of what each group used, and a good explanation of both (*sharing* and *gleaning information*). They were getting all fired up, and I thought, “Oh, well, let’s just nip that in the bud” because I knew they were going to try to use it and I had been working since February to get it unblocked and I knew there was no way it was gonna get unblocked (*problem solving*). I think they were excited to be able to share about Linkable, and I was really excited the other teachers were engaged in that as well (*sharing* and *gleaning information*).

Step 6: summary and analysis. In sum, the dominant subthemes for Lynn were *validation*, and *gleaning information*. Moderate subthemes for Lynn were, *sharing* and *problem solving*. Minor subthemes for Lynn included *reflection*, *perspective shifting*, *futuristic planning*, and *gauging progress*. No data were found for Lynn under *frustrated lamentation*. The subtheme that was not observed during the conversation, but was later emphasized in her follow-up interview was *gauging progress*. When asked what Lynn learned from her participation in grade-level conversations, she said,

It gives you knowledge of whether you’re on the right track, you’ve given the teachers what they needed (*gauging progress*). And I always learn something from listening to other people talk, whether I’ve heard about it, or it validates that I’ve used it and it was good, or disagree with it. I think it’s really beneficial (*validation*). I particularly like listening to other people’s ideas, probably more than applications because those change so often (*gleaning information*).

When asked if she felt like the conversations at the statewide meetings could be replicated with her local team, Lynn explained that her teachers seem to find sharing at

the state level easier than sharing with their peers in their own building, “It’s easier to share with people you don’t know.”

Brayden.

Step 1: overview. Brayden is the only male teacher to take part in this study. He did not participate very much, but when he did, it was typically to help clarify or troubleshoot a concern or question from a colleague. He held his pen throughout the conversation and periodically wrote down a note.

Step 2: initial coding of conversations. When asked to share surprises from the year, Brayden reflected, “I think it cut down on some of the behavior [issues] because they are so actively engaged in what you’re doing with the technology. It’s just kind of the draw to it, like a moth to a flame.” He also *reflected* on how valuable he thought the local conversations between the four fifth-grade TRC teachers in his building were. Lindsay, a teacher from another school, asked if Brayden and his local team were self-contained. He began *sharing* that, while they were a fifth-grade building, they rotated the students through their rooms, dividing the content areas up to specific teachers. Lindsay asked several more questions about content areas, their method of dividing students, and teaching assignments. Brayden answered each question with the information she was seeking.

Later in the conversation, Lindsay mentioned that she was the only TRC teacher in her teacher team and that some teachers would get upset because she could not share her grant computers with them. Brayden validated her saying, “Yeah, sometimes they just don’t understand” and there was a round of laughter and nods around the table. Brayden also *problem solved* when Lindsay mentioned that she was nervous about their

MTSS ramp up the following year. He asked her which content areas they were beginning with and then suggested that she look into a program called Pinpoint to help her facilitate the transition a little more easily.

Step 3: clip creation. Brayden only had 21 essential information units associated with him; however, they were spread out across the conversation, so the researcher was able to prepare seven clips for him to view.

Steps 4 & 5: interview and initial coding. Brayden and the researcher met one evening via Adobe Connect. Bandwidth restrictions into his home were such that we had technical difficulties staying connected and experienced multiple stops and starts. Despite our troubles, Brayden was able to view several clips from the interview. After watching his dialogue with Lindsay about team teaching and jealousy from the non-TRC teachers in the building, Brayden restated his *validation* of her comment, “Yeah they [other teachers in his building] were envious because they saw what we were doing and they wanted to be a part of it” and then *reflected* on how he and his team (like Lindsay) tried to bring the technology back to their non-TRC colleagues, but that he and his TRC teachers “were able to extend and enhance our curriculum in ways that other teachers weren’t able to because they just don’t have the technology or resources.”

After watching his sharing and problem solving behaviors regarding MTSS implementation, Brayden told the researcher that grade-level conversations are a way to “share your experiences with other people, which I think is awesome” (*sharing*). He also said, “It’s good to see how other people are using their technology, and just their thoughts and ideas and being able to bounce your ideas off of other people, other than just local people” because “We’re all a little bit different” (*perspective shifting*).

Step 6: summary and analysis. In sum, the dominant subthemes for Brayden were *validation*, *reflection* and *sharing*. Moderate subthemes for Brayden were, *perspective shifting* and *problem solving*. Minor subthemes for Brayden included, *gleaning information*, *futuristic planning*, and *gauging progress*. No data were found for Brayden under *frustrated lamentation*. The subtheme that was not observed during the conversation, but was later emphasized in his follow-up interview was *perspective shifting*. When asked what he learned from his participation in grade-level conversations, Brayden said, “It’s kind of amazing to see exactly how they’re [other schools] using their technology in things. They may be using the same things, but in a little different way” (*perspective shifting*). He also referenced the importance of *reflection* and having time to conduct a “self-evaluation on how you’re doing things and maybe how to do things better” (*gauging progress*). When asked if he felt like the grade level conversations in this study could be replicated with his local team, Brayden described the importance of talking to people outside of his own district and that the statewide conversations offer “more of a broad spectrum of people, personalities and teaching styles. I think the more you’re able to broaden your horizons, the better off you are as a professional.”

Lindsay.

Step 1: overview. Lindsay was soft-spoken and used her hands to illustrate her points. She appeared to be an active participant throughout the conversation.

Step 2: initial coding of conversations. The dominant theme observed for Lindsay during the conversation was *sharing*. She instigated a conversation around PhotoStory by *sharing* not only that she liked it, but that it “is something you can use across the curriculum” and “it’s so simple that they [students] can just do it.” Several

teachers started asking her questions about what it was, how it worked, and how they could download it. She also *reflected* with the group, saying that she was the only TRC teacher on her teaching team and that some of her team members were jealous of her technology. She asked questions of several of the other group members (*gleaning information*) about their teaching arrangements and methods of teaming. She then *reflected* that her building was closing the next year and that she was looking forward to being with other TRC teachers again.

When asked about challenges from the year, Lindsay started the conversation by *lamenting* her *frustrations* about technology problems. She commented on laptop compatibility issues and how her students called her Smart Board a “dumb board because I couldn’t write on it.” She also *lamented* her *frustrations* with iPod implementation and being unsure where to begin. She expressed her excitement for the following year, because she felt like it took a while to get the technology up and running, but that she was ready for the changes that a new building and teaming structure would bring (*futuristic planning*).

Step 3: clip creation. Lindsay participated throughout the conversation and the researcher was easily able to locate eight clips for her to review.

Steps 4 & 5: interview and initial coding. The researcher connected with Lindsay via SKYPE one morning before school started. She sat in front of a large bookshelf that contained oversized black and white binders. The first clip showed Brayden reflecting on the higher levels of engagement experienced by his students, due to technology. Lindsay had validated his statement with an observation about her own students’ increased levels of on-task behavior. During the interview she reflected,

I thought it was a good conversation. It was nice to hear that other schools had the same response—the fact that the kids really enjoyed and needed to do it and felt ownership in it, more than just a paper or something that was presented to them.

Lindsay both gave and received *validation* through her conversation with Brayden.

The next clip showed Lindsay asking other participants about their teaching arrangements, while also reflecting on her own situation. She told the researcher, “When we have those [statewide] conversations, I don’t feel like I’m so off in left field, as sometimes I do in my own school because [the other non-TRC teachers] can’t relate.” During the conversation, this was coded as *gleaning information* from and *sharing* with her peers. Lindsay revealed in her interview that she was also *gauging* her own *progress* and gaining *validation* through her participation. Lindsay also revealed during her interview that she liked,

when we learn about [new] resources and how they [other conversation participants] are incorporating them, not just, “Here’s a resource,” but here’s literally how a teacher that teaches the same subject as me, is incorporating it into their classroom” (*gleaning information*).

After viewing the last clip of the interview, where Lindsay was sharing the specifics of a program called PhotoStory, she told the researcher her thoughts at the time were, “I think it’s amazing that I’m sitting here enlightening other people. Sometimes, that’s literally how I feel.” She then shared how slow her team was to begin using the technology and how the conversation helped her understand “I have something valuable to say and maybe someone else will take something I said back with them.” During the

conversation, the PhotoStory exchange was coded as sharing by Lindsay. The interview revealed that she experienced a *perspective shift* from her *sharing* and realized that she really did have some thing to contribute to the group.

Step 6: summary and analysis. In sum, the dominant subthemes for Lindsay were *validation* and *sharing*. Moderate subthemes for Lindsay were, *reflection*, *gleaning information* and *frustrated lamentation*. Minor subthemes for Lindsay included *perspective shifting*, *futuristic planning*, *problem solving*, and *gauging progress*. Examples of subthemes that were not observed during the conversation, but were later emphasized in her follow-up interview included *perspective shifting*, *futuristic planning*, and *gauging progress*.

When asked what she learned from her participation in grade-level conversations, Lindsay replied,

It helps refresh my brain for ideas. I think, when we have these free-talking moments, I take in more than when I have an instructor just in front of me, instructing me. It's so much easier to really get a grasp of how to use [an idea] when somebody who actually is teaching my content area has done it (*gleaning information*). These conversations are able to get me thinking. Not always like, "Here's a lesson plan." but "Here's an idea of how I used it . . ." and then I can go from there (*futuristic planning*).

When asked if she felt like the interschool grade-level conversations in this study could be replicated with her local team, Lindsay said that it was important to be able to step away from the local team and hear how other teachers are handling TRC implementation.

Themes

Subthemes

Based on the research questions and the data that emerged through this iterative research process, the researcher was able to construct nine subthemes. The derivation of, and basis for, each subtheme are summarized below. Seven of the nine subthemes were found in the pilot study and were applied to this study; however, these seven themes did not account for all of the data in this current study, so two additional themes were added, including *frustrated lamentation*, and *gleaning information*. There were 1,757 essential information units. Distribution across the themes can be seen in Figure 1, and frequency counts and dominance of subthemes can be seen in Table 5.

Table 5

Frequency of Subthemes Across Grade-Level Conversations Including Category of Dominance and Percent of Individual Conversations and Percent of Total

	Theme Dominance									Sum
	Dominant			Moderate			Minor			
Conversation	V	R	S	GI	FL	FP	PeS	PrS	GP	
6th. (7 interviewees)	107	120	98	59	29	53	51	24	21	562
% of 6th	19	21	17	11	5	10	9	4	4	100
5th (1) (7 interviewees)	300	151	140	85	116	59	36	52	22	961
% of 212	31	16	15	9	12	6	4	5	2	100
5th (2) (3 interviewees)	64	26	56	38	7	6	11	18	8	234
% of 213	27	11	24	16	3	3	5	8	3	100
Total	471	297	294	182	152	118	98	94	51	1,757
% of Total	26.80	16.90	16.73	10.36	8.65	6.72	5.58	5.35	2.91	100

Note: V, R, S, GI, FL, PeS, FP, PrS, and GP are 9 subthemes: validation, reflection, sharing, gleaning information, frustrated lamentation, perspective shift, futuristic planning, problem solving, and gauging progress, respectively.

Validation. Validation was the most dominant subtheme across the grade-level conversations and follow-up interviews. Anytime one of the participants shared a thought, feeling, hope, or fear and another participant said or did something to corroborate, affirm, or reinforce that initial comment, the essential information unit was categorized under validation. All three of the grade-level conversations contained moments of validation, with 36% of the essential information units across the three conversations comprising that theme. Within the follow-up interviews, 17% of the essential information units were categorized under validation and 100% of the participants claimed that the grade-level conversations helped validate them in some way. LeeAnn summarized the essence of validation in grade-level conversations:

When you know that you're not the only one, that the feelings we have are validated and they're justified that it's okay to feel those frustrations, to feel the anxiety, to feel the excitement, all of those things, [you realize that] everybody else is feeling it too and we'll make it through.

Reflection. Reflection was another dominant subtheme across the grade-level conversations. It was coded anytime a participant contemplated their experiences and their main intention was not necessarily to provide other members of the group with a specific piece of knowledge. All three of the grade-level conversations contained moments of reflection, with 17% of the essential information units across the three conversations comprising that theme. Within the follow-up interviews, 20% of the essential information units were categorized under validation and 100% of the participants claimed that the grade-level conversations helped them reflect in some way. Sommer summarized the essence of reflection in grade-level conversations:

As Lijah was sharing, I was thinking of similar experiences in my own classroom. It's just one of those things I naturally do; when I hear people talking about some things, I have to make my personal connection. Like, "Oh yeah, what did I do with that?" or "Did I come up with that problem" or "Did I see that?." It [the conversation] jarred a lot of memories in me.

Sharing. Sharing was the third dominant subtheme across the grade-level conversations. It was coded anytime a participant imparted details or facts about something concrete, such as a resource, tip, strategy, suggestion, nugget of information, or elaboration on a topic. Typically, sharing was coded when the intention of the information being given was to impart knowledge to another participant. All three of the grade-level conversations contained moments of sharing, with 17% of the essential information units across the three conversations comprising that theme. Within the follow-up interviews, 14% of the essential information units were categorized under sharing, and 100% of the educators in this study experienced some form of sharing through their participation in the grade-level conversations. LeeAnn summarized the essence of sharing in grade-level conversations:

We were sharing ideas of things that maybe others could be using to help with their time management. I shared Fur.ly, Justine shared Bit.ly. Those were things that we were using in our classroom that was benefitting us. We didn't wanna keep that to ourselves. We wanted other people to know these are some extra ways to help kids and to enhance what you are trying to teach them.

Frustrated Lamentation. Frustrated lamentation was a moderate subtheme across the grade-level conversations. It was coded any time a participant bemoaned

discouraging events, experiences, or feelings. All three of the grade-level conversations contained moments of frustrated lamentation, with 10% of the essential information units across the three conversations comprising that theme. Within the follow-up interviews, 6% of the essential information units were categorized under frustrated lamentation. Fifteen of the 17 educators in this study experienced some form of frustrated lamentation through their participation in the grade-level conversations. Charlotte summarized the essence of frustrated lamentation in grade-level conversations:

It [the school year] had been such a rough start, I remember thinking that I just wanted somebody—I think it was a venting moment—I wanted them to know how frustrated I was . . . I think when I left that day, and I had vented that out, I left thinking, “Okay, that’s going to be me next year. I feel better now; we can move on. I know where I’m going from here.”

Problem Solving. Problem solving was a minor subtheme across the grade-level conversations. It was coded when participants were actively seeking a solution for a source of trouble or worry. All three of the grade-level conversations contained moments of problem solving, with 6% of the essential information units across the three conversations comprising that theme. Within the follow-up interviews, 5% of the essential information units were categorized under problem solving. Sixteen of the 17 educators in this study experienced some form of problem solving through their participation in the grade-level conversations. Shelly summarized the essence of problem solving in grade-level conversations:

I like to try to help people the best I can, like share an idea I have or maybe try to get them to think about a way that would work for them. My biggest fear when I

do that is to sound like a know-it-all, because I do not ever want to come across that way. There is a balance and it's hard. If they're asking for specific advice or help, I'd love to say "Okay, this is what I'm doing or could you try this?" At the same time, I guess I'd feel the same way. If I vent my frustrations and someone says, "Well, could you try this or that," I would like to think that I'm willing and open to hear them.

Futuristic Planning. Futuristic planning was a moderate subtheme across the grade-level conversations. It was coded any time a participant stated an intention to do something upon leaving the conversation. The majority of the codes for this theme were found through follow-up interviews. Futuristic planning comprised 4% of the essential information units across the three conversations and 11% of the interview data. Eleven of the 17 educators in this study were observed during the conversation to have experienced a moment of futuristic planning. To be coded, the participant would have to state their intention verbally to the group. Fifteen of the 17 educators indicated in their interview that they intended to do something or had, in fact, already done something, as a result of their participation in the grade-level conversations. LeeAnn summarized the essence of futuristic planning in grade-level conversations:

It's not always going to be Mary Poppins in my class like it is right now [at the time of the grade-level conversation]. I mean, we're gonna have some issues. It [grade-level conversation] helps us to get our thoughts and plans in order on how we are going to address that in the future.

Gleaning Information. Gleaning information was a moderate subtheme across the grade-level conversations. It was coded when a participant derived details or facts

from another participant. The majority of the codes for this theme were found through follow-up interviews. Gleaning information comprised 7% of the essential information units across the three conversations and 13% of the interview data. Eleven of the 17 educators in this study were observed experiencing a moment of gleaning information by asking a direct question of another participant. Of the educators in this study, 100% indicated in their interview that they had gleaned some piece of information as a result of their participation in the grade-level conversations. Lynn summarized the essence of gleaning information in grade-level conversations:

I think it is sharing of information and collaborating. I think everybody's pretty much figured out it's hard to have original ideas anymore with all the information that's coming at people 24/7, and in their pocket [references iPhone], and everybody can get on the Internet and learn. I think teachers still want to see it, and they want to hear it, and they want to know if it was successful because they don't have time to invest in something that is not gonna be successful.

Perspective Shift. Perspective shift was a minor subtheme. It was coded any time a participant admitted to a change in mind-set. The majority of the codes for this theme were found through the follow-up interviews. Perspective shift comprised 2% of the essential information units across the three conversations and 9% of the interview data. Six of the 17 educators in this study were observed experiencing a perspective shift, which means that they had to verbally indicate that something someone else said made them change their mind about something. Sixteen of the 17 educators in this study indicated in their interview that they had experienced some sort of perspective shift as a

result of their participation in the grade-level conversations. Charlotte summarized the essence of perspective shifting in grade-level conversations:

It's an opportunity to get ideas from other people that you don't talk to on a regular basis and I think also, from my standpoint, it was to get ideas from people who weren't as constricted by district demands as we were. I felt like it opened my eyes up to some possibilities—opened my eyes up to the way things were in other places.

Gauging Progress. Gauging progress was a minor subtheme. It was coded any time a participant stated that some aspect of the conversation helped them compare where they and their TRC team were regarding the implementation of the TRC program, with where other participants were. The majority of the codes for this theme were found through the follow-up interviews. Gauging progress comprised 1% of the essential information units across the three conversations and 6% of the interview data. Three of the 17 educators in this study were observed gauging their own progress, which means that they had to verbally indicate that they were making a comparison. Thirteen of the 17 educators in this study indicated in their interview that they had gauged their progress as a result of their participation in the grade-level conversations. Ruth summarized the essence of gauging progress in grade-level conversations: “It was a reward to me saying, ‘Okay, I think you’ve done it right, I think you’ve done a good job, because other people were doing it too.’”

Derivation of Broad Themes

The most dominant pattern in the data was revealed through constant comparison between the experiences that were observed in the conversation and the descriptions of

participants' thoughts through follow-up interviews. Consistently, a portion of the conversation would be observed and coded as sharing, reflection, validation, problem solving, or frustrated lamentation and, during follow-up interviews, participants would claim that they were silently gleaning information, experiencing a perspective shift, planning for the future, or gauging progress. Consequently, these are also the codes most frequently referenced by the interviewees when asked what they learned from participating in grade-level conversations.

The researcher recognized the pattern during the collection and analysis process and, once all data had been coded and compiled, the pattern was confirmed. Table 6 is a comparison of the total essential information units, or codes that were assigned to conversation observations compared to follow-up interviews. The bold subthemes have a greater percentage of the overall interview codes than the overall codes for the conversations. These subthemes that could not be observed as easily by the researcher because they were concealed in participant's thoughts, and only through the interview process was this learning revealed. Vygotsky (1978) studied children and described speech as two separate and highly related functions, that of "interpersonal" (between people) and "intrapersonal" (within oneself) (p. 27). He described the "internal reconstruction of an external operation as internalization" (p. 56).

Table 6

Comparison of Subtheme Frequency Between Conversations and Interviews Including Frequency and Percent of Respective Totals

Subtheme	Conversation	% of Conversation Coding	Interviews	% of Interview Coding
V	262	36%	85	17%
R	124	17%	98	20%
S	126	17%	70	14%
GI	50	7%	64	13%
FL	75	10%	32	6%
FP	29	4%	43	9%
PeS	15	2%	53	11%
PrS	43	6%	27	5%
GP	3	<1%	30	6%
Total	727		502	

Note: V, R, S, GI, FL, PeS, FP, PrS, and GP are 9 subthemes: validation, reflection, sharing, gleaning information, frustrated lamentation, perspective shift, futuristic planning, problem solving, and gauging progress, respectively. Bold subthemes are intrapersonal and not as easily observed as their interpersonal counterparts that are not bolded.

Interpersonal Functions. For the purpose of the study, the Interpersonal Functions theme provides data from observations of grade-level conversations. It includes the subthemes of *validation, reflection, sharing, frustrated lamentation, and problem solving*. These subthemes comprise the majority of the content, or observable substance contained in the conversation.

Intrapersonal Functions. The Intrapersonal Functions theme includes subthemes that were revealed by participants through follow-up interviews that were not readily apparent through observation alone. Overall, these were the intrinsic (tacit) processes experienced by participants during their interpersonal dialoging. Subthemes in this category included *futuristic planning, gleaning information, perspective shifting and gauging progress*.

It should be noted that, through the constant comparative analysis, the intrapersonal (tacit) subthemes were added into the analysis of the conversations and

there were instances where someone verbalized their thoughts and coding was adjusted to accommodate these findings. This is why there is intrapersonal coding in the conversations and interpersonal coding in the interviews. For example, futuristic planning (categorized as an intrapersonal subtheme) was coded in the conversation as an interpersonal function when someone said, “Oh, I am going to use that next year!” The reverse was also true for interpersonal subthemes. For instance, when one participant was lamenting over frustrations with their technology not working properly, the person across from them may have revealed in the interview that they were experiencing a moment of validation and that “it felt good to know I wasn’t the only one going through that.” The subthemes have been assigned to the broad themes for which they most frequently associate with the exception of reflection. In Table 6 the percentage of reflection codes in the conversation is smaller than the percentage of reflection codes in the interview; however, reflection was frequently observed during the initial conversations and the interviews were not necessary to reveal this code. Thus, reflection was categorized under the broad theme of interpersonal functions although it was a strong intrapersonal function as well.

Learning in Grade-Level Conversations

The previous sections have described the data found for each participant and a summary of the data for each subtheme. Next, the data reported by the teachers regarding how they learn through grade-level conversations and what they perceive as the benefits of statewide conversations verses local collaboration is summarized.

Learning

In order to address the third research question in this study, the researcher asked the participants how grade-level conversations contribute to their professional learning. A summary for each participant was included at the end of his or her profile above. A summary of their learning in relation to the subthemes, with associated exemplars, can be seen in Table 7. The table shows all nine subthemes, with the overall frequency of participants who referenced that subtheme in their responses. The exemplar statements are those that the researcher believed most succinctly demonstrated how the subtheme tied into perceived learning benefits.

The data indicate that 12 of 17 participants claimed that grade-level conversations contribute to their professional learning by providing them the opportunity to glean information, while none of the participants referenced the act of sharing. This is a reversal from the levels of dominance found for these two subthemes in the conversation observations. Indeed, the references to interpersonal functions (S, V, R, PrS, and FL) equaled 37% of the participant responses and the references to intrapersonal functions (GI, PeS, GP, FP) made up 63%. This contrast is an indication of the importance of follow-up interviews and the need to explore the implicit learning that occurs in conversations. Observations alone offer only a partial account of the learning taking place.

Table 7

Summary of Participant Learning in Conversations Including Coded Subthemes, Frequency Counts, and Exemplars

Coded Subtheme	Freq.	Exemplars
GI	12	<ul style="list-style-type: none"> You always come back with new ideas, things to use in the classroom, helpful hints on what has and hasn't worked in their classrooms and strategies for specific students. What she was talking about [Kidblog]—I do that in class every day. I listened to her suggestion, I took it, and I use it.
V	8	<ul style="list-style-type: none"> Hearing from other teachers that teach the same grade level as you is probably one of the best ways to learn because they're in your shoes. It was good to hear that other teachers had the same fears [as me].
PeS	6	<ul style="list-style-type: none"> It's kind of amazing to see exactly how they're [other schools] using their technology in things. They may be using the same things, but in a little different way. Seeing a different perspective of the way you think can kinda help you grow in the way that you think bout things.
GP	6	<ul style="list-style-type: none"> It reinforces that you're headed in the right direction. Other people haven't done it either, so I'm not that far behind.
PrS	4	<ul style="list-style-type: none"> A lot of times I come with specific questions or management things or problems and I was able to say, 'Okay, here was my problem; how did you fix that?' It's nice to be able to bounce ideas off each other.
R	2	<ul style="list-style-type: none"> I reflect daily on how lessons go, but as far as sitting down and looking back, this [grade-level conversation] worked better.
FP	2	<ul style="list-style-type: none"> These conversations get me thinking. Not always like, "Here's a lesson plan." but "Here's an idea of how I used it..." and then I can go from there.
FL	1	<ul style="list-style-type: none"> It's nice to be able to share frustrations.
S	0	--
Total	41	

Note: V, R, S, GI, FL, PeS, FP, PrS, and GP are 9 subthemes: validation, reflection, sharing, gleaning information, frustrated lamentation, perspective shift, futuristic planning, problem solving, and gauging progress, respectively.

Unique Aspects of Interschool Conversations

In order to address the final research question in this study, the researcher asked the participants if the collaboration that took place during the statewide conversations could be recreated at their local level. Participant responses fell into four categories. Four

participants responded that they could be recreated and provided at least one example of how they achieve collaboration at a similar level. Five participants gave responses that indicated that the statewide conversations provide them an alternative outlet for learning because, “there is something about talking with people that you don’t know,” “it’s easier to share with people you don’t know,” “it’s expanding upon what we are doing at the local level,” “it’s good to step away and talk to other teachers, outside your local team,” and “hearing from other people . . . offer[s] alternative methods for instruction.”

Three participants indicated that the grade-level conversations afford them a different perspective because, “I wouldn’t have changed my thoughts if I wouldn’t of talked to people from different schools;” “we are in the same building and it’s nice to hear that other people are having [the same] frustrations;” and “[statewide conversations] broaden your horizons...[offering] more of a broad spectrum of people, personalities, and teaching styles.”

While the previous seven participants indicated that interschool conversation provides them with an alternate outlet for learning or a different perspective to learn from, four teachers indicated that these conversations afford them an audience with similar needs: “I don’t have any other science teachers that I can talk to that use iPods,” “[I am] the only one [locally] feeling the thoughts that I was feeling about my level of technology knowledge,” “it’s good to see people who are teaching the same curriculum” (she is the only sixth-grade teacher in her building), and “It would be difficult [to recreate] because [local teachers] are so comfortable with each other, it’s hard to keep them on task [for that level of sustained collaboration].” There was one participant

whom the researcher inadvertently neglected to ask if she thought that the statewide conversations could be replicated at her local level.

The responses to this question illuminated the learning that interschool grade-level conversations provide learners and highlight how participants learn from the differences and similarities that various schools bring to the table.

Researcher Influence

In the Methods section of this study, the researcher outlined the validity and reliability threat of researcher influence (Maxwell, 2005). Results are summarized below. First, the researcher wanted to ensure that any participants who did not want to be a part of the research had the power to discreetly decline, but still participate in the conversations. Details of the process were highlighted in the Ethical Issues section of Chapter Three and none of the participants declined consent.

The second threat to validity and reliability involved the documentation of any instances where participation in the grade-level conversation or responses to interview questions may have been altered due to the role the researcher held in the program as project manager. During one of the fifth-grade conversations, one teacher began to whisper something to her colleague and it is unclear whether this was done to avoid interrupting her colleagues who were silently writing or to avoid being heard by the camera, but it was noted as a possible loss of data. Another observation during the interviews involved three different participants who frequently would veer away from responding to the direct questions and would begin to reflect or share other, non-related TRC business with the researcher. The researcher made notes of these instances and then redirected participants with additional questions. Finally, there was one instance where

an interviewee hesitated and said that she didn't want to say too much, because she was struggling with some personality conflicts within her local team and, while it did cause some of the responses during her grade-level conversation, she did not want to reveal specific details to the researcher, on camera.

The researcher designed two interview questions to more directly address any intervention threats. First, the participants were asked whether or not the researcher's role as a project manager influenced their responses to interview questions. All 17 of the interviewees gave brief, but convincing responses that they were straightforward and honest in their interview. In fact, they seemed slightly surprised by the question, as though it never occurred to them to respond any way other than honestly. Their responses fell into three categories including (a) no, not in the least, (b) no, I am comfortable with the researcher as a person, and (c) no, I would answer the same for anyone. The researcher inadvertently neglected to ask two of the participants this question. The categories, frequencies, and exemplars of responses can be seen in Table 8.

With regard to the second question surrounding the influence that the cameras had on the April conversation, participant responses again fell into three categories: (a) At first, but then forgot, (b) No, did not care, and (c) Increased engagement. The categories, frequencies, and exemplars of responses can be seen in Table 9.

Table 8

Reactivity Threat: Researcher Role Including Response Categories, Frequencies and Exemplars

Categories:	Freq.	Exemplars
No. Not in the least.	6	<ul style="list-style-type: none"> • No. Not at all. • No, doesn't bother me a bit.
No. I am comfortable with researcher as a person.	5	<ul style="list-style-type: none"> • No, because—well, one, I feel comfortable talking to you, but two, because you're not in a position of being my principal or—you know what I mean? Anything that would affect my job. I don't feel like there would be any reason for me to make anything up or tell you anything else other than what I think. • I don't think so. I think you are very easy to work with.
No. I would answer the same for anyone.	4	<ul style="list-style-type: none"> • No. I would say the same thing if anybody were to ask me. • No, I mean I don't think I would have answered any different if my neighbor was asking the same questions.
Inadvertently Omitted	2	n/a
Total	17	

Table 9

Reactivity Threat: Camera Presence Including Response Categories, Frequencies and Exemplars

Categories:	Freq.	Exemplars:
At first, but then forgot.	3	<ul style="list-style-type: none"> • Oh, at first it made me a little nervous. I think I was fine once we were goin' in the group and you're talkin', then your thoughts are changing to what they're talking about. You forget about them. • At first you're kinda like, "Oh, great, a camera," but, no, It's not a big deal.
No, did not care.	12	<ul style="list-style-type: none"> • No, I didn't really notice them at all. • No. I forgot it was there. • No. I was pretty much who I would've been without the cameras.
Increased engagement.	2	<ul style="list-style-type: none"> • I paid attention! [Laughter] Well in all honesty, if you know a video camera is on you, you are going to listen a little more carefully to what they're asking you, don't you think? • No. I probably participated a little bit more than I felt up to (ill) just because I didn't want to seem like a complete bum.
Total	17	

Intrapersonal Results from Observations of Interpersonal Speech

Metaphors were a frequent tool used by the participants in this study to convey their thoughts to the researcher and while analysis of metaphors was not the purpose of this research, it was an interesting observation. Each participant averaged 20 metaphors per 45-minute interview. A small sampling can be seen in Table 10.

Table 10

Sampling of Metaphors Used in Participant Interviews

<ul style="list-style-type: none"> • Overflowing plates • Finding a balance • Same boat • Sink or swim • Weakest link • Riding coattails • In your shoes • Old dog, new tricks • Like Gods to me • To a degree • Laundry list 	<ul style="list-style-type: none"> • Walls to get over • Eye opener • Lighting load • Old school mind • Like a reward • Outlet • Vent • Ongoing battles • It doesn't bottle up • Jump right in • Mary Poppins classroom 	<ul style="list-style-type: none"> • Getting on board • I can't measure up • In limbo • Took it running • Heading in a direction • Pushed every button • Trigger your memory • Threw challenges • Pushing the agenda • Putting it off • It really was a journey
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Lakoff and Johnson (1980) contended that “the essence of a metaphor is understanding and experiencing one kind of thing in terms of another” (p. 5) and that we not only speak in metaphors, we also think with them. Lakoff and Johnson contended that when people engage in interpersonal dialogue, they negotiate meaning by “slowly figuring out what you have in common . . . and how you can communicate unshared experience or create a shared vision.” The educators in this study used multiple metaphors to explain their intrapersonal experiences to the researcher. Lakoff and Johnson would argue that the teachers were negotiating their own self-understanding by using personal metaphors to make sense of their experience in grade-level conversations.

Lakoff and Johnson (1980) also wrote about metaphoric entailments, which link different metaphors together. One metaphoric entailment was observed in the ways that teachers referred to teaching. Many teachers described their thoughts during the grade-level conversations using metaphors associated with weight (finding a balance and lightening each other's loads) and methods of transportation (in the same boat, in your shoes, riding coattails). Both of these metaphors speak to teaching, one as a burden to carry (load, balance) and one as a journey to travel (walking, riding). All of the teachers believed that collaboration with their peers offered them reprieve from the weights that they carry or the isolation that they contend with in their travels. Figure 3 exemplifies the entailment of the two types of teaching metaphors.

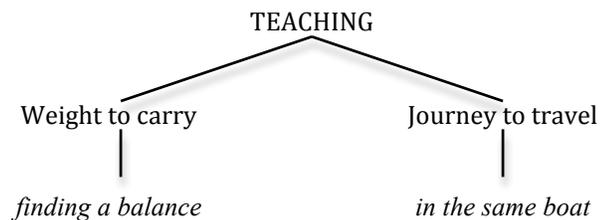


Figure 3. Metaphoric Entailment for Teaching. Some teachers felt as though teaching was a weight to carry and grade-level conversations helped them find a balance, while others described teaching as a journey to travel and grade-level conversation participation made them feel less alone.

As we further explore how conversations can be powerful methods of professional learning, insight can be gained by better understanding the metaphors that educators use to apply meaning to their experiences. If one teacher considers teaching a load to bear, we must facilitate easing that load by shouldering some of their responsibilities from time to time and offering them a respite, possibly in the form of locating resources, co-teaching, or gathering them periodically at a regional or statewide event where they can glean ideas and support from one another through conversation. If

another teacher considers it a journey, more easily traversed with someone alongside them, then we can facilitate their learning through co-planning of lessons, in-class coaching, and of course, conversations with experienced outsiders who are attempting to travel a similar path. Teachers who are undergoing a significant instructional shift and an influx of classroom technology find ways to mentally negotiate and cope with their experiences. It would appear that metaphors may provide insight into the best ways to assist them, effectively differentiating professional learning for the individual.

Lynn, a TRC facilitator provided an illustrative metaphor that not only further supports the need for future research on teacher metaphors but also illuminates the power that grade-level conversations have for her as an instructional coach and the teachers with whom she works:

I sometimes wonder when you're in a situation that maybe not everything's going great, and everybody's overworked and maybe underpaid and if you can get the excitement that's needed and the enthusiasm, and the charge-up, it's kind of like going to church every Sunday. You wait for that charge, you wait for that one thing that's gonna get you through the rest of the week. That outside piece is still really important. They think they're the only teachers that sometimes have it tough. When you can see somebody that has it every bit as tough, it might push you to move on for the next day, and not be quite as sour.

CHAPTER FIVE

DISCUSSION

The purpose of this qualitative study was to conduct a constant comparative analysis of the content of TRC teacher and facilitator interschool grade-level conversations and to determine how these social interactions contribute to participant learning. Data sources included videos from face-to-face conversational sessions and individual, video-stimulated-recall (SR) interviews conducted virtually. Participants included 17 fifth and sixth-grade teachers from five Midwestern school districts who were implementing a large influx of classroom technology and professional learning.

The following research questions guided this study:

- Q1: What content themes emerge during Technology Rich Classroom teacher and facilitator grade-level conversations?
- Q2: How do these teachers and facilitators describe their participation in grade-level conversations?
- Q3a: What do teachers and facilitators report to have learned through their participation in grade-level conversations?
- Q3b: How is this learning different from what they gain from their local TRC team?

Chapter Five consists of the summary of findings, discussion of results, implications for practice, and future research. The limitations of the study are explored, as are suggestions for future research related to using conversation for teacher professional learning.

Summary of Findings

The complex and ever-changing nature of our digital-age society has produced significant changes, not only in the skills and knowledge that our children must acquire to become active citizens in the future, but also in what educators must be able to provide as quality instruction. Twenty-first century jobs demand creativity, problem-solving, and collaborative skills, and teachers are expected to educate students by fostering increased analytical and higher-order thinking abilities (Wei et al., 2009). In order to provide these rich and complex learning experiences, teachers are expected to stay current, not only in the latest curriculum developments, but also in emerging technologies (Meirink et al., 2007). To compound matters, teachers feel an urgent need to cover the curriculum so that students are prepared for standardized tests. The teachers are, therefore, hesitant to take time for their own professional learning, further propagating the isolated nature of teaching (Fullan, 2007; Hindin et al., 2007).

In an effort to meet all of the demands and expectations listed above, districts craft well-intentioned professional learning opportunities that tend to take the form of day-long inservices where teachers must attend some assortment of predetermined presentations or workshops. Typically these sit 'n get sessions are designed to cover a broad array of helpful resources and teaching strategies and are rarely differentiated for the needs of individual teachers. Danielson (2009) argued that even if these “stand and deliver” (p. 4) workshops contain interactive components, teachers are still unlikely to learn anything if they are not given the opportunity to “engage in the difficult work of applying the content to their own situation and context” (p. 4). Levine and Marcus (2007) conceded that these top-down professional development days seem feasible due to

financial and time constraints and, in some cases, can even produce fairly quick results if teachers are mandated to implement their newly acquired content. However, in the long run, they lead to teachers feeling disconnected from their profession and choosing to leave for a more autonomous career.

The results from this study lend support to professionals like Danielson (2009) and Levine & Marcus (2007) by showing that conversations are a powerful alternative to traditional sit and get professional development methods. Conversations also help facilitate a shift from professional development or training, to ongoing professional learning where teachers are able to constantly grow and adapt to the ever-changing needs of their learners (Easton, 2008; Fullan, 2007; Wei et al. 2009). Through interpersonal dialogue, teachers have the opportunity to get and give validation for their experiences, to reflect on their practice, share knowledge, vent frustrations and solve problems. The results of this study also show that, while the teachers are engaged in these interpersonal functions, they are simultaneously engaging in intrapersonal learning by intrinsically gleaning information, planning for the future, shifting their perspectives, and gauging progress.

Discussion of Results

Vygotsky (1978) describes the zone of proximal development as “the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving . . . in collaboration with other capable peers” (p. 86). Grade-level conversations support teacher progression through various zones of proximal development. Participants were in the midst of implementing new teaching methods and an influx of technology tools.

They brought varying levels of individual development, based on their previous experiences in the classroom. The conversations offered them what Vygotsky (1978) termed “interpersonal” (p. 56) dialogue, in the form of validation, sharing, reflection, frustrated lamentation and problem solving, which are internalized as “intrapersonal functions” (p. 56), represented in this study as gleaning information, futuristic planning, perspective shifting and gauging progress. The internalization of external conversation helps propel TRC educators toward additional stages of actual development.

For this current study, the language being spoken during grade-level conversations was the interpersonal dialogue and was analyzed by the researcher through observation. The mental action of the teachers while they were listening to and participating in the conversation was the intrapersonal component and the researcher analyzed these functions by conducting follow-up interviews. By asking participants to explain their thoughts while they were in the midst of their grade-level conversation, the researcher sought to understand the connections being made, or the learning that was occurring as a result of their outward participation (Tillema & Orlando-Barak, 2006). For example, several participants in this study said that while they were focused on someone else lamenting frustrations during the grade-level conversation, they, themselves, were reflecting on similar, troublesome situations. They described the resultant learning as validation, in that they were glad to know that they were not the only ones feeling that way and they felt better having made that realization. Similarly, one teacher may have been sharing a resource that the listener already knew about. Intrinsically, the listener was gauging their progress from the year and the conversation helped them realize that they possessed worthy knowledge.

Vygotsky (1978) also wrote: “What is in the zone of proximal development today will be the actual developmental level tomorrow” (p. 87) and he argued that each learner will progress through the various levels at his or her own pace. The varying degrees and speed through which the participants in grade-level conversations progress through these levels was not the focus of this study. However, the researcher believes that the varying levels of dominance observed within each participant’s subtheme frequency counts are worthy of note (see shading on individual rows, Tables 2-4). It was apparent from these levels of dominance that each participant used the conversations with their colleagues in unique and interrelated ways. For instance, in the second fifth-grade conversation, Lynn evidenced the dominant subtheme of gleaning information and the moderate subtheme of problem solving, whereas Lindsay evidenced the minor subtheme of problem solving and sharing was dominant. Lindsay shared practical resources and strategies that she had success with, while Lynn would frequently join the conversational exchange in order to help other participants understand how they could use what Lindsay was sharing. This pattern can be seen throughout all three conversations and it highlights what Grossman et al. (2001) called “distributed cognition” (p. 974). Grossman et al. (2001), argued that you must have members in professional learning conversations who are willing to bring knowledge to the group, as well as members who can help the group understand how to turn around and use that knowledge. As observed in the dominance patterns, TRC teachers and facilitators rotated the roles of knowledge provider and knowledge synthesizers throughout their participation in grade-level conversations.

The following four sections address the four research questions that guided this study, including the content of conversations, teacher descriptions of participation, what

teachers describe as their learning in conversations, and what teachers claim they learn through grade-level conversations that they do not gain through local team dialogue.

Content of Grade-Level Conversations.

Clark (2001) argued “good conversations require good content” (p. 176) including practical and personal topics that elicit interest and help teachers “make sense of their own experiences” (p. 176). The observable, interpersonal exchanges that took place between the teachers constitute the content of grade-level conversation and answer the first research question in this study. These include the stories that were told, reflections that were verbalized, frustrations that were lamented, problems that were solved, and the validations that were given.

Reflection. Hindin et al. (2007) found that, through collaboration, educators use conversations to stimulate reflection and begin to break down the “isolated nature of teaching” (p. 349). As revealed in the results of this study, teachers took the opportunity to reflect upon their classroom experiences during grade-level conversations. Some of them shared their reflections with other members of the group (interpersonal), while others participated in intrapersonal reflections of their progress in TRC. By providing educators both the time and opportunity to talk during professional learning days, conversations “fuel ongoing reflection” (Craig, 2007, p. 621) and encourage participants to consider their successes and past experiences in the classroom.

Frustrated Lamentation. Related to reflection is the tendency of educators to use grade-level conversations as an outlet for venting negative feelings and experiences. Deglau et al. (2006) stated that teachers are “more willing to take risks and reflect on their failures” (p. 426) in professional communities and Little (2003) postulated that

collaborative teacher learning needs to involve conversation where teachers can share their struggles. All but two educators in this study lamented a frustration or complaint to their colleagues. During the follow-up interviews, several mentioned that it was easier to share these frustrations with people they did not know. Bechtel (2006) argued that good professional learning experiences are those where “teachers can admit deficits without being considered deficient” (p. 378). As one TRC teacher, Charlotte, stated, “ I wanted them to know how frustrated I was . . .” and, as she left the conversation, she said she felt better and could move forward. No one could do anything about her situation, there was no solution to be found, but Charlotte simply wanted someone to hear her failures, understand the deficits in her teaching and in her district, and sympathize with her plight.

Sugar (2005) and Miller (2008) spoke of the importance of empathy in conversations where teachers are attempting to change their practice. TRC educators felt "comfortable and confident enough in the presence of their peers to discuss things they were doing well and more importantly, some of their professional struggles” (Deglau et al., 2006, p. 426). Through their interpersonal lamentations, teachers gathered validation from their peers, internalized that their frustrations were justified, and experienced what Clark (2001) termed an “antidote to isolation” (p. 173), by realizing they were not alone in their struggles.

Sharing. Grossman et al. (2001) argued that professional learning opportunities should provide educators with a forum for publicly sharing what they know. Craig (2007) asserted that the ability to share stories is a vital aspect of teacher knowledge development, both as individuals and within groups. The educators who participated in these grade-level conversations described how they learned through the narratives of their

colleagues, effectively benefiting from the “collective capacity” (Little, 2003, p. 914) of their group. During interviews, educators reported that not only did they glean information from the sharing of the group, but also they successfully transferred several of the shared teaching strategies and resources into their own classrooms, which is a key indicator of learning according to Meirink et al. (2007), and Annett (1969) because behaviors were reportedly modified.

Bogler and Somech (2004) argued that policy makers, principals and school districts should encourage teacher participation in programs (like TRC) that “stress teachers' professional growth and self-efficacy.” If they have more opportunities for growth and achievement (self-efficacy), their status will rise” (p. 287). TRC interschool conversations give teachers a forum for sharing their own knowledge and feeling empowered by their ability to teach their peers.

Problem Solving. In addition to reflection, frustrated lamentation and sharing, findings from this study show that participants use TRC grade-level conversations to problem solve. Current literature supports the notion that conversations can facilitate problem solving between educators (Clark, 2001; Miller, 2008; Servage, 2008). While the educators in this study are experienced, they are dealing with disequilibrium in their teaching, as the majority of them are novice technology users and are being asked to not only become personally proficient with new technology, but they are also being asked to implement it as an integral learning tool with their students. Problems discussed during TRC grade-level conversations included classroom management (time and equipment), specific resources, differentiation, teaching strategies, and technology troubleshooting. These topics are similar to the problems experienced by novice preservice teachers as

they embark on student teaching (Miller, 2008). Just like the students in Miller's study, TRC teachers need a forum where they can "pool their collective knowledge, to rearticulate their problems as necessarily complex, to explore possible solutions, and to connect their problems to broader issues of teaching and learning" (p. 92).

Validation. Similarly, TRC teachers need validation that their successes and failures are justified. Meirink et al. (2007) wrote, "teachers who are experimenting with new teaching methods can feel insecure about these newly acquired methods and, therefore, seek confirmation from their colleagues" (p. 145). All 17 of the participants in this study reported that they gained validation through their participation in grade-level conversations. Some participants received it directly from their colleagues through interpersonal conversation, and some told the researcher they experienced intrapersonal validation, based on the sharing, reflections, problem solving and lamentations of their peers.

Miller (2008) asserted that teacher theories and practices are made public "as a means to increase their effectiveness" (p. 80). Participants indicated that, through grade-level conversations, they became aware that they were not alone in their struggles with TRC program implementation. Dialogue with colleagues gave these participants an opportunity to hear from one another and then to be inspired or, as LeeAnn said, to feel "more confident" as they attempted to try new things in their classrooms. Clark (2001) claimed that professional learning conversation reaffirms the "ideals and commitments" of educators (p. 173). As one TRC teacher, Charlotte, said, "[grade-level conversations] make me feel normal . . . other educators felt the same way that I did."

Teacher Descriptions of Learning

Little (2003) and Levine and Marcus (2007) have said that what teachers learn in collaboration is still a mystery. In order to determine teacher learning in TRC grade-level conversations, the researcher conducted follow-up interviews with participants. Through interviews, the researcher answered the final three research questions in this study, the first of which was to determine how teachers describe their participation in grade-level conversations. The following subthemes constitute teacher descriptions of their intrapersonal (implicit) functions during grade-level conversations and include gleaning information, gauging progress, futuristic planning, and perspective shifting.

Gleaning Information. Grade-level conversations provide TRC educators with "a venue for new learning" (Grossman et al., 2001, p. 994) where they can covertly gather information from other participants who may have been reflecting on experiences or lamenting frustrations, or they can overtly ask a colleague to share more details on specific resources. Stevenson (2004) asserted that collaboration around technology integration topics is influenced by the perceived potential of receiving information specific to educator needs. Stevenson claimed that educator needs tend to focus around curriculum ideas and how-to information. All 17 participants claimed that they gathered new resources, teaching strategies, or ideas for classroom management through their participation in interschool grade-level conversations.

Gauging Progress. Stevenson (2004) found that informal conversations were more valued by teachers who were attempting to integrate new technologies than organized professional development. One way that TRC educators use semi-formal grade-level conversations is to gauge their progress with the implementation and

fulfillment of program expectations. Despite the fact that TRC is adjusted to meet the needs of each of the educators involved (and it is certainly not intended to be competitive in nature) this study shows that educators want to compare their own progress to that of the other participants to ensure that they are where they should be. Annett (1969) described “feedback loops” (p. 168) and the importance of providing verbal “reinforcements” (p. 105) in learning. He explored extrinsic and intrinsic knowledge of results (awareness of progress) and argued that people need a "performance standard to aim for and information necessary for corrective action" (p. 168) and that "training devices should be used primarily to draw the trainee's attention to intrinsic knowledge of results” (p. 168). Conversations provide teachers with a practical standard of achievement. They can hear what other educators, in their grade-level and content area, are experiencing; they can gauge their progress against it; and they can begin to envision how they will achieve the standards set by their peers.

Futuristic Planning. As TRC teachers envision their achievement, they also plan for the future. Swan (2002) asserted that integrating technology is difficult. It is ever-changing, as are the methods for integration and instruction. Futuristic planning in TRC grade-level conversations primarily takes the form of intrapersonal strategizing, where teachers listen to the thoughts and ideas from their colleagues and consider how they will return to the classroom and implement similarly. Tillema and Orland-Barak (2006) referred to the implicit processing that takes place in teachers through conversation that causes them to “elicit commitment” (p. 602) toward a future action and that the teachers in their study claimed this was a difficult process. TRC teachers were not asked directly about their ability to listen to the ideas of their peers and transpose them into their own

planning schemes, but many of them revealed that it was an implicit function of their participation. This idea of planning for the future is not well explored in the literature, but it is an intriguing development from this research.

Shift Perspectives. The results of this study support the idea that grade-level conversations help to shift the perspectives of participants, effectively transforming their knowledge beliefs (Prestridge, 2009; Tillema & Orland-Barak, 2006). All of the participants in this study recounted examples of how their “eyes were opened,” “able to see,” or they had a realization, or were surprised to discover something about themselves or about other participants in TRC, which, in turn, helped them have a clearer perspective of their own professional learning. Each participant described at least one moment where the grade-level conversation met them in their zone of proximal development, helped them to progress through the necessary developmental stages, with the help of mentors and peers, so that they could internalize learning through language acquisition (Vygotsky, 1978). Grade-level conversations help TRC teachers see the world through the eyes of other TRC educators who teach similar content and grade-levels. Several participants told the researcher that these realizations rejuvenated them, and helped them return to their local school with a more positive outlook on their own situations.

Learning in Interschool Conversations

Meirink et al. (2007) defined teacher learning as an “active process in which teachers undertake learning activities that lead to a shift in their cognition and/or behavior” (p. 147). In order to determine the cognitive shifts experienced by TRC educators as a result of their involvement in grade-level conversations, the researcher asked TRC educators what they perceived to have learned from their participation.

Participants revealed that they learned new ideas, resources, and strategies (gleaning information); that other people were experiencing similar successes and failures (validation); that there were alternative methods for implementation and coping with program expectations (perspective shifting); that they and/or their local teams were, or were not, “keeping pace” with other TRC schools (gauging progress); and that there were solutions for the problems that they were facing with implementation (problem solving).

Little (2003) explored “how classroom teaching practice comes to be known, shared and developed among teachers through their out-of-classroom interactions” (p. 913). Her study was conducted with three formal PLC groups, while TRC grade-level conversations are semi-formal in nature, because they meet less frequently and the discussions are not as in-depth due to the timeframe and relationships between TRC teachers. Despite the differences in setting, TRC teachers consider their participation in grade-level conversation to be valuable and rich in professional learning. As Deglau et al. (2006) reported in a similar study, educators in conversations rely on the expertise of their colleagues to gain new knowledge. More empirical research is needed on the types of out-of-classroom interactions that can be created by gathering members from multiple PLCs and encouraging them to learn from and with one another.

Unique Learning in Interschool Conversations

Craig (2007) defined a knowledge community as a teacher-learning group that enables “intra and interschool dialogue” (p. 622). The TRC grade-level conversations in this study comprised five different school districts from across the state. Of particular interest to the researcher was how the learning in these interschool conversations is different from the conversations that TRC teachers have with their local PLCs. In order

to answer this question, the researcher asked the participants if they thought that the collaboration and learning that took place during the statewide interschool grade-level conversations could be recreated at their local team level. Of the interviewees, 76% ($n = 13$) claimed that the interschool conversations provided learning that they could not obtain from their local team and each referenced the various differences and similarities that their counterparts brought to the table.

Much of the research on professional learning communities speaks to the importance of developing a strong, collaborative culture that meets on a regular basis where teachers can support one another (DuFour, 2007). Typically, these communities are based on their commonalities in curriculum, demographics, or district demands (Craig, 2007; Little, 2003). This study shows that the differences and unfamiliarity between participants is a key to what sets interschool conversations apart from other teacher learning communities. Two of the educators said that it was easier to learn with people they did not know, and three said that stepping outside of their district was a key ingredient for learning.

This finding is supported by Granovetter's (1983) Social Network Theory regarding the need for high- and low-density social networks. The strong and weak ties that TRC teachers have to the teachers at their local schools and the teachers in TRC grade-level conversations, respectively, are emerging findings from this research. Granovetter (1983) claimed "weak ties provide people with access to information and resources beyond those available in their own social circle" (p. 209). Through follow-up interviews, TRC educators suggested that teachers need an opportunity to form weak ties with networks outside of their local schools. They want new ideas, perspectives and

solutions that they are unable to find locally. The purpose of this research did not include investigation of weak ties and the contributions that teachers make to their local school networks; however, these findings suggest that TRC teachers could act as bridges of new information and further contribute to the professional learning of their dense local network by virtue of their participation in TRC grade-level conversations.

The majority of the TRC participants indicated that they needed conversations with both their local network and the grade-level network at TRC statewide days. However, four of the 17 interviewees responded that they were already experiencing the same level of communication and collaboration locally and that the statewide grade-level conversations did not provide them with learning that they could not otherwise obtain. Of those four, three of them (Sommer, Lijah and Julie) were from the same school and were in two separate grade-level conversations in April. This is an example of how the local school culture alters the interschool experience and, while interschool conversations cannot replace the learning that takes place in PLCs, it can be a powerful complement. Burt (2005) designed a model around Granovetter's brokerage and closure theory, which, he argued, explains how social capital varies from person to person, network to network. His model is a four box matrix, with brokerage along the x axis and closure across the y. He posited that every social network falls into one of these boxes. The least productive is a low brokerage, low closure network where the group is divisive and maintains homogeneous external contacts. The most productive network has high brokerage and high closure, where it functions cohesively internally and it has diverse connections to the outside world. The researcher hypothesizes that the state of TRC teacher local schools bears heavily on the experiences that educators have in TRC grade-level conversations.

Further research needs to be done to tease out specific implications of this particular finding.

Summary

In summary, the results of this study revealed several aspects of grade-level conversations that TRC participants reported to be beneficial to their learning and success with program implementation. In response to the four research questions that guided this study, (a) teachers want to have the opportunity to reflect upon, share about, problem solve, gain validation and lament over their experiences; (b) teachers need a forum where they can glean information, gauge their progress, plan for the future, and shift their perspectives; (c) despite the semi-formal nature of the teacher learning groups explored in this study, teachers claim that grade-level conversations at the statewide level afford rich professional learning; and (d) the majority of teachers claim that the statewide conversations afford learning that they could not otherwise obtain from their local school network.

Findings also highlight the role of grade-level conversations as a low-density social network and the interplay, or weak ties that these conversations have with TRC educators and their high-density local networks. In addition, the various levels of subtheme dominance show how teachers share the roles of knowledge provider and synthesizer in grade level conversations. Finally, subtheme dominance levels combined with the metaphors teachers used to describe their participation in conversation demonstrated the different ways that teachers experience conversation as a learning tool.

Implications for Practice

Fullan (2007) argued that simply giving teachers new ideas, skills and competencies is a “deeply flawed” (p. 35) method of professional learning. Elmore (2002) contends that in order to change the current sit ‘n get model of professional development, a “knowledge gap” must be filled providing the field with “more explicit guidance about how to bring these practices into the mainstream of school life” (Elmore, 2002, p. 11). Results from this study help fill that knowledge gap and assist designers of professional learning by encouraging them to tap into the collective capacity of any assembled group of educators through interschool conversations. No matter what the intended goal for assembly is, whether it be to learn classroom management strategies, the mail client, or adaptive technology tools, all educators bring some level of experience, frustration, and knowledge that could serve as validation, new information, a change in perspective, or a guide post, informing them, or their peers, of their teaching practice. If the potential collective capacity of a gathered group of educators is ignored, and a content expert stands at the front of the room and spouts the merits of their own, singular knowledge, without giving the participants a chance to digest, critique, or brainstorm their own implementation experiences, then opportunity is lost and a disservice is performed because what could have been learned, experienced, or gained is wasted.

Clark (2001) argued that conversations serve as a low-cost, sustainable, satisfying, and potentially transformative form of professional development" (p. 172). The findings of this study show that educators use these conversations to tap into the collective knowledge of TRC participants in order to learn and grow as they implement new teaching methods and a large number of classroom technologies. Future

professional learning in TRC and other large-scale implementation initiatives need to actively foster interschool conversation and these nine aspects of teacher learning. Conference planners, college professors, adult learning experts, and the like, need to build interschool and interdistrict conversations into agendas. Opportunities for interaction should not simply encourage participants to chat about what was recently delivered to them, although this is an important conversation to have. These interschool conversations should be organized by content and/or grade-level. Instead of assuming what educators need to talk about, conversation facilitators need to provide a loose structure of topic ideas (i.e., successes, challenges, needs) and allow participants to initiate specific, practical, and relevant topics of their own choosing, providing direction when necessary.

Finally, grade-level conversations should be considered a fruitful and even necessary complement to local Professional Learning Communities. Servage (2008) encourages PLCs to foster an ongoing collaborative culture where the intimate knowledge of peer pedagogical practice, student demographics, and district dynamics help encourage indepth conversation. Findings from this study should support professional development designers who are interested in providing what Burt (2005) calls “diverse external contacts” (p. 139) where the differences and unfamiliarity of participants are key to learning new knowledge.

Technology Use

Throughout this study, the use of various technologies has innovative implications for qualitative research. Conducting qualitative interviews via video conferencing using Adobe Connect and SKYPE served to break down the barriers of physical space and

saved the researcher time (in travel, equipment set-up, video conversions, etc), making this qualitative research more feasible. The researcher was able to observe participants' facial expressions and body language throughout the interviews. Based on participant feedback, the technology did not alter the dynamics or results of the interviews. Both video conferencing platforms permitted desktop sharing, which allowed the researcher to show educators small clips of themselves participating in the original grade-level conversations. By offering the teachers video clips to help stimulate their cognitive recall, the researcher provided a common observation and helped avoid any memory loss that may have resulted had transcriptions alone been relied upon. Simultaneously viewing video clips, while watching participants observe themselves, gave the researcher further insight into their emotions (i.e., bashfulness, uncertainties and enjoyment) at the time of the actual conversation.

Future Research

This study did not specifically address the transfer of learning to practice. Due to the nature of summer break and hectic teacher schedules, the majority of the follow-up interviews occurred three to seven months after the grade-level conversation, and many teachers self-reported that the skills, resources, and ideas that they gleaned from the conversations were implemented successfully into their classrooms. Future studies should analyze how well learning in conversations transfers to change in teaching practice.

A separate, yet related, study could be developed where a group of teachers has a conversation, such as the ones in this study, and the interpersonal functions (content and teacher dialogue) is derived and reformatted into a sit n' get presentation by one

individual. Follow-up interviews and classroom observations of both sets of teachers could be conducted to see how the intrapersonal functions and changes in classroom behavior compare. There would be limitations to this study, namely, the content for the presentation format would have an unfair advantage, since it was created by the teachers in the grade-level conversation, but it would be interesting to see if (a) there was a difference in intrapersonal functions, (b) what were the differences, (c) how did they alter the experience for each participant, and (d) did more teachers change their behavior based on first or second hand information?

These findings also highlight the unique and interwoven experiences of the facilitators and the teachers who participated in these conversations. For instance, facilitators do more problem solving and helping to shift the perspectives of teachers, while teachers do more reflection and sharing, although both populations experience all nine themes. The implications and influences that these mentors and mentees have on these conversations need to be explored further.

Granovetter (1983) and Burt (2005) proposed that organizations should foster the development of weak ties between low- and high-density social networks. Findings from this study suggest the importance of fostering the development of weak ties with outside organizations in order to boost individual teaching practice. Additional areas for inquiry entail another round of interviews, inquiring about the factors that influenced one participant's experience of grade-level conversations over another, and how local school networks influenced the overall grade-level conversation of which they were a part. There were multiple instances where participants from the same TRC school had similar patterns of subtheme dominance (i.e., more frustrated lamentation than reflection) and

their presence in their particular conversation influenced the topics that were discussed. Further inquiry could produce strategies to help control or support these influences. Taking this line of research even further, it would be interesting to investigate how TRC teachers broker information from the grade-level conversations and transfer it back to their own local networks. In other words, how are the strong ties that TRC have with their closed local school networks influenced by the weak ties that they form with other TRC educators through grade-level conversations?

In addition to previous experiences that participants brought to these grade-level conversations, diversity in gender, ethnicity, and school setting (urban vs. rural) was limited. By coincidence, the majority of schools funded for this particular phase of TRC were rural and the teachers from those schools were Caucasian females, with the exception of one Hispanic female and one Caucasian male. The influence of greater diversity would be an interesting line of inquiry.

As a follow-up to this study, participant teachers should be asked if they consider grade-level conversations a viable form of professional learning. The researcher asked them what they learned and how they learned through their participation in grade-level conversations, but did not directly inquire about their perception of this strategy as a method for learning.

Finally, longitudinal studies on attrition and the empowerment of teachers to leadership roles should be conducted 2-3 years after participation in these conversations to determine how teachers believe their involvement in an external social network, and specifically their engagement in conversations, influenced their decision to pursue leadership positions or compelled them to remain in the field of education.

This research showed that groups of teachers, from different local school districts who share common instructional goals and program implementation demands, can gather in semi-formal grade-level conversations and exchange practical interpersonal dialogue, while experiencing valuable intrapersonal learning. Fostering similar forms of teacher collaboration can be a feasible and productive method of conducting professional learning in the field of education.

References

- Annett, J. (1969). *Feedback and human behaviour; the effects of knowledge of results, incentives, and reinforcement on learning and performance.*. Baltimore: Penguin Books.
- Bechtel, P. A., & O'Sullivan, M. (2006). Effective Professional Development--What We Now Know Calls for Professional Development for Teachers. *Journal of Teaching in Physical Education*, 25(4), 363-378.
- Bogler, R., & Somech, A. (2004). Influence of teacher empowerment on teachers' organizational commitment, professional commitment and organizational citizenship behavior in schools. *Teaching & Teacher Education: An International Journal of Research and Studies*, 20(3), 277-289.
- Brott, P. E. M., Jane E. (1999). Development of Professional School Counselor Identity: A Grounded Theory. *Professional School Counseling*, 2(5), 339-348.
- Burt, R. (2005). *Brokerage and Closure: An Introduction to Social Capital*. New York: Oxford University Press.
- Clark, C. (2001). *Talking Shop: Authentic Conversation and Teacher Learning*. New York, NY: Teachers College Press.
- Craig, C. J. (2004). Shifting boundaries on the professional knowledge landscape: When teacher communications become less safe. *Curriculum Inquiry*, 34(4), 395-424.
- Craig, C. J. (2007). Illuminating qualities of knowledge communities in a portfolio-making context. *Teachers and Teaching: Theory and Practice*, 13(6), 617-636.

- Darling-Hammond, L., Wei, R. C., Andree, A., Richardson, N., & Orphanos, S. (2009). State of the profession: Study measures status of professional development. *Journal of Staff Development, 30*(2), 42-44.
- Danielson, C. (2009). *Talk About Teaching! Leading Professional Conversations*. Thousand Oaks, CA: Corwin Press.
- Deglau, D., Ward, P., O'Sullivan, M., & Bush, K. (2006). Professional Dialogue as Professional Development. *Journal of Teaching in Physical Education, 25*(4), 413-427.
- Doppelt, Y., Schunn, C. D., Silk, E. M., Mehalik, M. M., Reynolds, B., & Ward, E. (2009). Evaluating the impact of a facilitated learning community approach to professional development on teacher practice and student achievement. *Research in Science & Technological Education, 27*(3), 339-354.
- DuFour, R., DuFour, R., Eaker, R., & Many, T. (2006). *Learning by Doing: A Handbook for Professional Learning Communities at Work*. Bloomington, IN: Solution Tree.
- DuFour, R. (2007). Professional learning communities: A bandwagon, an idea worth considering, or our best hope for high levels of learning? *Middle School Journal, 39*(1), 4-8.
- Easton, L. B. (2008). From professional development to professional learning. *Phi Delta Kappan, 89*(10), 755-759.
- Elmore, R. F. (2002). *Bridging the gap between standards and achievement: The imperative for professional development in education*. Washington, DC: Albert Shanker Institute.

- Erlanson, D., Harris, E., Skipper, B., Allen, S. (1993). *Doing naturalistic inquiry: a guide to methods*. Newbury Park, Calif.: Sage.
- Feiman-Nemser, S. (2001). From Preparation to Practice: Designing a Continuum To Strengthen and Sustain Teaching. *Teachers College Record*, 103(6), 1013-1055.
- Fullan, M. (2007). Change the terms for teacher learning. *Journal of Staff Development*, 28(3), 35-36.
- Glaser, B., & Strauss, A. L. (1967). *The discovery of grounded theory: Strategies for qualitative research*. New York: Aldine.
- Granovetter, M. (1983). The Strength of Weak Ties: A Network Theory Revisited. *Sociological Theory*, 1, 201-233.
- Grossman, P., Wineburg, S., & Woolworth, S. (2001). Toward a theory of teacher community. *Teachers College Record*, 103(6), 942-1012.
- Harris, J., Mishra, P., & Koehler, M. (2009). Teachers' technological pedagogical content knowledge and learning activity types: Curriculum-based technology integration reframed. *Journal of Research on Technology in Education*, 41(4), 393-416
- Hindin, A., Morocco, C. C., Mott, E. A., & Aguilar, C. M. (2007). More than just a group: Teacher collaboration and learning in the workplace. *Teachers and Teaching: Theory and Practice*, 13(4), 349-376.
- Lakoff, G., & Johnson, M. (1980). *Metaphors we live by*. Chicago: University of Chicago Press.
- Lave, J., & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation*. New York: Cambridge University Press.
- Lave, J., & Wenger, E. (1991). *Situated learning: legitimate peripheral participation*. Cambridge [England: Cambridge University Press.

- Levine, T. H., & Marcus, A. S. (2007). Closing the achievement gap through teacher collaboration: Facilitating multiple trajectories of teacher learning. *Journal of Advanced Academics, 19*(1), 116-138.
- Levine, T. H., & Marcus, A. S. (2010). How the structure and focus of teachers' collaborative activities facilitate and constrain teacher learning. *Teaching and Teacher Education: An International Journal of Research and Studies, 26*(3), 389-398.
- Lincoln, Y. S. (1985). *Organizational theory and inquiry: the paradigm revolution*. Beverly Hills: Sage Publications.
- Little, J. W. (2003). Inside teacher community: Representations of classroom practice. *Teachers College Record, 105*(6), 913-945.
- Locke, L., F. (2007). *Proposals That Work* (5th ed.). Thousand Oaks, CA: Sage Publications, Inc.
- Lyle, J. (2003). Stimulated recall: A report on its use in naturalistic research. *British Educational Research Journal, 29*(6), 861-878.
- Marques, J. F. M., C (2005). *The Application of Interrater Reliability as a Solidification Instrument in a Phenomenological Study, 10*(3), 439-462.
- Maxwell, J. A. (2005). *Qualitative research design: An interactive approach* (Vol. 42). Thousand Oaks, CA: Sage Publications.
- Meirink, J. A., Meijer, P. C., & Verloop, N. (2007). A Closer Look at Teachers' Individual Learning in Collaborative Settings. *Teachers and Teaching: Theory and Practice, 13*(2), 145-164.

- Merriam, S. B. (2002). *Qualitative research in practice: Examples for discussion and analysis*. San Francisco, CA: Jossey-Bass.
- Miller, M. (2008). Problem-based conversations: Using preservice teachers' problems as a mechanism for their professional development. *Teacher Education Quarterly*, 35(4), 77-98.
- Nelson, T., & Slavit, D. (2008). Supported teacher collaborative inquiry. *Teacher Education Quarterly*, 35(1), 99-116.
- Palak, D., & Walls, R. T. (2009). Teachers' beliefs and technology practices: A mixed-methods approach. *Journal of Research on Technology in Education*, 41(4), 417-441.
- Park, S. H., & Ertmer, P. A. (2008). Examining barriers in technology-enhanced problem-based learning: Using a performance support systems approach. *British Journal of Educational Technology*, 39(4), 631-643.
- Prestridge, S. (2009). Teachers' talk in professional development activity that supports change in their ict pedagogical beliefs and practices. *Teacher Development*, 13(1), 43-55.
- Rothaupt, J. W., & Morgan, M. M. (2007). Counselors' and Counselor Educators' Practice of Mindfulness: A Qualitative Inquiry. *Counseling and Values*, 52(1), 40.
- Servage, L. (2008). Critical and transformative practices in professional learning communities. *Teacher Education Quarterly*, 35(1), 63-77.
- Stevenson, H. J. (2004). Teachers' informal collaboration regarding technology. *Journal of Research on Technology in Education*, 37(2), 129-144.

- Sugar, W. (2005). Instructional technologist as a coach: Impact of a situated professional development program on teachers' technology use. *Journal of Technology and Teacher Education, 13*(4), 547-571.
- Swan, K., Holmes, A., Vargas, J. D., Jennings, S., Meier, E., & Rubenfeld, L. (2002). Situated Professional Development and Technology Integration: The Capital Area Technology and Inquiry in Education (CATIE) Mentoring Program. *Journal of Technology and Teacher Education, 10*(2), 169-190.
- Tillema, H., & Orland-Barak, L. (2006). Constructing knowledge in professional conversations: The role of beliefs on knowledge and knowing. *Learning and Instruction, 16*(6), 592-608.
- TRC Sites across Kansas - Technology Rich Classroom Program. (2011). *Technology Rich Classroom Program - Preparing Today's Students for Tomorrow's World*. Retrieved February 25, 2012, from <http://www.kansastrc.org/page/trc-sites-across-kansas>
- United States Department of Education (USDOE). (2009). *ARRA Implementation: Department of Education, The Economic Recovery Act of 2009*. Retrieved from <http://www.ed.gov/policy/gen/leg/recovery/implement.html>
- Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Cambridge, MA: Harvard University Press.
- Walsh, R. A. (1996). The Problem of unconsciousness in qualitative research. *British Journal of Guidance and Counseling, 24*(3), 377-384.

Wei, R. C., Darling-Hammond, L., Andree, A., Richardson, N., & Orphanos, S. (2009).

Professional learning in the learning profession: A status report on teacher

development in the United States and abroad. Dallas, TX: National Staff

Development Council. Retrieved from

www.nsd.org/news/NSDCstudytechnicalreport2009.pdf

Appendix

Conversation Instructions & Tips for Facilitating Effective Discussion

This sharing block will last 45-minutes (1:30-2:15)

1. Please begin with the #1 envelope.
2. Hand one of the color-coded notecards to each member of your group.
3. Please read the discussion question on the front of the #1 envelope.
4. Give your participants about 3-5 minutes to write their thoughts. (these can be anonymous)
5. Begin the conversation by rereading the question and encouraging people to respond out loud. **Reference the Tips for Facilitating Effective Discussion below if you need to do any redirection!
6. As the conversation winds down, collect the notecards, put them back in the #1 envelope and move on to envelope #2
7. Repeat steps 1-6 for questions #2 and #3.
8. If you finish all three questions with time remaining, engage your teachers in conversation around powerful resources, good lesson plans, or even what their summer plans are.
9. At 2:15, please ask your group to make their way to the snack tables in the Main Ballroom and prepare for our Awards Ceremony!

Thank you for your assistance!

Tips for Facilitating Effective Discussion:

- **Discussion Domination:** Keep participants from dominating the discussion by directing questions to others (e.g., “Jackie, what do you think about this topic?” or “Bob, what has been your experience?”).
- **Rambling Discussions:** Revisit the discussion objective(s) and (if needed) kindly ask how the person’s comments relate to the topic at hand.
- **Off Topic Discussions:** Indicate that the person’s comment is interesting and that there may be others in the group who would like to discuss it on a break. Then return to the topic at hand.
- **Moaning and Groaning:** Empathize with the person and encourage them to work with their facilitator, administrator or TRC leadership team (Melinda, Amber, Jana or Lindsay) to generate a solution.
- **Side Conversations:** Pause without looking directly at those talking. If the conversation continues, ask if they have a question or issue to share with the group.

Source: The “Distracting Behavior” tips were adapted from an American Heart Association publication: *Tips for Facilitating Effective Discussion*.

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