ABSTRACT

HENDERSON, MEREDITH LOUISE. What a Tangled Web: Exploring the Role of Social Networks in the Implementation of a Global Education Initiative. (Under the direction of Dr. Julia Storberg-Walker).

The end of the Cold War era brought with it an increased interest in internationalizing K-12 education (Dolby & Rahman, 2008). However, many of today’s educators were not themselves the recipient of a global education. Nor was it likely to be a part of their teacher education curriculum. How, then, do educators, and particularly those leading the charge, learn about and implement global education in their schools and classrooms? Research suggests that an important element supporting the work of principals and teachers is their social networks. Consequently, the purpose of this study was to gain a better understanding of the role of social networks within a school district’s global education initiative. This qualitative study explored the social network experiences of school-building level educators who self-identified as emerging global leaders within the context of a school district implementing a global education initiative. The study design and methods provided an opportunity to understand how the relationships between professional colleagues shaped or informed the learning and action of study participants as they implemented global education initiatives.

The study aimed to answer the following question: How do school level educators who self-identify as emerging global leaders describe and leverage their professional social networks to accomplish global education goals? Unsurprisingly, the findings suggest that professional social networks positively impacted study participants’ abilities to implement global education, and that the participants were aware of and valued the quality in their networks. Most importantly, however, the study generated critical information about how
study participants used, created, managed, and understood their social networks to implement global education initiatives. These findings emerged from a unique qualitative analysis of participant social networks, and include the specific patterns with the networks of global educators as well as the specific uses of networks, including creating new knowledge and implementing global education. The study also identified the critical role of leadership to enable educators to create and maintain the social networks that can deliver the global education needed for 21st century students. The implications and conclusions of this study have the potential to contribute to enhancing the delivery, administration, and policy levels of global education initiatives.
What a Tangled Wed: Exploring the Role of Social Networks in the Implementation of a Global Education Initiative

by
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DEDICATION

This dissertation is dedicated to the memory of Dr. Colleen Aalsburg Wiessner who started me on this path and was a wonderful friend, mentor and colleague. She left us too soon and continues to be missed to this day.
BIOGRAPHY

Meredith L. Henderson is the Senior Director of Programs at the Center for International Understanding in North Carolina. She holds a B. A. degree in French Studies from Mount Holyoke College and a Master’s in International Development/Sociology from North Carolina State University. Meredith has studied and worked in France and Canada and joined the staff of the Center for International Understanding in early 1999. As the Senior Director of Programs, Meredith oversees the Center’s roster of programs and directly manages select programs. She has led programs for educators, policy and community leaders to Mexico, The Netherlands, Sweden, New Zealand, India, Ireland, China, Denmark, Finland, Singapore and Germany. In 2004, she collaborated with East Carolina University to present a conference on best practices in educating Latino/Hispanic students in North Carolina. The conference drew on the experiences and findings of educators who participated in the Center’s Latino Initiative for Educator programs between 1998-2003. In 2009, Meredith co-presented at the International Transformative Learning Conference on the use of dialogue groups to enhance learning. Meredith’s work at the Center was a significant motivation for the work of this study.

Meredith lives with her husband in Wake Forest, North Carolina, with their two cats. She loves to read and to travel and has a personal goal of one day joining the Travelers’ Century Club – a club for those who have visited 100 or more of the world’s countries and territories.
ACKNOWLEDGMENTS

I would like to acknowledge and thank the wonderful teachers and administrators who took time from their busy schedules to meet with me to talk about their efforts to implement global education in their schools and classrooms. I am forever grateful that they chose to share with me their joys, enthusiasm, and frustrations and I hope that this effort is worthy of their trust.

I would also like to acknowledge and thank my chair, Dr. Julia Storberg-Walker, for her constant encouragement and support through lengthy sessions at the red table. I would not have been able to get through this process without your guidance.

I would also like to thank the other members of my committee, Dr. Tuere Bowles, Dr. Hiller Spires, and Dr. Matt Militello for your time and insightful comments. I truly believe that they have helped me to improve as a scholar and a practitioner.

Last, but certainly not least, I have to thank my family who lived through this journey with me, and especially my husband, Darren Horton, without whom I would not have made it to the end. Whenever I needed encouragement, you were there to tell me “You can do it!” but I would not have been able to without your love and support.
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PROLOGUE

One of the challenges currently facing the State of North Carolina is preparing K-12 students to be globally competent. In the realm of K-12 education, terms like “21st Century skills” and “globally competitive students” are tossed about regularly but little attention is paid to defining these terms and using them consistently. A quick glance through the rhetoric, such as Governor Perdue’s Career and College: Ready, Set, Go initiative; the University of North Carolina’s UNC Tomorrow report; or even the State Board of Education’s guiding mission, suggests that to be globally competitive, today’s students need high-level math and science skills. Others – from national organizations such as Asia Society to statewide organizations such as the Center for International Understanding or VIF International Education to individual college campuses, such as Elon University, where every student is required to have a study abroad experience – argue that global readiness requires more.

At the Center for International Understanding, we find that today’s graduates need competencies that go beyond science, technology, engineering and math. Students need to know about North Carolina’s ties and relationships with the rest of the world and how they affect the state’s economy and its very identity. Whatever field of work they choose – whether they are in the boardroom or behind a service counter, whether they are leaving high school for college, for the military, or for the workforce – today’s students will need to be globally competent. In 2004, the Center for International Understanding headed a coalition of over 150 North Carolina education, business, and community leaders to develop a list of
global competencies for future-ready students. The coalition found that for graduates to be successful, they must be:

- culturally aware
- aware of world events and global dynamics
- effective communicators across cultures
- collaborative members of multicultural teams

For example, William Amelio, then President and CEO of Lenovo Group, told North Carolina business and education leaders that in order for his company to be competitive, he needed to hire globally-savvy graduates. Speaking at the 2007 Emerging Issues Forum at NC State University, he said Lenovo managers in Research Triangle Park ask these questions of potential hires:

- Can you work with another culture?
- Can you speak a language other than English?

The Center for International Understanding’s goal is to have more North Carolina graduates answer, “yes” to both of these questions because they have been recipients of a global education.

What constitutes a global education? In 2004-2005, the Center led an effort by more than 100 North Carolinians to create a state plan to help prepare students to thrive in the global marketplace. Based on that work (North Carolina in the World: A Plan to Increase Student Knowledge and Skills About the World, 2005), the Center found that the ingredients that result in a global education for K-12 students include:
• Professional development for teachers so that they feel confident and competent to teach about the world
• Student engagement with other cultures
• Connections between K-12 teachers and students with university resources
• World language programs that lead to fluency and
• Infusing global content throughout the curriculum

This study supports and undergirds the Center’s work to develop global competencies in K-12 administrators, teachers and students. The above activities traditionally have not been a part of the core curriculum for K-12 education and, likewise, have not traditionally been a part of pre-service teacher education. Thus many North Carolina administrators, teachers and teacher educators are themselves at a loss for ways to describe, develop and implement global education. The Center works with North Carolina teachers, schools and school districts to link principals and teachers to a vast array of existing international resources. In order to do so, the Center taps North Carolina’s higher education, public and private sources to help build global competence among students.

The Center offers a number of programs designed to support teachers and administrators directly as well as programs designed to help build the case for global education in North Carolina. Several of the Center’s programs are described briefly in the table below.
Table 1. *Center for International Understanding Education Programs*

<table>
<thead>
<tr>
<th>Program Name</th>
<th>Program Description/Purpose</th>
<th>Audience</th>
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<tr>
<td>Global Teachers Programs</td>
<td>Professional development programs designed to help K-12 educators gain the knowledge and skills to bring global content into the classroom. Programs include an orientation program in NC; a short-term immersion program in the country of study; and follow-up activities designed to synthesize lessons learned and incorporate them into the classroom.</td>
<td>K-12 teachers of all subjects and all grade levels.</td>
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<td>School Partnerships</td>
<td>The Center links schools in NC with schools in other countries. Principals and partnership coordinators work directly to establish the parameters of the partnership. Students are linked directly through virtual and/or actual exchanges and work on projects together.</td>
<td>Primarily directed to middle and high schools in NC although some elementary schools are also involved.</td>
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<tr>
<td>Confucius Classrooms</td>
<td>The Center, in collaboration with College Board and Hanban (a Chinese NGO that promotes greater understanding of Chinese language and culture outside of China) to implement a Chinese language and partnership program in schools.</td>
<td>School districts in North Carolina.</td>
</tr>
<tr>
<td>Cultural Correspondents</td>
<td>UNC system study abroad students are linked with classroom teachers in North Carolina to deliver country-specific content that incorporates the standard course of study.</td>
<td>UNC system students studying abroad Elementary school teachers and their students in North Carolina.</td>
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<tr>
<td>Learning from Series</td>
<td>Study programs designed to explore best practices in education in other countries. Participants may make recommendations for NC policy based on their findings.</td>
<td>North Carolina education policy leaders.</td>
</tr>
<tr>
<td>Global Leaders Programs</td>
<td>Study programs designed to prepare NC leaders to take advantage of global opportunities.</td>
<td>North Carolina state and community level policy leaders</td>
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Through these programs, the Center is helping K-12 teachers and administrators change how they design and deliver curriculum to incorporate global education.

Incorporating global education into the education paradigm represents a sea change for North Carolina. Some may fail to see the need for such a change while others may recognize the need but feel powerless to address it. In either case, educators may prove to be indifferent or resistant. Change is often difficult; however, I firmly feel that it is vital to our children’s future that they be offered an education which gives them the knowledge and skills they will need to thrive in a globally interconnected world. One of the Center for International Understanding’s board members – and an education consultant – Ted Fiske, is fond of referring to a quote he heard from a CEO speaking at an international education forum. “What the US calls global education, the rest of the world just calls education.”

Working with the Center for International Understanding, I have been privileged to see the light bulb go off for a teacher or a student when they find a personal and compelling reason and way to engage with the world. I have seen firsthand that an experience can transform an individual educator, classroom or school, but I also know that it is more difficult to transform an entire school district and perhaps even harder to maintain the change following the departure of an innovative leader. This anecdotal finding appears to be replicated in the literature. In fact, Rusch (2005) found that although variation is allowed within school districts, too much difference, especially difference that leads to success in one school, can lead to resentment, rivalry and competition in other schools rather than to a desire to copy success. Thus, a perennial question for us is how to generate support for global education
among all of the stakeholders – students, teachers, principals, parents, and community and business leaders – in a school district. What is it that makes change happen across a school district? What motivates those who are the early adopters – the emerging leaders in global education – and then how does that interest and motivation spread to others across the district? These are the questions that spurred my interest in the following study.
CHAPTER 1

Thomas Friedman (2005) brought the concept of a rapidly shrinking and flattening world to the conscience of the US public at large with his bestselling book, *The World is Flat*. Inherent in his message is the idea that not only is technology helping the world shrink, but it is doing so at an increasingly rapid pace. Globalization is here, whether we like it or not, he seems to say, and we had better get ready for it quickly. Being ready for globalization does not only affect our workforce, it also affects our schools – our administrators, our teachers and our students.

Robertson (1992) described the current state of globalization as the *uncertainty phase*. Since then, the pace of change has increased with negative consequences for many in the US workforce. Friedman (2005) hypothesized that just as manufacturing jobs have been outsourced to lower-wage markets, so too will be service and knowledge sector jobs in the near future. In fact, the US has already seen the outsourcing of services as diverse as tax preparation and radiograph reading to other countries. These workforce challenges have potentially alarming consequences for today’s students. It is certain that they will need new skills and knowledge both upon graduation and throughout their working lives. It is less certain that our teachers and schools are prepared to equip our students with those necessary skills and knowledge or are even themselves equipped with the necessary skills and knowledge. If our teachers and schools are not currently so prepared, how will they locate, evaluate and incorporate new resources into their classrooms and schools? Perhaps there is
no other organization for which the ability to change is more necessary than for public education in general and for the typical school district specifically.

No one really knows what the working world, or indeed, what civilization and culture worldwide will be like in eighteen years, when today’s kindergartners graduate from college…. The safest prediction is change; schools can no longer prepare people to fit in the world of twenty years ago, because that world will no longer exist…. Struggling to keep up with these kinds of demands, school leaders continually place their institutions on the frontier of change. (The perennial whirlwind of educational fads and fashions is a symptom of this struggle.) Yet schools also face intense pressure to slow down change, to be conservative, to reinforce traditional practices, and not to leave anyone behind. (Senge, Cambron-McGabe, Lucas, Smith, Dutton, & Kleiner, 2000, p. 10)

Teachers today live and work in an increasingly complex world and are asked to educate our students to be successful in a future world that is currently unknown. We, therefore, require educators to be flexible, lifelong learners who are able to adapt to the pressures of a world that wants its children to both get the basics and be prepared for the future. Part of the new skills set that teachers are asked to acquire includes the same global competencies the world will require of their students.

Interest in internationalizing K-12 education has experienced a resurgence in the United States since the end of the Cold War era (Dolby & Rahman, 2008). For example,
according to Asia Society’s website (http://asiasociety.org/education/policy-initiatives), twenty-five states are now members of their States Network on International Education in the Schools and either have or are working toward completion of a strategic plan for international education in the state. However, Asia Society also acknowledges that, even in states with a strategic plan, most individual schools go it alone and it is difficult to find whole districts who “give priority to international education” (Heller, 2009). There is a distinction between adopting a strategic plan and implementing one.

In the United States, it is clear that most education policy issues are decided at the state level (Tye, 1999). However, policy decisions may also be made at the local school district level during the implementation phase of educational policy-making (Honig, 2006). The way in which a school district implements a policy decision is informed by its structure. School districts may be understood as loosely coupled systems. A system might be considered loosely coupled if it consists of elements that are linked and responsive to each other in some way, but that also retain their own identity and may act independently (Weick, 1976). Within a school district, for example, each individual school may be considered an element of the system, along with the central office, school board, individual PTA units, etc. Each of these elements may be responsive to other elements in the system. For example, an individual school would comply with the general curriculum standards of the district. However, each unit would also retain a certain amount of autonomy. For example, that same school might also belong to an International Baccalaureate network which imposes additional curriculum standards.
Thus, how (and sometimes whether) a state or district level policy is implemented is decided at the organizational/school level. The principal and teachers have an influence on how policies are implemented. Figure 1 illustrates the multiple levels which have an influence on policy and how it is implemented.

![Figure 1. Levels of Influence on Education Policy](image)

Although Figure 1 appears as a pyramid, it is not meant to indicate that education policies follow a neat trickle-down process from decision-making to implementation. In fact, the loosely-coupled nature of the system guarantees that there will be a considerable amount of autonomy at each level. This autonomy is, inevitably, accompanied by a great deal of variability between districts, schools and teachers.

While there are certainly multiple factors that contribute to variability between teachers, schools and districts, the literature suggests that one factor that influences the decision-making process of principals and teachers is their social networks. Social networks are generally described as consisting of a set of nodes – the teachers, principal and
community, for example – and a set of ties or linkages – the relationships between and among the teachers, principal and community. These relationships can be a force for change or for stability. “Organizational social networks can contribute toward a learning culture and help (or hinder) an organization’s capacity to respond to environmental change” (Storberg-Walker & Gubbins, 2007, p. 301). Garcia (2007) found that organizational learning is a dynamic process of social influence based on a change in people’s awareness, outlook, and beliefs. Within a school, for example, de Lima (2007) found that members of departments within a school who had greater numbers of ties, both weak and strong, felt a greater connection to the school as a whole and to the school improvement efforts being implemented. Further, Young (2006) found that while strong district level leadership indicating the need to use data was important, teachers were often more greatly influenced by school and grade level norms for using data. At a district level, Rusch (2005) found that educators in schools participating in networks external to their school districts felt a closer connection to – and their work was more influenced by – other network members than to the members of their own school districts. Thus, an educator’s social network ties may have a greater influence on what he or she does than objective data or directives from the Central Office or the Department of Public Instruction.

Within educators’ social networks, two types of people may be particularly instrumental in initiating a change effort. Rogers (1995, 2003) identifies these two groups as innovators and early adopters. Innovators are defined as those who bring in a new idea from outside their local circle or community (Rogers, 2003). According to Rogers, they comprise
Roughly 2.5% of the population. Rogers (1995) further found that “while an innovator may not be respected by other members of a local system, the innovator plays an important role in the diffusion process: that of launching the new idea in the system by importing the innovation from outside of the system’s boundaries” (p. 283). Early adopters are defined as those who, while not the first to bring in an idea from outside the system, are among the earliest to embrace new ideas. Early adopters comprise approximately 13.5% of the population and tend to be more respected by their peers than innovators (Rogers, 2003). Rogers describes early adopters as those with whom potential adopters check in before adopting a new idea; through their adoption of an innovation, they encourage others in the system to do so as well (2003).

Rogers (1995) further summarized several ideas about the communication behavior of earlier adopters, in comparison with later adopters, which arose from the diffusion research literature. In brief, he indicated that: a) earlier adopters tend to have more social participation; b) tend to be more highly interconnected through interpersonal networks; c) tend to have networks that go beyond their local system; d) tend to have more contact with change agents; e) tend to have more exposure to mass media; f) tend to more actively seek information about new innovations; and f) tend to have a higher degree of opinion leadership. Rogers found, however, that a large part of the diffusion research literature has focused on attributes related to innovativeness. The few studies he found that do investigate the role of social network partners seem to indicate that the experiences of one’s social network partners influence innovative behavior. Rogers indicated that additional research is needed to better
understand the influence of social networks on an individual’s innovativeness (or willingness to adopt an innovation).

**Statement of the Problem**

This study considers the above findings in terms of implementing a global education initiative in a school district. In order to help today’s students to be prepared for work and citizenship in an increasingly interconnected world, more school districts, administrators, and teachers must be willing and able to prioritize 21st century skills including global education. How can such an effort be facilitated? While a school district’s nature as a loosely coupled system does not necessarily dissuade learning about and implementation of global education from occurring in pockets within the organization, it appears to affect how information and execution may spread across a given system. If it is not simply enough to have a directive from Central Office, how can a change effort spread across a system?

Rogers’ (1995, 2003) work indicates that innovators and early adopters play important roles in implementing change. By definition, innovators and early adopters do not have a lot of examples to follow. Additionally, Rogers’ work indicates that they appear to be more active in terms of developing and sustaining social networks that facilitate innovation. This insight yields a number of interesting questions for further study. What role do the relationships of innovators and early adopters with others in their social networks play in their ability to learn about and implement change? How do innovators and early adopters rely on existing or build new social relationships in order to implement change? What can we learn from the value that innovators and early adopters place on their networks that may
help us understand how the scaling out of such a change effort may happen? It is clear that a social network perspective can offer insight into the actions of individual educators who are attempting to implement a global education initiative and are emerging as leaders in the process. Careful analysis of the existing social networks within this context and of how educators understand, perceive and act within them may shed light on the role that their social networks play as well as the value that educators place on their networks within the context of the implementation of a global education initiative.

**Purpose Statement and Research Questions**

The purpose of this study is to gain a better understanding of the role of social networks within a school district’s global education initiative. Through the lens of social networks, the study seeks to understand the experiences of school-building level educators who self-identify as emerging global leaders within the context of a school district implementing a global education initiative. The study seeks to understand not only how these emerging leaders describe and perceive their use of their social networks, but also to gain insight into the role that social networks play in their ability to learn about and implement global education. How do these educators perceive that they are leveraging their social networks to implement global education? The specific research question is:

- How do organization level educators who self-identify as emerging global leaders describe and leverage their professional social networks to accomplish global education goals? For the purposes of this study, the organizational level is the school
building; therefore organization level educators include principals, assistant principals and teachers.

**Conceptual and Theoretical Foundations**

This study used a social network perspective to explore the role of social networks and the meaning that educators attach to their social networks in relation to the implementation of a global education initiative. Wasserman and Faust (1994) described social network perspective as a “distinct research perspective within the social and behavioral sciences” (p. 4) which focuses on describing and examining the relationships between the elements of a system rather than on the individual attributes of each element (Wellman, 1988; Wasserman & Faust). Thus, “the fundamental difference between a social network explanation and a non-network explanation of a process is the inclusion of concepts and information on relationships among units in a study” (Wasserman & Faust, p.6, emphasis in original). This focus on relationships allows the researcher to understand outcomes as resulting not only from the individual attributes of an actor, such as intelligence, gender, or education, but also by relational factors such as the influence that actors may have on each other or the positions that various actors occupy in relation to each other.

Social network perspective is most commonly associated with social network analysis. Social network perspective began as a method of capturing and understanding the relationships between elements of a system; therefore, most early work was concerned with designing methods for capturing, describing and explaining those relationships (Monge & Contractor, 2003; Wasserman & Faust, 1994; Wellman, 1988). However, as methods of
social network analysis matured, social network perspective began to influence and be
influenced by theories in a number of disciplines such as anthropology, sociology, medicine,
psychology and management. Additionally, social network researchers began to advance
their own theories illuminating, for example, how social networks may be used in the seeking
and sharing of information (Burt, 1992, 2002; Granovetter, 1973, 1983) or how actors within
one’s social network can influence attitudes and behavior (Brass, 1995; Krackhardt, 1992);
and suggest understanding of the different types of actors who may or may not be influential
in a given network. Social network research, which will be explored further in chapter two,
has found that social relationships provide access to new, innovative information (Beer,
Eisenstat, & Spector, 1990; MacDonald, 1995); social relationships can help to diffuse
learning throughout the organization and to overcome resistance to change (McGrath &
Krackhardt, 2003; Mohrman, Tenkasi, & Mohrman, 2003; Stephenson, 2003; Tenkasi &
Chesmore, 2003); and that the configuration of social networks within an organization can
foster or inhibit both resource sharing and collective action (Brass, 2003; Kilduff & Tsai,
2003).

This study seeks to understand not only how emerging global leaders describe their
social networks, but also to gain insight into the role that social networks play in their ability
to learn about and implement global education. Change is difficult and there are many
obstacles to implementing global education initiatives. As indicated above, connectedness
through formal and informal relationships can have a significant impact on learning and
action by increasing access to resources and information and by encouraging collaboration
and the diffusion of information throughout an organization. The social network perspective offers an ideal opportunity to examine the relationships between actors in a network and understand the impact of these relationships on learning and action; therefore it is a rich lens through which to examine the impact of relationships on the actions of educators within a global education initiative.

**Methodology Overview**

The overall approach to this study is qualitative. The study is framed as an interpretive qualitative study situated within the context of a school district currently implementing a global education initiative. Qualitative approaches seek to understand “how people interpret their experiences, how they construct their worlds, and what meaning they attribute to their experiences” (Merriam, 2009, p. 5). Interpretive approaches assume that, rather than a single observable reality “out there”, reality is socially constructed (Merriam). Such an approach is appropriate because the purpose of the study is to explore the experience of emerging global leaders in enacting their social networks to learn about and implement global education.

The study is situated within one school system within the state of North Carolina, Eastern County schools. In 2007, Eastern County schools amended their strategic plan in response to the North Carolina State Board of Education’s call “that every public school student will graduate from high school, globally competitive for work and post-secondary education and prepared for life in the 21st Century” (NCSBE). Eastern’s amended strategic plan includes a global education priority which offers an opportunity to explore the extent to
which teachers and administrators experience their social networks as offering opportunities to seek and share information and to collaborate to implement the new global education initiative. The school system was selected in part as a convenience sample because it is a district to which the researcher has access.

Ten volunteer participants were recruited using stratified purposive sampling (Miles & Huberman, 1994). The participant pool consisted of school building level personnel (teachers, principals and assistant principals) who self-identified as emerging leaders in global education. For the purpose of this study, the researcher defined emerging leaders in global education as those teachers and school building level administrators who, while not necessarily experts in global education, have made a concentrated effort to incorporate the system’s recently adopted global education priority into their schools and classrooms. The study focused on school building level personnel because, while Central Office personnel play an important role in determining the overall direction of the system, school level professionals are the front line for implementing the global education initiative. An educator may have the best of intentions to implement global education but may not be able to do so without access to the necessary supports and resources. Both teachers and school-level administrators were included because both play important and slightly different roles in the change process. How these educators experience their social networks and act within them around the global education priority may vary according to their connectedness within their own school, within the school system and within the community at large. Therefore, it is important to gain an understanding of how both teachers and administrators see themselves
as connected to not only their own school, but the system as a whole in order to gain insight into their experiences of social networks and the role that those networks play in implementing global education. The study focused on educators who considered themselves to be leaders or emerging leaders in global education in order to gain insight into the perceived value of their social networks and how those relationships impact their ability to learn about, implement and, be leaders in the global education initiative. Further details concerning participant selection may be found in chapter three.

Data collection included an initial semi-structured interview to explore the interviewee’s perceptions of the district’s commitment to global education; the participant’s own efforts in learning about and implementing global education in his or her school or classroom; and an initial understanding of the participants’ social networks. Subsequently, participants engaged in a mapping activity to draw and explain their social network maps to further explore the participants’ perceptions of their social networks and the role those networks play in their ability to learn about and implement global education in their schools and classrooms.

The researcher treated the data collection and analysis phases of the study as an iterative process of seeking out overarching ideas, patterns and themes and generating categories and codes (Bloomberg & Volpe, 2008; Merriam, 1998; Stake, 1995). Interview transcripts, network maps and any other relevant documents were analyzed using Atlas-ti software. The researcher employed both a priori and open coding. Qualitative research is an iterative and inductive process; therefore, while the researcher coded primarily through the
lens of social network theory, it was important to also investigate alternative explanations (Marshall & Rossman, 2006). Additionally, within qualitative research, data may arise that are incompatible or contradictory (Merriam, 1998). Therefore the researcher also examined the data sets with the assumption that additional codes might emerge from the data. Standard qualitative procedures were followed and are described in more detail in chapter three.

Significance of the Study

The study helps us to understand and explain from a social network perspective how early adopters successfully implement global education in a school district. By examining the social networks of these global education leaders, this study will add to the diffusion of innovation literature and assist in filling an identified gap by exploring the influence of networks and relationships on innovativeness. Additionally, the social networks literature also shows an indicated need for more qualitative work to further develop our understanding of social networks (Carmichael, Fox, McCormick, Procter & Honour, 2006; de Lima, 2007; Mohrman, et al., 2003). Furthermore, the study suggests future areas of research.

Additionally, this study extended a rarely used, but important, method into the context of social network perspective. Traditional network research has been largely quantitative (Marsden, 1990). Quantitative methods have been very useful in mapping out networks, examining network density and the relative strength or weakness of ties, however, they fail to explore questions of how network participants describe their networks, understand them, act within them, and value them. Because a qualitative approach seeks to understand how participants make meaning of their daily lives (Marshall & Rossman, 2006;
Merriam, 1998, 2002), such an approach offers an opportunity to explore exactly these questions in an in-depth manner.

Finally, while the purpose of a qualitative study is not to discover generalizable results, by gaining an understanding of the role of social networks in Eastern County Schools’ global education initiative, the reader may also gain insight into the role social networks may play in similar initiatives in other school systems. This study offers practical significance by seeking to understand how self-identified global education leaders perceive the value of their social networks and how they leverage these networks to implement global education. In understanding this phenomenon, we are better able to understand how we might facilitate the implementation of global education initiatives into school districts.

Summary

The purpose of this study is to gain a better understanding of the role of social networks within a school district’s global education initiative by exploring the social network experiences of school-building level educators who self-identify as emerging global leaders within the context of a school district implementing a global education initiative. This chapter identified the purpose and framework of the study as well as the research question and significance of the study. Chapter two will focus on a review of the related literature. Subsequently, chapter three will focus on the design and methodology of the study; chapter four will reveal the findings of the study; and chapter five will discuss the findings in relation to the existing literature.
CHAPTER 2

The purpose of this case study is to explore the social network experiences of school-building level educators within the context of a school district implementing a global education initiative. The study seeks to understand not only how educators describe and perceive their use of their social networks, but also to gain insight into the role of social networks in implementing global education. The purpose of this chapter is to review the related literature. This chapter will be presented in three sections. The first section will review existing literature on international and global education. The international education literature is both vast and diffuse. Rather than provide a comprehensive survey of the literature, this section will provide insight into the streams of literature in the international education arena while focusing on the literature that is most pertinent to an understanding of the importance of global education in K-12 education; how global education is implemented in the K-12 setting; and how global education implementation has been studied. The second section will consider the existing literature on social network perspective. Again, rather than an exhaustive summary of the social network literature, this section will offer a brief overview of social network perspective with a particular focus on those social network theories that inform our understanding of how information and attitudes toward a change effort, such as the implementation of a global education initiative, may impact its implementation. Additionally, this section will address aspects of social network theory that impact the diffusion of innovations literature. The final section will briefly examine the
context of a school district as a loosely coupled system and the particular challenges and opportunities this context may present to the implementation of a global education initiative.

**International Education Research**

The array of international education literature is both large and varied. The diversity of research and practice which falls under the field of international education can create confusion and researchers in one area of the field may be unaware of research and practice in other areas (Dolby & Rahman, 2008). In their comprehensive literature review, Dolby and Rahman identified six distinct streams or research approaches in international education: a) comparative and international education; b) internationalization of higher education; c) international schools; d) international research on teaching and teacher education; e) internationalization of K-12 education; and f) globalization and education. While Dolby and Rahman acknowledge that there are overlaps, chronological and other, between these approaches, they assert that each contains distinct traditions. For example, Dolby and Rahman found that some of these streams are more research-oriented while others are firmly rooted in practice. Despite the links and overlaps between all of these approaches, most of the research approaches identified by Dolby and Rahman fall outside the scope of this study. Following are very brief descriptions of those research streams. For a more in-depth look at these research approaches, the original literature review by Dolby and Rahman (2008) is highly recommended.

As defined by Dolby and Rahman (2008), comparative and international education are two subfields that are linked within one research approach. Both examine education
systems and educational policy although from slightly different perspectives. Dolby and Rahman found that comparativists tend to examine educational systems in comparison with each other but with little regard to context, while internationalists focus on specific education systems within their contexts but do not compare them with external systems. Both of the subfields linked in this approach are concerned with examining systems – either by comparing them with other systems internationally or by examining them within their national, historic and cultural context. As this study is concerned with the experiences of educators trying to increase global education within a system, the literature within this research approach is outside the scope of this study.

Scholars within the area of the internationalization of higher education are concerned with both research and practice within institutes of higher education. Dolby and Rahman (2008) found that research in this area followed professional practice in serving students studying abroad as well as incoming international students and scholars. By virtue of its concentration on higher education, the literature within this stream falls outside the scope of this study which is primarily concerned with K-12 educators.

At first glance, a third research approach identified by Dolby and Rahman (2008) – international schools – might seem to be directly related to the scope of this study. However, research in this arena, again, as defined by Dolby and Rahman, is primarily undertaken in order to describe, explain and understand what it means to be an international school and the impact such a school may have on the education of its students. Schools offering an International Baccalaureate program or schools catering to the children of expatriates, for
example, might be objects of study. Although certainly linked to the literature stream that is most closely related to the scope of this study, the specific nature and focus of this literature base on international schools means that it too falls outside the scope of this study.

Similarly, the fourth research approach identified by Dolby and Rahman (2008), international research on teaching and teacher education, is linked but peripheral to the scope of this study. This approach encompasses research into comparative methods and views of teaching and teacher education as well as the impact of global changes on teachers’ work (Dolby & Rahman). There is a trajectory within this research approach that deals with pre-service and in-service teacher education. While a educator’s background and competence in global education certainly impacts his or her ability to incorporate global education into the classroom, this stream of literature deals more heavily with the content and delivery of international education to pre-service and in-service teachers than with the how that individual knowledge translates into the ability of educators within a school district to incorporate global perspectives into their own work.

An additional research approach identified by Dolby and Rahman (2008) within the international education research arena is one they call globalization and education. Dolby and Rahman identify this stream as being most directly related to fields outside of education such as anthropology and the humanities. As defined by Dolby and Rahman, the research trajectories within this approach are most closely identified with the role of culture in societies in general, and in education in particular, worldwide. It also encompasses a comparative aspect of world models of primary and secondary education. Finally, it is the
approach most tightly aligned with critical perspectives in global education (Dolby & Rahman). Again, while related, the literature within this approach is less directly pertinent to the scope of this study.

The international education research literature most closely aligned to the scope of this study falls within the approach identified by Dolby and Rahman (2008) as the internationalization of K-12 education. Dolby and Rahman defined this research approach as encompassing peace education, global education and multicultural education, human rights education, and environmental education. While each of these research trajectories has a varied past, Dolby and Rahman found that each enjoyed rapid growth and development beginning in the 1960s and 1970s as “outgrowths of larger political, cultural, and social changes and emerged within education as responses to societal problems” (p. 699) and continue as well-established research areas today. Dolby and Rahman further noted that, while related, each of the research areas within the research approach of internationalization of K-12 education have developed their own scholarly and professional communities. To further narrow the extent of this literature review in keeping with the scope of this study, I chose to focus on the most pertinent of these areas, global education and multicultural education.

**What is Global Education?**

It could be said that international education – in some form – has existed since the concept of the nation-state was formed. In the United States, however, modern international education began to take shape after the First World War as Americans, among the rest of the
world’s citizens, hoped for more peaceful resolutions to world conflict (Gaudelli, 2003). However, the global education movement did not really begin in the United States until the late 1960s/early 1970s (Tye, 2009). Tye identifies Lee Anderson and James Becker as key leaders of the global education movement in the United States, beginning with their co-editing of a special issue of Social Education that shifted the focus of international education from the study of different nations to a focus on “problems and issues that cut across national boundaries” (Tye, p. 7). Gaudelli (2003) found that the very multidisciplinary nature of the field has meant that its practitioners often struggle with what to include and what to omit. There currently exist perhaps as many definitions of global education as there are global education researchers and practitioners. Below is a table of various definitions of global education adapted from Gaudelli and further expanded. While not comprehensive, it is a representative example of the definitions in the literature.
<table>
<thead>
<tr>
<th>Author(s)</th>
<th>Year</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anderson</td>
<td>1968</td>
<td>Development of the students’ understanding of the Earth as one planet; mankind as one species; international system as one system.  The Curriculum should develop students’ capacity to develop world-mindedness; critically consume and process information intellectually and emotionally cope with continuous change; accept and cope with the realities of the human condition</td>
</tr>
<tr>
<td>Hanvey</td>
<td>1976</td>
<td>Five elements of a global perspective are: perspective consciousness; knowledge of world conditions; cross-cultural awareness; knowledge of global dynamics; knowledge of alternatives</td>
</tr>
<tr>
<td>Becker</td>
<td>1979</td>
<td>Multiple levels of analysis of events (i.e. individuals, nation-state, international organizations); interdependence; individual involvement; concern for the well-being of all humanity; interactions between humans and the environment</td>
</tr>
<tr>
<td>National Council for</td>
<td>1982</td>
<td>“Global education is an effort to cultivate in young people a perspective of the world which emphasizes the interconnections among culture, species, and the planet. The purpose of global education is to develop in youth the knowledge, skills, and attitudes needed to live in a world possessing limited natural resources and characterized by ethnic diversity, cultural pluralism, and increasing interdependence” (pp. 1-2)</td>
</tr>
<tr>
<td>the Social Studies</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heater</td>
<td>1984</td>
<td>Knowledge about the world and mankind as a whole; awareness of interrelatedness; appreciation that people have rights and duties towards each other; consciousness that one’s own perspective on the world is biased; ability to view others and oneself empathetically; appreciation of others, sympathy for unfortunate, regard for achievement; skills to critically engage mass information; ability to communicate cross-culturally without prejudice; readiness to act in a responsible way to help resolve world problems</td>
</tr>
<tr>
<td>Kniep</td>
<td>1986</td>
<td>Global education as content knowledge: human values; global systems; global issues/problems; global history</td>
</tr>
<tr>
<td>Reardon</td>
<td>1988</td>
<td>“Global citizenship; planetary stewardship; human relationship</td>
</tr>
<tr>
<td>Tye &amp; Tye</td>
<td>1992</td>
<td>“Global education involves (1) the study of problems and issues which cut across national boundaries, and the interconnectedness of cultural, environmental, economic, political, and technological systems, and (2) the cultivation of cross-cultural understanding, which includes development of the skill of ‘perspective-taking’ – that is, being able to see life from someone else’s point of view. Global perspectives are important at every grade level, in every curricular subject area, and for all children and adults” (p. 87)</td>
</tr>
</tbody>
</table>

Table 2. *Definitions of Global Education*
Table 2 cont’d

<table>
<thead>
<tr>
<th>Case</th>
<th>Year</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Merryfield</td>
<td>1997</td>
<td>Global education involves the study of: human beliefs and values; global systems; global issues and problems; cross-cultural understanding; awareness of human choices; global history; acquisition of indigenous knowledge; development of analytical, evaluative, and participatory skills</td>
</tr>
<tr>
<td>Werner &amp; Case</td>
<td>1997</td>
<td>Four central themes: interconnections; perspectivity; caring; alternatives</td>
</tr>
<tr>
<td>Pike &amp; Selby</td>
<td>2000</td>
<td>Global education unites two strands of educational thought: worldmindedness and child-centeredness – across four dimensions of analysis: temporal, spatial, issues, inner</td>
</tr>
<tr>
<td>Gaudelli</td>
<td>2003</td>
<td>Global education is “a curriculum that seeks to prepare students to live in a progressively interconnected world where the study of human values, institutions, and behaviors are contextually examined through a pedagogical style that promotes critical engagement of complex, diverse information toward socially meaningful action” (p. 11)</td>
</tr>
</tbody>
</table>

NOTE: adapted from Gaudelli, 2003 and expanded

While it is clear from the above table that there is great variety in the definitions of global education it is also clear that many later theorists continue to build on and expand the work of earlier researchers. While the multidisciplinary nature of the field encourages multiple definitions, Gaudelli (2003) cautions that if global education becomes so broad that everything fits within it, it “may lose a cohesive structure that can be used to distinguish it from other fields” (p. 9). This breadth of definition can also become problematic for practitioners as they attempt to understand, implement and assess global education in K-12 classrooms and schools.
The Case for Global Education

The popularity of such books as Thomas Friedman’s *The World is Flat* (2005, 2006, 2007) or Fareed Zakaria’s *Post-American World* (2009, 2011) are one indication that there is an increased awareness among the general public that the world is becoming increasingly interconnected and our prior assumptions about how the world works no longer provide a sound basis for our actions. Despite a common perception that globalization is simply code for “all of our jobs being outsourced”, business and policy leaders, educators, students, and parents are increasingly realizing that globalization represents both challenges and opportunities. The students of today will graduate into a world that is unlike the world their parents graduated into and unlike anything their parents may have dreamed of – the economy is becoming increasingly interconnected; the digital revolution has allowed the world ringside seats to Arab Spring uprisings via cell phone video as well as around-the-clock work opportunities; and migration and immigration are easier and more frequent occurrences than perhaps ever before in history.

Mansilla and Jackson (2011) offer three scenarios facing today’s graduates that bolster their rationale for global education: a) the flattened global economy and changing demands of work; b) unprecedented global migration, and c) climate instability and environmental stewardship. The first of these three scenarios supports the economic argument for a global education while the others are examples that undergird the global citizenship argument for global education.
The economic argument. The economic argument for global education is perhaps the most familiar to many audiences. At its essence, the economic argument views globalization as a competition. American students must be educated to compete in the global marketplace lest the U.S. economy fall behind. Multinational companies can take advantage of a workforce and supply chains that encompass the world (Friedman, 2005) to innovate and produce around the clock. What this means for the average employee is that his or her team members may be down the hall or in another time zone. Even medium and small businesses that were entirely local only five years ago are now taking advantage of global supply chains to survive and even thrive in the new economy. While the global competitiveness argument is often applied to the need to increase U.S. students understanding of the STEM (science, technology, engineering and mathematics) fields, they apply equally to the need to communicate in languages other than English, the ability to work in multinational teams; adaptability and the ability to innovate (Partnership for 21st Century Skills, 2009). The economic downturn of 2008 brought home to many middle-class U.S. Americans just how interconnected the global economy is (Friedman & Mandelbaum, 2011). Those using the economic argument for global education see this challenge as an opportunity to establish that our K-16 education system must prepare students to compete in an interconnected economy.

The global citizenship argument. While the economic argument for global education is real and compelling, the global citizenship argument may, in fact, be even more important. In 2002, Rischard, then the World Bank’s vice-president for Europe, identified twenty of the most pressing global challenges of the twenty-first century. These problems
range from deforestation to infectious diseases to the digital divide to intellectual property rights. What ties these problems together, Rischard contended, is that they cannot be solved by one nation alone – they are truly global in scope and their solutions must be similarly global in nature. Kellner (2005) similarly identifies issues of conflict, terrorism, and challenges to democratization as issues that must be addressed not only by our current world leaders but also by our future leaders – our current students. Education must not only prepare students to compete in the global economy but must also lay the foundation for them to be able to communicate and collaborate to solve the pressing issues of today and tomorrow.

**Implementation of Global Education**

Given the breadth of the international education literature, it is surprising to note how few empirical studies exist concerning how global education programs are implemented or evaluated in the K-12 arena. Much of the literature available about implementing global education in the K-12 classroom or school is designed to persuade educators – and others such as parents and community members – of the importance of global education and to offer suggestions about how global education might be incorporated into the curriculum. While some of these books and curriculum materials (e.g. Brown & Kysilka, 2002; Hicks & Townley, 1982; Pike & Selby, 1988, to name just a few) are very clearly grounded in international education theory and research, others are less clearly so. Furthermore, very few include empirical research into how and how well global education programs were implemented. Of those that did so, a very large portion were master’s theses or doctoral
dissertation studies. The table below offers a brief overview of the existing research concerning the implementation and evaluation of global education programs in K-12 education.

Table 3. *Overview of Existing Implementation of Global Education Research*

<table>
<thead>
<tr>
<th>Author(s)</th>
<th>Year</th>
<th>Title</th>
<th>Brief Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hadley &amp; Wood</td>
<td>1987</td>
<td>Integrating international education into rural schools</td>
<td>Assessment of an international education program implemented in South Dakota’s rural schools.</td>
</tr>
<tr>
<td>Byrnes</td>
<td>1993</td>
<td>Classroom life and the practitioner’s plight: A qualitative inquiry into a global education magnet school</td>
<td>A qualitative study of to describe, interpret and assess a foreign language/international studies magnet school (Dissertation)</td>
</tr>
<tr>
<td>Stamp</td>
<td>1994</td>
<td>Global education attitudes and practices in Iowa high schools</td>
<td>A quantitative study to assess the attitudes of principals and social studies teachers about global education and the impact of their attitudes on the implementation of global education (Dissertation)</td>
</tr>
<tr>
<td>Joshi</td>
<td>1996</td>
<td>Implementing a global education curriculum: Case studies of two teachers</td>
<td>Comparative case study to understand two teachers’ definitions of global education and the impact on their classrooms (Thesis)</td>
</tr>
<tr>
<td>Gaudelli</td>
<td>2000</td>
<td>Approaches to global education: A description and analysis of the New Jersey global education mandate</td>
<td>A study to describe and analyze the implementation and impact of global education in three high schools in New Jersey. (Dissertation)</td>
</tr>
<tr>
<td>Author</td>
<td>Year</td>
<td>Title</td>
<td>Methodology</td>
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<tr>
<td>Stocker</td>
<td>2002</td>
<td>A case study of a global, technology-enhanced curriculum implementation to determine the impact on teaching methodology: One team’s story of their blast off to learning</td>
<td>A qualitative case study that described and evaluated a team of inner-city middle school teachers executing a global curriculum that encouraged alternative teaching strategies and utilized unique technology (Dissertation)</td>
</tr>
<tr>
<td>Eslami</td>
<td>2005</td>
<td>Global education: Instructional strategies used and challenges faced by in-service teachers</td>
<td>Study of teachers’ instructional strategies dealing with the US-Iraq war.</td>
</tr>
<tr>
<td>Kauffman</td>
<td>2005</td>
<td>Variations on a theme: Implementation of the International Baccalaureate Primary Years Programme</td>
<td>Comparative case study of implementation of IBPYP at three schools in the USA.</td>
</tr>
<tr>
<td>Tulk</td>
<td>2005</td>
<td>Global schools: A study of a site-based change program</td>
<td>A comparative case study to describe and understand the impact of a global schools program in Newfoundland (Dissertation)</td>
</tr>
<tr>
<td>Brooks</td>
<td>2006</td>
<td>Educating for a culture of peace through holistic education: A case study of the Robert Muller School of Fairview, Texas</td>
<td>A case study of the impact of the peace and global education model in the Robert Muller School (Dissertation)</td>
</tr>
<tr>
<td>Lee</td>
<td>2006</td>
<td>“Going Global”: Conceptualization of the “other” and interpretation of cross-cultural experience in an all-white, rural learning environment</td>
<td>Ethnographic case study of the students’ experience of an international education program.</td>
</tr>
<tr>
<td>Mundy &amp; Manion</td>
<td>2008</td>
<td>Global education in Canadian elementary schools: An exploratory study</td>
<td>A case study of the implementation of global education in Canadian elementary schools.</td>
</tr>
<tr>
<td>Cognetta</td>
<td>2010</td>
<td>Preparing students for a twenty-first century global workplace in an era of accountability</td>
<td>A qualitative case study to examine a school district’s plan for developing, implementing and monitoring a strategic plan for preparing students for the 21st century. (Dissertation)</td>
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<tr>
<td>Gigliotti-Labay</td>
<td>2010</td>
<td>Fulfilling its mission? The promotion of international mindedness in IB DP Programmes</td>
<td>A qualitative study to understand the degree to which IB teachers were implementing global themes and international mindedness into their classrooms and that these themes were institutionalized in the community (Dissertation)</td>
</tr>
<tr>
<td>Kilpatrick</td>
<td>2010</td>
<td>Global education in Massachusetts: A case study of two high schools</td>
<td>A case study to understand the process of implementing a global education process in two high schools in Massachusetts (Dissertation)</td>
</tr>
<tr>
<td>Lopez</td>
<td>2010</td>
<td>Internationalizing education: A study of the impact of implementing an international program on an urban elementary school</td>
<td>A study to investigate how teachers at a national public school recently accredited in an international education program identified the changes in their educational pedagogy as a result of the accreditation process. (Dissertation)</td>
</tr>
<tr>
<td>Cincera &amp; Maskova</td>
<td>2011</td>
<td>GLOBE in the Czech Republic: A program evaluation</td>
<td>Evaluation of the Global Learning and Observations to Benefit the Environment in 28 schools in the Czech Republic.</td>
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<td>Crawford &amp; Monsion</td>
<td>2011</td>
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<td>Hoffman</td>
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<td>Edge &amp; Khamsi</td>
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<td>King &amp; Thorp</td>
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<td>Lee, Hallinger &amp; Walker</td>
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The obstacles to implementing a global education initiative are considerable. In their report for the Council of Chief State School Officers and Asia Society, Mansilla and Jackson (2011) outlined a few of the most daunting:
• With few exceptions, most educators and education policy leaders have not had the opportunity to think about education for the global era. Or, if they have, they themselves have had little background in how to implement such a program (p. x)

• There seems to be little real desire on the part of families and communities for global education despite an indicated need (p. x)

• Assessments are geared toward classic subject matter knowledge and are rarely flexible enough to accommodate the interdisciplinary nature of much global education work (p. x)

• There is a “deep distrust of education that attempts to transcend borders and to take seriously the customs, values, and priorities of nations and regions very different from one’s own” (p. x)

Change – in the form of implementing global education in the classroom – is difficult in the face of such obstacles. A lack of empirical research to guide one’s efforts in implementing global education represents an additional obstacle. Thus, while there is a great variety and breadth of literature in the field of international education research, one significant gap in the literature entails how K-12 educators learn about global education and implement it in their classrooms and schools; as well as the results of those implementation efforts. It is possible to imagine that educators may turn to others in their social networks to seek out and share resources and methods for implementing global education.
Social Network Perspective

Social network perspective is a “distinct research perspective within the social and behavioral sciences” (Wasserman & Faust, 1994, p. 4). While more traditional perspectives tended to try to understand the individual attributes of various elements within a system, social network perspective allows us to describe and examine the relationships between elements of a system. Wasserman and Faust found that there are several fundamental principles of a social network perspective: that “a) actors and their actions are viewed as interdependent rather than independent, autonomous units; b) relational ties (linkages) between actors are channels for transfer or “flow” of resources (either material or nonmaterial); c) network models focusing on individuals view the network structural environment as providing opportunities for or constraints on individual action; and d) network models conceptualize structure (social, economic, political, and so forth) as lasting patterns of relations among actors (p. 4). Wellman’s (1988) list of central principles of a social network perspective differs slightly but offers a similar understanding of social network perspective. According to Wellman, in a social network perspective, “behavior is interpreted in terms of structural constraints on activity rather than in terms of inner forces within units that impel behavior; analyses focus on the relations between units, instead of trying to sort units into categories defined by the inner attributes of these units; a central consideration is how the patterned relationships among multiple alters jointly affect network members’ behavior; structure is treated as a network of networks that may or may not be partitioned into discrete groups; and analytic methods deal directly with the patterned,
relational nature of a social structure” (Wellman, 1988, p. 20). Thus, “the fundamental difference between a social network explanation and a non-network explanation of a process is the inclusion of concepts and information on relationships among units in a study” (Wasserman & Faust, p.6, emphasis in original). When trying to understand a given situation, the social network theorist does not assume that the outcome is only affected by the individual attributes of an actor, such as intelligence, gender, or education, but also by relational factors such as the influence that actors may have on each other or the positions that various nodes occupy in relation to each other.

Social networks are generally described as consisting of a set of nodes and a set of ties or linkages. Nodes may be any element of the system including individual people, teams, or organizations, etc. Ties are relationships or the lack thereof between nodes (Borgatti & Foster, 2003; Brass, Galaskiewicz, Greve, & Tsai, 2004; Reeves, 2006; Storberg-Walker & Gubbins, 2007). Ties may represent any number of different types of relationships such as friendship, conflict, proximity, information flow, similarity, hierarchy, etc. (Brass et al., 2004). Furthermore, ties may be characterized as strong or weak; high-value or low-value (Brass et al.; Carmichael, Fox, McCormick, Procter, & Honour, 2006).

According to Brass et al. (2004), “An organization can be conceptualized as a network in which organizational units are nodes interacting with each other, establishing formal and informal relationships” (p. 800). From this perspective, for example, a school system may be conceived of as the organization in which individual schools, the central office, the school board, etc., may be considered organizational units. However, it is also
important to also note that each nodal element of the system, such as a school, may be considered a network in and of itself (Carmichael et al., 2006). Furthermore, individuals, such as the individual educators, may also be considered to be the nodes of a given network and that network may span not only their individual school and school system but also the broader community beyond. Thus, not only can an actor or a node belong to multiple networks, but some of those networks may be nested within each other.

Social network perspective incorporates various levels of analysis. At a very broad level of analysis, the goal is to acquire the data to create a complete picture that incorporates all social ties linking all nodes of the network (Marsden, 1990). An alternate level of analysis occurs at the level of the individual. At this level of analysis, rather than producing a complete picture of a system, the goal is to gain a better understanding of the personal (or egocentric) networks of individuals within the system (Marsden). Ties or linkages may also be examined on multiple levels. For example, ties may exist within an individual unit (intra-unit ties), between units (inter-unit ties), or even between organizations (inter-organizational ties). Between units, ties can be conceived of as interpersonal ties – ties between individuals in different units; as functional ties – formal ties between units with complementary resources, for example; or as the result of organizational processes that require a degree of connection between one or more units (Brass et al., 2004). As methods of social network analysis grew in both capacity and influence, social network perspective began to influence and be influenced by theories in a number of disciplines, including anthropology, sociology,
medicine, psychology and management. Additionally, those working from a social network perspective began to advance their own theories.

**Social Network Theories**

Social network perspective is most commonly associated with social network analysis. Because social network perspective began as a method of capturing and understanding the relationships between elements of a system, most early work was concerned with designing methods for capturing, describing and explaining those relationships (Monge & Contractor, 2003; Wasserman & Faust, 1994; Wellman, 1988). In fact, an early critique of social network perspective was that while it provided a valuable method of analyzing systems, at its core, it was really only a method of analysis and incorporated no theory (Monge & Contractor, 2003). However, social network perspective drew on theories in multiple disciplines and even developed some “home-grown” theories (Monge & Contractor). While not an exhaustive list of social network theories, the theories below present understandings of how social networks may be used in the seeking and sharing or information; how actors within one’s social network can influence attitudes and behavior; and suggest understanding of the different types of actors who may or may not be influential in a given network. If, as Garcia (2007) found, organizational learning is a dynamic process of social influence based on a change in people’s awareness, outlook, and beliefs, then those social network theories that offer insight into the exchange of information and the influence of actors on each other’s attitudes and beliefs seem most pertinent in understanding organizational learning.
Strength of weak ties. Prior to the publication of Granovetter’s (1973, 1983) strength of weak ties theory, conventional thinking on the subject held that people generally received most fundamental information through those with whom they are in frequent and regular communication or, in other words, through their strong ties (Monge & Contractor, 2003). Granovetter (1973, 1983), on the other hand, posited that an individual’s strong ties tend to be members of the individual’s primary affiliation group and are very likely to be in contact with each other as well as with the individual. He inferred that because everyone in the group communicated with everyone else in the group, they all had access to the same information and, furthermore, tended to have similar attitudes and beliefs. However, Granovetter suggested that most individuals have a collection of acquaintances in addition to a set of close friends. Each of these acquaintances will have their own primary affiliation groups. “The weak tie between [the individual] and his acquaintance, therefore, becomes not a trivial acquaintance tie but rather a crucial bridge between the two densely knit clumps of close friends (Granovetter, 1983, p. 202). Acquaintances or weak ties, thus, tend to be rich sources of new and different information. Granovetter tested his theory in an empirical study of job seekers (1973), finding that workers were more likely to find out about new job opportunities through weak ties than through strong ties. On a micro level, Granovetter indicated that “individuals with few weak ties will be deprived of information from distant parts of the social system and will be confined to the provincial news and views of their close friends” (1983, p. 202). On a macro level, Granovetter concluded that “social systems lacking in weak ties will be fragmented and incoherent. New ideas will spread slowly,
scientific endeavors will be handicapped, and subgroups separated by race, ethnicity, geography, or other characteristics will have difficulty reaching a *modus vivendi* \(^{(1983, \text{p. 202, emphasis original})}\). Furthermore, Granovetter (1973) suggested that individuals with strong network ties who also have access to those outside their primary networks can act as information brokers. This idea will recur in Burt’s (1992) structural holes theory.

There is some theoretical dissent as to whether strong ties or weak ties are more valuable in terms of organizational change and the inherent organizational learning that accompanies true change. Even Granovetter (1983) asserted that his theory of the strength of weak ties did not diminish the utility of strong ties. In a 1999 study of new-product development across organizational sub-units, Hansen determined that weak ties were helpful to product development teams in terms of searching for useful knowledge across the organization. Further, when the needed knowledge was not complex, having weak ties helped to speed up the knowledge transfer process. However, in cases where the knowledge to be transferred was complex, a strong inter-unit tie proved more efficient. Similarly, Gargiulo and Benassi (2000) found that weak ties tend to be useful in acquiring new information; however, strong ties tend to be useful in sharing new information and influencing attitudinal change. It seems that the issues of knowledge seeking, transfer and creation within social networks do not have one simple solution but rather are more complex. I will revisit this concept below in the explication of Krackhardt’s (1992) strength of strong ties theory.
Social capital and the theory of structural holes. Burt’s (1992) theory of structural holes is related to Granovetter’s (1973) strength of weak ties theory and follows from Burt’s work with and understanding of social capital. Burt asserted that, in addition to financial capital, individuals also bring both human capital and social capital to any kind of competitive arena. Human capital consists of the individual attributes, characteristics and skills that a person possesses (Burt, 1992). Human capital theories tend to argue that those with greater amounts of human capital, i.e. more and more valued attributes, tend to do better than those invested with lower amounts of human capital (Monge & Contractor, 2003). Social capital, on the other hand, results from an individual’s relationships with others, friends, colleagues, acquaintances (Burt, 1992). Burt also held that social capital of individuals accrues to the organizations with which those individuals are associated. However, while human capital is owned by the individual, social capital can only be owned jointly by the parties to the relationship (Burt). If either party withdraws from the relationship, it no longer exists and the social capital that was held in that relationship also disappears (Burt).

Burt’s (1992) theory of structural holes asserted that structural holes exist where there are weak or no connections between groups. According to Burt (2002)

These holes in social structure—or more simply, structural holes—create a competitive advantage for an individual whose relationships span the holes. The structural hole between two groups does not mean that people in the groups are unaware of one another. It only means that the people are focused
on their own activities such that they do not attend to the activities of people in the other group. Holes are buffers, like an insulator in an electric circuit. People on either side of a structural hole circulate in different flows of information. Structural holes are, thus, an opportunity to broker the flow of *information* between people, and *control* the projects that bring together people from opposite sides of the hole. Structural holes separate nonredundant sources of information. Nonredundant contacts offer information that is more additive than overlapping. (p. 337, emphasis in original)

Structural holes, therefore, offer opportunities for individuals to link other network participants indirectly, to access new and different information more quickly, and to gain a competitive advantage not only for their organizations, but also for themselves as their social capital may increase due to their ability to broker information between network groups (Burt, 1992, 2000, 2002). It has been suggested (Burt, 2000, 2002, 2004; Kilduff & Tsai, 2003) that these brokering or bridging ties are subject to more rapid decay, either dissolving entirely or becoming strong ties which limit their ability to be used in the above manner. Therefore, individuals may need to constantly seek out new structural holes to bridge (Burt, 2004; Kilduff & Tsai). Burt (1992, 2002, 2004), therefore, suggests that diverse networks may be a greater indicator of success than large networks.
**Strength of strong ties.** As mentioned above, there has been dissent concerning the relative importance of weak and strong ties in influencing organizational behavior, organizational learning and organizational change. While acknowledging the access to new information afforded by weak ties, Krackhardt (1992) lamented the lack of clarity concerning the definition of a strong tie and, consequently, a lack of interest in further addressing the role of strong ties in network behavior. Krackhardt argued that, in fact, a certain type of strong tie, which he dubbed a *philos* tie, is actually key in facilitating organizational change. Krackhardt began with a definition of a *philos* tie as one that included three necessary and sufficient conditions: a) frequent interaction, b) affection, and c) time. Krackhardt noted that these three conditions are predictors for a trust relationship in that

- Interaction creates the *opportunity* for the exchange of information, some of which may be confidential. Affection creates the *motivation* to treat the other in positive ways, or at least not to do something that would hurt the person.

- And time creates the *experience* necessary to allow each person to predict how the other will use and shared information. (1992, p. 85, emphasis original)

In a study of the unionization efforts at a small entrepreneurial firm, Krackhardt (1992) tested his theory and found that in cases of large-scale or radical change, trust (or *philos*) networks prove to be invaluable because these types of strong ties can yield cooperation and help to overcome resistance to change. Thus, he concluded that

- If change were simply dependent on new information, then weak ties would be preeminent. But when it comes to major change, change that may threaten
the status quo in terms of power and the standard routines of how decisions are made, then resistance to that change must be addressed before predictions can be made about the success of that change effort. (pp. 103-104)

Others (Burt, 1992; Gargiulo & Benassi, 2000; Granovetter, 1983) have found that strong ties are valuable in the diffusion of new information and the influencing of attitudes within a sub-unit of a given organizational network. Krackhardt’s (1992) strength of strong (philos) ties theory further indicates that these strong trust ties are critical when the new information results in the necessity for significant organizational change.

**Contagion theories – contagion by cohesion and contagion by structural equivalence.** Monge and Contractor (2003) succinctly summarize contagion theories as follows:

Contagion theories are based on the assumption that the opportunities for contact provided by communication networks serve as a mechanism that exposes people, groups, and organizations to information, attitudinal messages, and the behavior of others (Burt, 1980, 1987; Contractor & Eisenberg, 1990). This exposure increases the likelihood that network members will develop beliefs, assumptions, and attitudes that are similar to those of others in their network (Carley, 1991; Carley & Kaufer, 1993). The contagion approach seeks to explain organizational members’ knowledge, attitudes, and behavior on the basis of information, attitudes, and behavior of others in the network to whom they are linked. (pp. 174-175).
Thus, contagion theories allow us to assume that social networks offer exposure to the information, attitudes and behavior of others and that this exposure increases the likelihood that we will share assumptions, beliefs and attitudes.

According to Brass (1995) there are two typical methods of grouping individual elements in a social network – by cohesion and by structural equivalence. Cohesion is a relational approach that groups individuals based on their ties to each other (Brass). Structural equivalence, alternatively, groups individuals based on their positions within the structure of the network (Brass, 1995). Although these individuals may not interact directly with each other, it is assumed that they interact with similar others by virtue of their similar positions (or structural equivalence) in the network structure (Brass, 1995). Erickson (1988) found that while contagion models based on these two methods of grouping individuals offer different explanations of the contagion process, they can also be complementary. In brief, the contagion by cohesion model explains individuals’ knowledge, understanding, beliefs, attitudes, and behaviors as being influenced by others in their network with whom they have direct contact (Monge & Contractor, 2003). Alternatively, contagion by structural equivalence implies that individuals are influenced by others with similar structural relationship patterns (Monge & Contractor, 2003).

**Homophily.** The basic underlying principle of homophily is a simple one: people like to associate with others who are similar. People who are similar provide useful feedback in evaluating one’s ideas and abilities (Kilduff & Tsai, 2003). Brass et al., found that “similar people tend to interact with each other. Similarity is thought to ease communication,
increase the predictability of behavior, and foster trust and reciprocity” (2004, p. 796). They further found that homophily is a basic assumption in many theories. An extension to this theory is that “just as similar actors are prone to interact, those who interact become more similar” (Brass et al., 2004, p. 797). People do not develop or change their attitudes in isolation but in contact with others (Brass et al., 2004).

“It is important to note that similarity is a relational concept: one can only be similar with respect to another individual, and in relation to dissimilar others” (Brass et al., 2004, p. 796). Individuals may identify with different groups at different times. “The more affiliations to such groups that an individual has, the more diverse and counteracting the pressures on individuals, and, therefore, the weaker the hold any one group has on its members. More memberships tend to equal more options and more freedom for the individual” (Kilduff & Tsai, 2003, p. 52). Homophily can have a negative effect on organizations. If, for example, there are multiple segregated networks with differing opinions, it can affect organizational behavior negatively (Kilduff & Tsai).

**Egocentric Social Networks**

Simply imagined, egocentric networks incorporate a level of analysis that begins with a focal node or actor and seeks to gain an understanding of the network as it relates to that one actor. Thus, rather than attempting to produce a complete picture of a network system, the goal is to gain a better understanding of the network relationships of an individuals within the larger system (Boase, 2008; Marsden, 1990; Wellman, 2007). As Wellman indicates in an introduction to a special issue of *Social*
Networks on egocentric networks, “We practice personal network analysis every day. Each of us is the center of our own universe. We know who our friends are, how they are connected to each other, and what kinds of sociability, help, and information they might provide” (p. 349). These day-to-day interactions can have a profound impact on our actions, thoughts, attitudes and beliefs. Wasserman and Faust (1994) found that egocentric network approaches have been used in the fields of anthropology, sociology and clinical and community psychology to understand topics as diverse as the social environment, the effect of personal networks on well-being, transmission of disease and social support.

Social Network Perspective and Organizational Learning

Garcia (2007) found that social network researchers are increasingly recognizing the influence of social networks on organizational behavior, organizational learning, and organizational change. According to Garcia there are two common assumptions that are key to understanding the impact of social networks on organizational behavior, learning and change. The first is that organizational learning is based on a change in people’s awareness, outlook, and beliefs (McGrath & Krackhardt, 2003). The second is that organizational learning is a dynamic process of social influence involving a lengthy process of convincing some members to adopt the change. These early adopters then convince others to adopt the change (McGrath & Krackhardt, 2003; Rogers, 1995).

In general, social network theorists (Cross, Parker, Prusak, & Borgatti, 2001; Kilduff & Tsai, 2003; MacDonald, 1995; McGrath & Krackhardt, 2003; Mohrman, Tenkasi &
Mohrman, 2003; Rogers, 1995) would agree that connectivity of informal or social relationships can have an effect on organizational learning, although as we have seen above, there is some theoretical dissent about which aspects of social networks have the greatest influence on organizational behavior, learning, and change. Connectedness, through either direct or indirect ties, can increase resource sharing, collaboration, and information sharing (Cross, Parker, Prusak, & Borgatti, 2001; Mac Donald, 1995) and can help to diffuse learning throughout an organization (McGrath & Krackhardt, 2003, Rogers, 1995; Mohrman, Tenkasi & Mohrman, 2003). Furthermore, the actual structure of social networks within an organization can foster or inhibit both resource sharing and collective action (Kilduff & Tsai, 2003).

Storberg-Walker and Gubbins (2007) found that “organizational social networks can contribute toward a learning culture and help (or hinder) an organization’s capacity to respond to environmental change” (p. 301). Pahor, Škerlavaj, & Dimovski (2008) adopted a learning-network perspective to explain the individual and organizational learning that occurs through social networks. Within this perspective, “the individual is recognized as the primary source and destination for learning, while acknowledging that learning takes place primarily in social interaction” (Pahor et al., 2008, p. 1986). Storberg-Walker and Gubbins (2007) similarly found that learning is first an individual endeavor (Sadler-Smith, 2006 as cited in Storberg-Walker & Gubbins) but that “the knowledge of the group is greater than the sum of the individual members’ knowledge” (Senge, 1990). Knowledge and knowing are the content of the learning process (Vera & Crossan, 2004) and these processes cut across
organizational levels. Therefore, to understand learning requires the ability to examine knowledge flows between individuals as well as between levels. Likewise, learning organizations are essentially networks of learning relationships among individuals, groups, and even organizations themselves (as in interfirm alliances). Mohrman et al. (2003) found that “successful learning depends not only on formal, planned, organizational implementation activities but also on the capabilities of the existing and emergent social networks” (p. 304). Social networks offer a platform through which one can seek and share information, transfer actionable knowledge, reformulate problems, and create new knowledge. Tsai (2002) found that social interaction increased opportunities for sharing of resources and ideas, increasing knowledge flow throughout an organization. He found that greater numbers of informal relationships led to increased knowledge sharing between units. It is not, however, a simple matter of increasing social network size but is, perhaps, better described as increasing network diversity.

Cross and Cummings (2004) found that broad (diverse) social networks “facilitate acquisition and absorption of potentially useful knowledge” (p. 929). Not only do broad networks increase the probability that an individual will be aware of disparate expertise within the network but also, holding “a more diverse perspective should increase the likelihood that one understands how to use relevant information located in socially distant regions of the network” (Cross & Cummings, 2004, p. 929). Cross et al. (2001) found four features that were important in knowledge acquisition through social networks 1) knowing what a person knows, 2) being able to gain timely access to that person, 3) willingness of that
person to engage in problem-solving, 4) a degree of safety in the relationship that allowed for learning and creativity in problem-solving. Others (Borgatti & Cross, 2003; Kang & Kim, 2010) have similarly found that both being aware of and valuing another’s expertise, as well as one’s perception of the ability to access that expertise are significant in understanding how and where people seek out knowledge.

Cross and Sproull (2004) found that, to be useful, knowledge that is acquired has to be actionable. The fact that information is new does not automatically make it useful. That knowledge is formed in relation to its context and environment makes the idea of knowledge transfer more complicated (Cross & Sproull). They further found evidence agreeing with Gargiulo and Benassi (2000) that both weak ties and strong ties are necessary. Knowledge being sought to solve defined problems was just as likely, sometimes even more likely, to be sought from weak tie relationships which offered access to non-redundant information (Cross & Sproull, 2004). However, strong ties became more important when the information being sought was to help solve or re-formulate ill-defined problems. Cross and Sproull posited that this effect might be due to either the greater element of risk for the knowledge seeker and/or to the greater amount of effort that the knowledge sharer would need to exert on this type of problem. Cross and Sproull suggested that “strong ties probably shape how people think about problems, and thus seek additional information, an important complement to a weak tie’s ability to yield nonredundant information” (p. 458), but indicated that there is a need for a deeper understanding of information relationships in social networks.
Social networks can allow their members to go beyond sharing of information to creating new knowledge. Marsick and Watkins (2003) determined that “organizations often expect that learning and knowledge creation will take place continuously for individuals and that they will share what they know in ways that promote learning in groups and throughout the organization” (p. 132), however, without structures in place to facilitate this learning and knowledge transfer it may occur only haphazardly if at all. Cross and Sproull (2004) similarly found that network structure could enhance or hinder network members’ ability to learn from each other. Mohrman et al. (2003) further found that the inherent “structural properties of networks, such as network position or strength of ties, reveal only the potential for action” (p. 304, emphasis mine). Furthermore, network structures are not stable but changing. For example, in their study of planned organizational change and networks they found that organizations that take care to structure and support cross-unit teams were more successful in implementing change across the organization as social networks supported the sharing of knowledge and learning required to implement the change.

Pahor et al. (2008) expand on Cross et al.’s (2001) concept that an important part of an individual’s information environment includes the relationships he or she can tap into for various informational needs to develop the concept of a learning network. “A learning network consists of the various learning activities organized by the members of an organization. The three main components are: a) learning processes: development of learning policies, development of learning programs, and execution of learning programs; b) learning structures: content structure, organizational structure, and learning climate; and c)
actors: employees, managers, and so forth” (Pahor et al, 2008, p. 1986). While each social network must be considered within its own context, there do appear to be some general implications arising from the existing literature for using or altering social networks to maximize both individual and organizational learning. Although the divisions are somewhat artificial and there is some overlap, I have grouped these implications under four themes: a) awareness of existing networks and network structure, b) increased access to others, c) exposed expertise, and d) structures and policies.

**Awareness of existing networks.** A simple awareness of an organization’s existing social networks will better position managers and employees to take advantage of the network structure. Cross, Borgatti and Parker (2002) found that those who are highly central in a network may be good conduits for information flow as they have access to large numbers of other network members. However, these highly central people may also intentionally or inadvertently become blockages in the system. Perhaps they are simply overburdened and don’t have time to pass on the information; perhaps they enjoy controlling access to information; or perhaps they may be resistant to whatever new knowledge or change is being passed along (Cross et al., 2002). Alternatively, Cross et al. (2002) also found that it can be very important to identify those on the periphery of a network and attempt to engage them in the network. Peripheral network members may have expertise of which other members are unaware. By engaging them more actively, the whole network may benefit (Cross et al., 2002). Pahor et al. (2008) found that sometimes it is not enough to be aware of the existing network but one may need to attempt to change its structure in order to improve the learning
culture of an organization. James and McCormick (2009), in a study of changing the learning culture of a school system, found that these structural changes were difficult but necessary to embed new practice into an existing culture and structure.

**Increased access to others.** In their 2008 study of learning networks, Pahor et al. found that “actors in the learning network form clusters in which learning is much more intense” (p. 1991). The larger the organization, the more likely it is to break down into these clusters. Pahor et al. found that one of the reasons that learning tended to occur in these smaller dense clusters was access to others to learn from: “People need an opportunity for learning to occur” (p. 1992). Cross et al. (2001) also found that proximity encourages interaction which leads to network linkages that may be weak or strong. Working together not only offers the opportunity to gain insight into other network members’ expertise (Cross et al.; James & McCormick, 2009; Reagans, Argote & Brooks, 2005) but working together over time also increases the likelihood of creating strong ties which may be helpful in both obtaining useful information and trusting the information source (Cross et al., 2001; Cross & Sproull, 2004, Reagans et al., 2005). Increased access to others does not only mean increased access to others within one’s organization but also to building linkages with others outside of one’s organization (James & McCormick, 2009; Penuel & Riel, 2007). These external ties, be they weak or strong, offer access to novel information and expertise. Thus, it is helpful to not only be aware of existing ties but also to find ways to increase access to both new and existing ties. Structures that might support increased access include team rotation, encouraging social interaction, establish peer-to-peer networks, mentoring
programs, and providing opportunities to share best practices (Cross et al., 2001; Cross & Cummings, 2004; James & McCormick, Penuel & Riel.).

**Exposed expertise.** Network members also need to have an understanding of the expertise within their networks – who knows what (Cross et al., 2001). Increasing access to others will help actors gain insight into this issue however managers and others hoping to increase learning need to find ways to enhance employees’ awareness of the expertise of others in the organization (Cross & Cummings, 2004). Encouraging employees to collaborate together across organizational units can help to raise awareness of expertise, but managers can also identify experts within the network and encourage them to share best practices within their unit and the organization as a whole (James & McCormick, 2009). Additionally, simply providing time and opportunity for all network actors to share best practices and dialogue helps to expose network participants to others’ expertise.

**Structures and policies.** Tsai (2002) found that while informal social network ties often occur naturally, they can be encouraged through various network structures and polices. Although several of these network structures and policies have already been mentioned above as supporting the first three suggestions for maximizing learning in networks, it is worthwhile to mention structures and policies as a separate theme. Pahor et al. (2008) found that the structure of a network has an impact on the ability of an organization to learn, therefore, if one desires to improve the learning culture of an organization, it may be necessary to alter the network structure. James and McCormick (2009) found that altering the organizational and network structures to be among the most difficult changes to
implement. Some possible structural or policy changes include: reallocate informational domains or decision-making duties to alleviate an information flow blockage (Cross et al., 2002); create structures that allow for a different use of time and space to ensure that there is time for both informal and formal sharing of expertise (Penuel & Riel, 2007); and intentionally create space for informal interactions (Tsai, 2002).

The social network can prove to be a rich environment for witnessing and understanding adult learning in a social context. The social network perspective offers us an opportunity to examine the relationships between actors in a network and understand the impact of these relationships on individual and organizational learning. Connectedness, through informal relationships, can have a significant impact on organizational learning by increasing access to resources and information and by encouraging collaboration and the diffusion of information throughout an organization. Furthermore, it may be possible to capitalize on these connections to increase organizational learning by increasing our awareness of existing networks, increasing our ability to create and retain weak and strong ties, and expose expertise within an organization such as a school district.

**School Districts as a Loosely-Coupled Context**

Senge (1990) asserted that structure produces behavior and that changes in underlying structures can produce changes in behavior (p. 53). Senge, Cambron-McGabe, Lucas, Smith, Dutton, & Kleiner (2000) further suggested that schools and school districts are living systems. Living systems have integrity in that their character depends on the whole. The same is true for organizations; to understand the most challenging managerial issues requires
seeing the whole system that generates the issues (Senge, 1990, p. 66). Thus, in order to gain a fuller understanding of the social network relationships of educators, it is important to understand the nature of the school district. A school district may reasonably be described as a loosely-coupled system (Firestone, 1985; Gamoran & Dreeban, 1986; Horne, 1992; Meyer & Rowan, 1978; Orton & Weick, 1990; Weick, 1976).

The term “loose coupling” began to appear more frequently in the literature following Weick’s seminal article on the concept in 1976. Perhaps because the phrase is both evocative and vague, it is prone to multiple understandings. Glassman’s (1973, as cited in Weick, 1976) concept of degrees of coupling between systems focused on the number and type of variables that systems have in common. Systems with few variables in common or with only weak variables in common are classified as largely independent of each other or loosely coupled. Thus, a system might be considered loosely coupled if it consists of elements that are linked and responsive to each other in some way, but that also retain their own identity and may act independently. How these elements interact within any given system may be different and may change over time. For example, Weick (1976) asserted that loose coupling in one part of a system implies tight coupling in another part of the system. Which elements are more or less tightly coupled may change and, in fact, some elements may be dropped from or added to the system (Weick, 1976). Horne (1992) offers a relatively comprehensive listing of characteristics of a loosely-coupled system that includes:

- a) decentralization;
- b) delegation of responsibilities and decision-making;
- c) inability to deliver significant changes in outcomes despite alterations to organizational
structures; d) relative lack of coordination; e) slow coordination; f) elements acting relatively independently despite attempts to coordinate their activities; g) several means to produce the same end; h) few regulations or formal procedures; i) formal regulations and procedures not followed closely, perhaps ignored totally; j) infrequent inspection of activities in the system; k) little reaction to inspection findings; l) local initiatives and customs prevail in the face of central demands; m) planned unresponsiveness to unwanted initiatives; n) outside initiatives affect elements occasionally rather than continually; o) elements are affected by the external environment eventually rather than immediately; p) members of the organization have differing perceptions of reality and different personal and professional goals. (p. 89)

Horne’s list of characteristics offers perhaps a more practice-oriented rather than theoretical perspective in determining the loosely-coupled nature of a system.

In his 1976 article Weick proposed that schools are actually loosely coupled systems as an antidote to traditional bureaucratic and rational theories of organization that did not seem to answer questions about what actually happens in educational settings. Since Weick first raised the subject, it has become increasingly common to consider loosely coupled systems in the arena of education. While a number of researchers (Firestone, 1985; Gamoran & Dreeban, 1986; Horne, 1992; Meyer & Rowan, 1978; Orton & Weick, 1990) have accepted and built on Weick’s foundational theory of schools as loosely coupled systems, others have raised questions about the fit of this theory in education (Ingersoll 1993, 1994).
In examining the model of loosely coupled systems as it relates to schools, consider this characterization of education:

Teachers are expected to produce roughly uniform outcomes in students moving through a sequence of classes, grades and schools. Persons in different roles and interest groups hold varied and often conflicting goals. Little is known about instructional cause and effect, and participants enter and leave rapidly. These uncertainties mean that unlike monocratic bureaucracies, school systems cannot operate by passing on directives for instruction from one hierarchical level to the next. Instead, teachers are left to work rather independently of orders from higher levels. Administrators do not govern activities that take place in the technical core. District, schools and classroom staff operate with substantial independence from one another. (Gamoran & Dreeben, 1986, pp. 612-613)

Meyer and Rowan (1978) also found that teachers and administrators generally work independently of each other. Additionally, they found that there is often very little consensus on the instruction not only between teachers and administrators but also among teachers. Ingersoll (1993, 1994) on the other hand, argues that organizational control is a relative concept. While, he concedes that in comparison to previous direct control models, systems such as education which are described as loosely coupled appear more decentralized, Ingersoll (1993) contends this approach ignores other forms of control that may be operating. Contrary to the loosely coupled systems model, he has found that, within schools, teaching and administration are, in fact, highly connected. For example, while he has found that
classroom instructional decisions are commonly delegated to teachers, “these decisions are often subsidiary to, largely nested within, and predetermined by higher order decisions not under the control of teachers” (Ingersoll, 1994, p. 160). Horne (1992), on the other hand, also juxtaposes the theory of loosely coupled systems with a bureaucratic model in which goals would be determined at the top of the hierarchy, specified and codified, and passed down through the levels of the system. Horne argues that the bureaucratic model “does not take into consideration the development of local initiatives, nor does it explain why ideas generated centrally often fail to be implemented fully, or are modified, at the school level” (p. 90) which loose coupling helps to explain.

Much of the literature concerning K-12 education and loosely coupled systems focuses on the school as a loosely coupled organization with individuals – teachers, administrators, parents, students – as the nodes within the system. However, school districts may in fact be a better model of loosely coupled systems, as they seem to offer additional examples of and opportunities for loose coupling. Each individual school within a district could be considered an element of the system, along with the central office, school board, individual PTA units, and so on. Each of these elements may be responsive to others in the system. For example, an individual school would comply with the general curriculum standards of the district. However, each unit would also retain a certain amount of autonomy. For example, that same school might also belong to an International Baccalaureate network of schools which imposes additional curriculum standards. Figure 2 offers a visual model of a school district as a loosely coupled system.
Several of Horne’s (1992) characteristics are particularly pertinent to school districts. These include: decentralization; delegation of responsibilities and decision-making; relative lack of coordination or slow coordination; elements acting independently; local initiatives and customs prevailing in the face of central demands; outside initiatives affect elements occasionally rather than continually; and members of the organization have differing perceptions of reality and different personal and professional goals. School districts may vary significantly in size but may consist of several to several hundred individual schools, generally divided into elementary, middle or junior high, and high schools. These schools are responsible for the technical core (education or instruction) of the district. Districts may also have one or more administrative bodies. For example a school district may be governed by a school board which sets policy. However, a school board may or may not have
budgetary control for a district. School districts generally also have a central administrative office and superintendent which implement policy set by a school board and are responsible for district administration. Although there are some clear indications of hierarchical activity within a school district, there is also clear evidence that school districts can in fact be classified as loosely coupled.

If, as we have seen, school districts may be described as loosely coupled systems and the structure of a system has implications for its organizational behavior, what does that mean for a school system in the context of today’s world? School districts today must fulfill their mission within an ever-changing society. In response to this environment, a school district’s behavior as a system reveals its loosely coupled nature as some elements adapt quickly to a changing environment while others act to maintain the status quo. While the loose coupling of a system allows for multiple perspectives and new knowledge, these multiple perspectives may also act to constrain the ability of the system to create and sustain a shared vision (Senge, 1990). This situation brings rise to an interesting question concerning the actors within this loosely coupled system, particularly in the context of implementing a change initiative. What is the nature of their behavior within this loosely coupled organizational structure? A social network perspective may allow us some insight into this issue.

**Summary**

The purpose of this study is to gain a better understanding of the social network experiences of school-building level educators within the context of a school district
implementing a global education initiative. Chapter one identified the purpose and framework of the study as well as the research questions and significance of the study. This chapter reviewed the related literature on international and global education and social network perspective and briefly examined the context of a school district as a loosely coupled system and the particular challenges and opportunities this context may present to the implementation of a global education initiative. Subsequently, Chapter three will focus on the design and methodology of the study.
CHAPTER 3

The purpose of this interpretive qualitative study is to explore the social network experiences of school-building level educators within the context of a school district implementing a global education initiative. The study seeks to understand not only how educators describe their social networks, but also to gain insight into the role of social networks in implementing global education. The purpose of this chapter is to describe the research design and methodology.

Research Design and Approach

The overall approach chosen for this study is qualitative. “The procedures of qualitative research, or its methodology, are characterized as inductive, emerging, and shaped by the researcher’s experience in collecting and analyzing the data. The logic that a qualitative researcher follows is inductive, from the ground up, rather than handed down entirely from a theory or from the perspectives of the inquirer” (Creswell, 2007, p. 19). Rather than use deductive inquiry to prove or disprove hypotheses, a qualitative approach is designed to help researchers explore, describe and understand an issue (Bloomberg & Volpe, 2008; Merriam, 1998). This approach to “fieldwork, without being constrained by predetermined categories of analysis contributes to the depth, openness, and detail of qualitative inquiry” (Patton, 2002, p. 13). Within the scope of this study, a qualitative approach offers an opportunity to gain an in-depth understanding of the social network experiences of global educators.
Most traditional social network research has been conducted from a quantitative approach, generally through surveys and questionnaires (Marsden, 1990). Relatively few studies have approached social networks from a mixed method approach and even fewer from a solely qualitative approach. However, Heath, Fuller and Johnston (2009), found that “the conceptual underpinnings of SNA [social network analysis] do not preclude more qualitative approaches” (p. 645). They further found that social network analysis is at least partially rooted in qualitative traditions, citing Scott (2002) and Trotter (1999). Heath, Fuller and Johnston recognized that social network analysis has taken on a distinctly quantitative approach and that purely qualitative studies are rare, despite the fact that “the British Sociological Association’s own SNA study group also notes that ‘in some of the best examples [of SNA], quantitative data is integrated with a rich contextual understanding and analysis derived from archival and ethnographic sources’” (Heath, Fuller, & Johnston, 2009, p. 646). Heath, Fuller and Johnston acknowledged that, by its very nature, a qualitative study will only give partial access to the members of a given social network under study. However, they also found that quantitative studies will similarly limit network membership and present the network as a bounded entity and may also leave out members either inadvertently or purposefully.

Quantitative studies have contributed a wealth of information concerning social networks, especially in relation to their structure, density and the relative strength and weakness of network ties. However, quantitative approaches fail to explore questions of how social network participants describe their networks, understand them, act within them, and
value them. Because a qualitative approach seeks to understand how participants make meaning of their daily lives (Marshall & Rossman, 2006; Merriam, 1998, 2002), such an approach offers an opportunity to explore exactly these questions in an in-depth manner. The literature also shows an indicated need for more qualitative work to further develop our understanding of social networks (Carmichael et al., 2006; deLima, 2007; Mohrman, et al., 2003).

The study is framed as a basic interpretive qualitative study. Qualitative approaches seek to understand “how people interpret their experiences, how they construct their worlds, and what meaning they attribute to their experiences” (Merriam, 2009, p. 5). Interpretive approaches assume that, rather than a single observable reality “out there”, reality is socially constructed (Merriam). Merriam determined that basic qualitative studies are those in which the researcher is “interested in understanding the meaning a phenomenon has for those involved” (2009, p. 22). Merriam further suggests three specific characteristics of basic qualitative research that are pertinent to this study. First, Merriam describes basic qualitative research as being in interested in exploring how people construct their worlds. By using an ego-centric network perspective, this study is interested in exploring how emerging global leaders describe their social networks. Who do they choose to include? And how do they choose to describe those relationships? Additionally, Merriam describes basic qualitative research as seeking to understand and describe how people interpret their experiences and ascribe meaning to their experiences. This study focuses on educators’ experiences of social networks and the role these networks play in the educators’ ability to implement a global
education initiative within the school system. Data collection within a qualitative study most frequently uses interviews, observations, or documents and artifacts. Basic qualitative research is also descriptive in that it offers thick, rich description of the phenomenon under study (Merriam). Within this study, the researcher elicits thick, rich description through the use of both more traditional verbal methods such as interviews and researcher notes as well as less traditional methods such as having participants draw their professional social network maps. Qualitative research, unlike an experimental study, offers the opportunity to explore a real life phenomenon in-depth and within its context (Yin, 2009). This qualitative study explores educators’ experiences with social networks in a school system implementing a global education initiative. Such an approach is appropriate because the purpose of the study is to explore the experience of emerging global leaders in enacting their social networks to learn about and implement global education.

**Research Setting**

This study is situated within one school system within the state of North Carolina, Eastern County Schools (the school system, any schools, and any individuals in the study will be identified only with pseudonyms). Eastern County Schools is in the midst of implementing a global education initiative. Therefore, the setting offers an opportunity to both better understand how educators who consider themselves leaders or emerging leaders in global education experience their social networks and to gain insight into how those educators’ experiences may inform our understanding of the role that social networks may play in the implementation of a global education initiative.
In August 2006, the North Carolina State Board of Education (SBE) adopted a new guiding mission “that every public school student will graduate from high school, globally competitive for work and postsecondary education and prepared for life in the 21st Century” (SBE website at http://www.ncpublicscools.org). In response, in 2007, Eastern County Schools amended their strategic plan for school improvement to include the concept of “future-ready” students (District Strategic Plan 2007-2010). According to Eastern’s amended strategic plan, preparing students for the 21st century includes ensuring that each student excels in a curriculum that reflects what they will need to know in the 21st century including a mastery of languages, understanding of the arts, and technological competency (2007, p. 50). Furthermore, the plan calls for school professionals to collaborate with those beyond the borders of their school and even their district to “facilitate change, remove barriers for 21st century learning and to understand global connections” (p. 50). The newly implemented global education priority in Eastern County Schools offers an opportunity to explore with participants the extent to which they experience their social networks as offering opportunities to seek and share information and to collaborate to create new knowledge around this new priority.

The school system was selected in part as a convenience sample because it is a school system to which the researcher has access. However, the district is also in the midst of implementing a relatively new global education initiative, making it an ideal location to find emerging leaders in global education willing to share their experiences with social networks. School systems within the state of North Carolina vary significantly in size, ranging from
three schools and 576 students to 175 schools and 154,368 students (2012-2013 NC Statistical Profile, NC Department of Public Instruction website). Eastern County Schools is a mid-sized school district with 26,284 students and 36 schools in the eastern part of the state. Considered a low-wealth district, Eastern Public Schools spends just under the state average per pupil. Given the variation in NC school districts, the above qualities make Eastern Public Schools a good location for a study exploring social networks within a school system’s global education initiative. While the purpose of a qualitative study is not to discover generalizable results, by gaining an understanding of the role of social networks in Eastern County Schools’ global education initiative, the reader may also gain insight into the role social networks may play in similar initiatives in other school systems. Additionally, in analysis of the findings, they may be generalized back to the literature to offer additional insight or differing perceptions.

**Selection of Participants**

The participant pool consisted of teachers and administrators who self-identified as emerging leaders in global education. For the purposes of this study, the researcher defined emerging leaders in global education as those teachers and administrators within this school system who have made a concentrated effort to incorporate the system’s recently adopted global education priority into their schools and classrooms. Participants were employed by several different schools within the district. Although the Eastern County Schools district has placed emphasis on the new global education priority for several years, it is still a relatively recent phenomenon. As yet, there is not necessarily one single school that stands
out as having achieved the goal of implementing global education, although there may be pockets of excellence – in schools or in classrooms – within the district. There appear to be emerging leaders in global education across the district.

The researcher used stratified purposive sampling (Miles & Huberman, 1994) to select study participants within the Eastern County Schools setting. The initial participant pool was determined in the following manner. An email solicitation was sent out to all principals (approximately 37), assistant principals (approximately 40) and teachers (approximately 1365) briefly describing the purpose of the research study and asking for volunteers to participate in the study. The email stated that the researcher was interested in talking with educators who consider themselves to be leaders or emerging leaders in implementing the global education priority and offered a brief generic description of an emerging global leader in education. Volunteers were asked to self-identify as an emerging global leader who would be interested in talking with the researcher about their social networks, including how they describe, experience and act within them, particularly around the issues of implementing the new global education priority. The email stated that participation included: 1) participating in an in-person 60-90 minute interview asking about their experiences with implementing the global education priority; and 2) completing a social network mapping activity and follow-up interview about their map and their social network experiences around global education. Volunteers who self-identified as emerging global leaders were asked to contact the researcher to indicate their willingness to participate in the study. Please see Appendix B for an example of the email. The researcher considered all
those who self-identified as emerging leaders in global education as eligible study participants and contacted them in the order in which they replied.

The researcher strove, through the sampling process, to include participants from both the teacher and administrator categories as well as for those with a range of experience within the school system. In order to ensure a sufficient potential participant pool, the researcher also employed a modified snowball sampling technique by asking participants who else in their school or school system they considered an emerging global leader and who might be interested in participating in the study. If any of these individuals had not already responded, the researcher also tried to establish contact with these individuals concerning participation in the study. As there is a considerably larger pool of teachers in a school system than of administrators, it had been expected that a stratified sampling strategy would be needed to make an effort to include a representative number of administrators (Miles & Huberman, 1994). However, in actuality an almost equal number of administrators and teachers indicated a willingness to participate in the study. Thirteen volunteers responded positively to initial recruitment efforts, however, three volunteers did not respond to several attempts to follow up and set up an initial interview time. Therefore ten volunteers participated in the study. One participant participated fully in the first interview; however, her schedule did not allow for her to participate in the follow-up interview and mapping activity. Hardy and Bryman (2009) suggest that missing data is unavoidable for all researchers. A problem for qualitative researchers is in balancing fidelity to the data and meaning-making. McKlether, Gluesing and Riopelle (2009) posit that one can interpret
social network analysis from narrative data. Therefore, as her answers in the first interview were rich and illustrative of a number of the findings, her initial interview was included in the findings for illustrative purposes.

**Demographic Summary of Participants**

Of the ten participants, eight were women and two were men. Three participants were principals, two were assistant principals, four were classroom teachers, and one was a specials (art) teacher. Two of the classroom teachers also held other school-wide positions, one as a STEM facilitator and one as the school’s International Baccalaureate (IB) coordinator. The average time in education by study participants was 17.8 years and ranged from six to 32 years. Thus, none of the participants was new to the field of education, although the two assistant principals were both fairly new to their positions/schools with one having two years in the school and the other having one year in the school. All but one of the participants had a master’s degree or higher and only one participant was a lateral entry teacher. Table 4 offers a comparative view of the participants as summarized in this section.
Table 4. Participant Demographics

<table>
<thead>
<tr>
<th>Gender</th>
<th>Position</th>
<th>Years in education</th>
<th>Years at this school</th>
<th>Highest Degree Attained</th>
<th>Lateral Entry?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cindy</td>
<td>F</td>
<td>Classroom Teacher</td>
<td>21</td>
<td>11</td>
<td>M.Ed.</td>
</tr>
<tr>
<td>Hazel</td>
<td>F</td>
<td>Principal</td>
<td>9</td>
<td>5</td>
<td>Ed.D. candidate</td>
</tr>
<tr>
<td>Andrew</td>
<td>M</td>
<td>Assistant Principal</td>
<td>6</td>
<td>1</td>
<td>M.Ed.</td>
</tr>
<tr>
<td>Parker</td>
<td>F</td>
<td>Assistant Principal</td>
<td>11</td>
<td>2</td>
<td>M. Ed.</td>
</tr>
<tr>
<td>Susan</td>
<td>F</td>
<td>Classroom Teacher</td>
<td>14</td>
<td>8</td>
<td>M.Ed.</td>
</tr>
<tr>
<td>Becky</td>
<td>F</td>
<td>Art Teacher</td>
<td>32</td>
<td>31</td>
<td>B.A.</td>
</tr>
<tr>
<td>Dennis</td>
<td>M</td>
<td>Classroom Teacher</td>
<td>8</td>
<td>8</td>
<td>M.Ed.</td>
</tr>
<tr>
<td>Lynn</td>
<td>F</td>
<td>Classroom Teacher/IB Coordinator</td>
<td>21</td>
<td>13</td>
<td>M.S.A</td>
</tr>
<tr>
<td>Leslie</td>
<td>F</td>
<td>Principal</td>
<td>26</td>
<td>10</td>
<td>M. Ed.</td>
</tr>
<tr>
<td>Patty</td>
<td>F</td>
<td>Principal</td>
<td>30</td>
<td>6</td>
<td>Ed. S.</td>
</tr>
</tbody>
</table>

The participants represented five schools in the Eastern County Schools district. Eight participants, including three principals, two assistant principals, and three classroom teachers represented elementary schools. Two participants, both classroom teachers (one of whom also served as the school’s IB coordinator) represented a high school. No participants represented middle schools although two of the original volunteers were from middle schools.

**Data Collection**

Data collection for the study occurred in several stages and included multiple strategies. Figure 3 indicates the data collection and analysis sequence. While interviews are
the most common source of data in qualitative studies, additional forms of data such as observations and documents are also appropriate for use in a qualitative study (Merriam, 2009). Within a qualitative study, data collection and analysis form an iterative process that may lead the researcher to new forms of data (Merriam, 1998). While allowing for both breadth and depth, the use of multiple sources of evidence also allows for triangulation through converging lines of inquiry (Yin, 2009). Data collected for this study includes social network maps drawn and annotated orally by participants during a mapping activity; in-depth, semi-structured interviews; and the researcher’s journal and field notes.

<table>
<thead>
<tr>
<th>Data Collection</th>
<th>Interview # 1 (Semi-Structured)</th>
<th>Mapping Exercise</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data Analysis</td>
<td>A priori coding</td>
<td>A priori coding</td>
</tr>
<tr>
<td></td>
<td>Open coding</td>
<td>Open coding</td>
</tr>
</tbody>
</table>

*Figure 3. Data Collection and Analysis*

**Initial Interview**

Once agreement and informed consent was obtained, all participants were asked to participate in a 60-90 minute interview about the global education priority in their school district and how they felt they were implementing global education in their context. Interviews were semi-structured and were focused on gaining an understanding of the interviewee’s perceptions of the district’s commitment to global education; the participant’s own efforts in learning about and implementing global education in his or her school or classroom; and an initial understanding of the participants’ social networks. Additionally,
the interview questions were designed to gain an initial understanding of the participant’s perceptions of the role their colleagues play in their ability to implement global education in their school or classroom. The interview protocol included a short list of four questions with additional follow-up probes. The questions were broad enough that the answers were varied; therefore, the follow-up probes were varied. Additionally, in some cases the researcher asked other follow-up probes as needed to better understand the initial answers given by the participant. The interview protocol is available is Appendix E.

Initial contact concerning this interview occurred by email or by phone to establish a meeting time and location convenient to both the researcher and the participant. The researcher traveled to Eastern County Schools and the interviews took place in a venue of the participant’s choice. Based on participant preference, the interviews generally took place in the participant’s home school. In order to ensure a minimum of interruptions, interviews with teachers took place after the school day or during their planning periods, while interviews with administrators were more flexible and took place in their offices. The interviews were recorded digitally and the digital recordings were downloaded to the researcher’s password protected computer. Interviews were transcribed by either the researcher or by a transcription service bound to protect confidentiality. Electronic copies of the transcriptions were kept on the researcher’s password protected computer. Any hard copies were kept in a locked file cabinet in the researcher’s home office. Transcripts were sent via email to the interviewee for member checking to ensure that interviewees agreed
with the accuracy of what was recorded. Names and other identifying information were and will be removed from transcripts or any part thereof that is used in publication.

Mapping Activity

After completing the interview and member-checking process, participants were asked to participate in a social network mapping activity. The design of this activity is drawn from the work of Fox, McCormick, Procter, and Carmichael (2007) as well as the baseline network mapping exercise level three (http://www.learntolearn.ac.uk). The mapping activity offered participants an opportunity to create a visual image of their ego-centric network.

Visual methods have long been a part of social research and are perhaps most closely associated with the use of researcher drawings and photographs in ethnographic studies. Many visual methods may be considered to be observatory methods, for example, an ethnographer in the field taking photographs of the population he or she is studying (Banks, 2001). However, Banks suggested that participants often collaborate, consciously or unconsciously, in the creation of the images. Banks proposed that a next step is active collaboration by participants with the researcher in the creation of images. Gauntlett (2007) found that using visual and creative methods can help facilitate understanding of layers of experience that cannot be easily put into words. Furthermore, they can help us pay attention to reality in different ways (Weber, 2008).

Bagnoli (2009) has found that drawing and other visual methods can allow for greater participation and reflexivity on the part of participants. Additionally, these types of methods support and affirm the qualitative idea of a relationship between researcher and participant
Qualitative research often assumes a relationship between the researcher and the participant. It was hoped that the mapping activity would help to leverage that relationship to not only provide data for the research but also to help participants become more aware of their existing networks, how they currently use their networks, and how they might take greater advantage of them in the future to improve practice. Cross, Borgatti and Parker (2002) found that simple awareness of existing social networks better positions people to take advantage of those networks. By asking educators to draw and then discuss their social networks, this study may bring them greater awareness of their own networks and how they might more actively access them to implement the global education priority. In conducting a similar mapping activity, Fox et al. (2007) found that even participants who were initially skeptical about the activity eventually indicated that they found it useful on both a personal and a professional level.

Based on participant feedback as described in Fox et al. (2007), all mapping tasks were completed one-on-one with the researcher present to both prompt the participant and to answer questions about the activity while remaining as neutral as possible. When possible, the researcher and participant agreed on a convenient meeting time and location for the mapping activity at the end of the initial interview. In some cases, however, the researcher contacted the participant by phone or email at a later date to set up the meeting time and location. The researcher traveled to Eastern County Schools and the mapping activity took place in a venue of the participant’s choice. As with the initial interview, the interviews generally took place in the participant’s home school. In order to ensure a minimum of
interruptions, interviews with teachers took place after the school day or during their planning periods while interviews with administrators were more flexible and took place in their office.

A more detailed description of the mapping activity is found in Appendix F; however, the activity is briefly described here. Participants were offered the option of a warm-up task based on their personal social networks to familiarize them with the activity. However, most respondents indicated that they were comfortable with a mapping concept and preferred not to do the warm-up activity. Participants were then asked to draw a picture that represented their social network in relation to global education. In other words, with whom they communicate regarding global education; from whom they get information; who they feel influences them regarding global education; who they feel they influence regarding global education, etc. Participants were asked to illustrate those people and organizations with whom they keep in touch and how they keep in touch with them regarding global education. If participants were, at any time, uncomfortable with using pictures, they were given the option of using words in boxes. They further had the option of creating a key for their drawing. All participants used some form of text on their maps to help clarify their drawing. During the activity, participants were asked to speak out loud about what they were drawing and the sessions were digitally recorded. When it appeared that participants had exhausted their initial thoughts of whom to add, they were prompted to be sure that they had included everyone with whom they are in touch regarding global education and if their map best represents how such communication happens.
Once the participant finished drawing his or her network map, the researcher asked additional questions to clarify her understanding of the map the participant had drawn. Questions focused on a) gaining an understanding of the interviewee’s perceptions of the map he or she drew; b) confirming or rejecting the researcher’s initial interpretations of the maps; c) probing for additional information about the nodes, links or ties and overall structure of the network that was not necessarily evident from the map; and d) exploring the existing social network from the perspective of the interviewee. Additionally, the researcher asked questions designed to gain an understanding of the participant’s perceptions of the role their social networks play in their ability to implement global education in their school or classroom.

The mapping activity and follow-up questions were recorded digitally and the digital recordings were downloaded to the researcher’s password protected computer. Interviews were transcribed by either the researcher or by a transcription service bound by confidentiality. Electronic copies of the transcriptions were kept on the researcher’s password protected computer. Hard copies were kept in a locked file cabinet in the researcher’s home office. Names and other identifying information were and will be removed from transcripts or any part thereof that is used in publication. In order to assist in maintaining confidentiality, any warm-up personal social network maps were shredded or given to the participant at their request. The professional social network maps drawn as part of the study itself were only accessible in their original state to the researcher and the participant. Professional network maps were scanned into the researcher’s password
protected computer along with the digital recordings; and hard copies of the maps were kept in a locked cabinet in the researcher’s home office. Any identifying marks or names have been and will be removed or masked prior to sharing or publishing maps.

The researcher requested the option of contacting the participants by phone or email should any additional questions or issues requiring clarification emerge during the data coding. Following member checking, each original map and its accompanying interview transcripts were considered both separately and as one data set.

Data Analysis and Presentation of Findings

Qualitative research in general typically generates large quantities of data (Bloomberg & Volpe, 2008). Furthermore, some data may be incompatible with each other (Merriam, 1998). Therefore, the process of data analysis in a qualitative case study needs to be well thought out, organized and managed. Marshall and Rossman (2006) suggest a seven phase process to organize and manage data analysis for a qualitative study. The phases that they suggest include: a) organizing the data; b) immersion in the data; c) generating categories and themes; d) coding the data; e) offering interpretations through analytic memos; f) searching for alternative understandings; and g) writing the report (p. 156). The researcher followed these phases of data management and analysis, recognizing that the analysis process is iterative and that these phases are not necessarily linear.

In terms of organizing the data, the researcher utilized ATLAS-ti computer software to store and manage the data. This particular computer software program was chosen because it offers significant capability in working with graphic files, a capability which was
particularly useful in analyzing participant drawings of network maps. Additionally, the software offers the ability to store and manipulate both text and audio files, as well as offering the ability to generate memos and additional documents which can be attached to the primary data in multiple ways.

Merriam (1998) advised that data analysis should occur simultaneously with data collection due to the inductive nature of qualitative research. Because “the researcher does not know what will be discovered, what or whom to concentrate on, or what the final analysis will be like” (Merriam, p. 162) at the outset of the study, data analysis done alongside data collection can inform the data collection process. Therefore, the researcher treated the data collection and analysis phases of the study as an iterative process of seeking out overarching ideas, patterns and themes and generating categories and codes (Bloomberg & Volpe, 2008; Merriam, 1998; Stake, 1995). Further, the researcher used the constant comparative method of data analysis. While this method was developed by Glaser and Strauss (1967) as a means of generating theory from qualitative research, “the basic strategy of the constant comparative method is compatible with the inductive, concept-building orientation of all qualitative research” (Merriam, 2009, p. 199). As described by Glaser and Strauss, the constant comparative method begins with coding each incident in the data into as many categories of analysis as possible. Data may be coded into an existing category or new categories may emerge to fit the data. As its name suggests, the data are constantly compared with each other and with the categories. The method is quite well-suited to studies that include both a priori and open coding methods as it allows for both comparison to
existing theories but also allows for the emergence of new codes, hypotheses, and theories that may emerge from the data (Merriam, 2009).

In practical terms, the researcher began the initial data collection process (initial interview, mapping activity, coding, etc.) as soon as participants who met the criteria for inclusion in the study were available rather than waiting for the entire participant pool to be assembled; conducting all of the initial interviews; then all of the mapping activities; and then beginning to analyze the data. Conducting the process in this manner allowed the researcher to focus on each participant as an individual and be less likely to overlook outlying behaviors as patterns and themes emerged from the data. Both a priori coding and open coding were conducted simultaneously. While the initial a priori codes based strictly in the social network literature were useful, an additional set of categories, based on the social network categories also emerged from the data. These categories were still based on a social network perspective and are delineated in a separate table from the open codes. While the a priori and open coding occurred simultaneously, for the sake of simplicity they are described separately in the next sections.

**A Priori Coding**

Initial analysis began with coding the first interviews. The process is illustrated in Figure 3. Although presented in a linear fashion in Figure 3, the process was iterative. First, as soon as possible, each interview was transcribed and the transcript sent to the participant for member-checking. Subsequent to member-checking, initial analysis of the interviews began. McKether, Gluessing and Riopelle (2009) suggested that social network data is
embedded in and may be drawn from narrative data. Thus, a social network perspective lens was used to code the interview transcripts. The list of *a priori* codes was developed from the social network literature and are described in Table 5 below.

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Additional descriptors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tie Strength</td>
<td>Strong ties tend to be those with whom we have friendship ties or with whom we have frequent interaction. Weak ties are indicated by infrequent interaction.</td>
<td></td>
</tr>
<tr>
<td>Tie Value</td>
<td>Value is determined by the extent to which the network participant places value on the usefulness of the information, etc shared by a tie. Value may also be influenced by ease of access to the tie</td>
<td>Strong, High-Value; Strong, Low Value</td>
</tr>
<tr>
<td>Node Type</td>
<td>Nodes may be any element of the system including individual people, teams, organizations, etc.</td>
<td>Colleagues; Organizations, Students, Leadership, etc.</td>
</tr>
<tr>
<td>Structural Holes</td>
<td>Weak or no connections between two or more groups</td>
<td></td>
</tr>
<tr>
<td>Bridging</td>
<td>Weak ties may offer opportunities for a network participant to bridge structural holes and link two organizations, people, etc</td>
<td></td>
</tr>
<tr>
<td>Hubs</td>
<td>Hubs tend to have multiple connections and may function as the hub of a wheel, as the only connection between multiple spokes. Hubs may facilitate or obstruct communication</td>
<td></td>
</tr>
<tr>
<td>Social Capital</td>
<td>The value found in a relationship; unlike human capital, the value lies not in the person but in the relationship. If one person withdraws from the relationship, the social capital is diminished or lost</td>
<td>Loss of social capital</td>
</tr>
<tr>
<td>Exposure to expertise</td>
<td>The participant’s awareness of and access to expertise within his/her network</td>
<td></td>
</tr>
</tbody>
</table>
Table 5 cont’d

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proximity</td>
<td>The participant’s ease of access to others</td>
</tr>
<tr>
<td>Network Density</td>
<td>How many connections a participant has in his/her network</td>
</tr>
<tr>
<td>Network Diversity</td>
<td>The degree to which a participant’s network includes different types of connections</td>
</tr>
</tbody>
</table>

As mentioned above, the *a priori* coding also gave rise to a set of categories based on the social network literature. These categories are described in Table 6 below.

Table 6. *Additional Coding Categories Based on Social Network Perspective*

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>External Connections</td>
<td>Participants described both strong and weak ties with network members external to the school system including: organizations and associations, universities, military, and community</td>
</tr>
<tr>
<td>Internal Connections</td>
<td>Participants described both strong and weak ties with network members internal to the school system including: district and school leadership, colleagues, and students</td>
</tr>
<tr>
<td>Strong core relationships</td>
<td>Participants described utilizing strong, high-value ties to collaborate around global education</td>
</tr>
<tr>
<td>Giving students voice</td>
<td>Participants described students not only as recipients of global education but also as resources</td>
</tr>
<tr>
<td>Internet/Media</td>
<td>Participants included the Internet and media as a network member</td>
</tr>
<tr>
<td>Source of Information/Expertise</td>
<td>Participants described their social networks as a place where they could access information and expertise</td>
</tr>
<tr>
<td>Opportunity for Sharing</td>
<td>Participants described their social networks as a place where they were encouraged to share information and expertise both informally and formally</td>
</tr>
<tr>
<td>Awareness of Network Gaps</td>
<td>Participants were aware of and able to identify specific gaps in their networks</td>
</tr>
</tbody>
</table>
Table 6 cont’d

<table>
<thead>
<tr>
<th>Value in Network Expansion</th>
<th>Participants found value in attempting to expand their networks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Authentic Connections</td>
<td>Participants valued their network members for the authentic connections they could bring to their understanding of and implementation of global education</td>
</tr>
<tr>
<td>Role of Technology</td>
<td>Participants saw a clear role for technology in their ability to access network connections beyond their school system</td>
</tr>
</tbody>
</table>

Following the mapping activity and follow-up interview, analysis continued with a priori coding of the participants’ professional social network maps. During the mapping activity, participants were asked to walk the researcher through the ego-centric social network maps they were drawing or had drawn. Participants were given the choice of talking while drawing or of drawing the map first and then helping the researcher understand their map. The researcher used this activity and interview to confirm – or negate – and explore a more in-depth understanding of the participants’ perceptions of and experiences with their social networks. Thus, the interview served both a confirmatory and exploratory purpose. Follow-up probes were asked in order to ensure that the researcher understood what the participant intended to illustrate in the drawing of his or her network map. As mentioned earlier, one participant did not have time to participate in the map drawing activity and second interview; however, her answers from the first interview were illustrative of the general findings. Therefore her answers from the first interview were included as illustratory of the findings in chapter four.
Each map was initially examined and analyzed with the transcript of the accompanying verbal description of the map-making process as soon as possible following the mapping activity. The \textit{a priori} coding of the maps and accompanying interview transcript utilized the same codes described above in Tables 5 and 6. As soon as possible after the interview, each interview was transcribed and the transcript was sent to the participant for member-checking. Subsequent to member-checking, analysis of the follow-up interviews began. Follow-up interviews were analyzed both with the associated map and separately from the map. Additionally, the researcher also referred back to the transcript of the initial interview for insight into the social network map.

It was originally anticipated that the information gathered in the second interview would allow the researcher to expand the social network \textit{a priori} coding to include such concepts as weak and strong ties; high-value and low-values links; bridging and bonding; and hubs and super-hubs. However, it rapidly became evident that much of this information was embedded in the fully narrative first interview. However, the mapping activity and follow-up interview allowed the researcher and the participant an opportunity to explore the question from a different perspective that engendered a more in-depth understanding of the participants’ experiences within their networks. As a data set, the interviews and network drawings afforded the researcher greater insight into how participants experience their networks in terms of those processes which research indicates lead to change such as information seeking and sharing; collaboration; and the ability to influence or be influenced by the attitudes of others in one’s network.
Open Coding

Qualitative research is an iterative and inductive process and it is important to also investigate alternative explanations (Marshall & Rossman, 2006). Additionally, the researcher may be presented with data that are incompatible or contradictory (Merriam, 1998). The constant comparative method was initially developed to assist in the generation of new theory and encourages seeking out categories that may not fit existing thought but proffer alternative explanations (Glaser & Strauss, 1967). Therefore the researcher also examined the data sets with the assumption that additional theories might emerge from the data. Therefore, in addition to the a priori coding and the additional categories developed from the a priori coding, the researcher employed an open coding process in an effort to look for themes and identify possible alternative explanations. During the open coding process, the researcher employed inductive reasoning to seek out patterns that did not fit neatly into either set of a priori codes but that offered additional insight into participants’ inclinations to implement the global education priority as well as their ability to utilize their social networks to realize global education in the classroom or school. In addition to immersing herself in the data, the researcher employed analytic memos to identify and track emergent themes. Codes were created from these themes and applied across the data sets. As a result, three additional codes emerged from the open coding process. These codes are described in Table 7.
Table 7. *Open Codes*

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leadership Commitment and Support</td>
<td>The level of commitment to the global education priority by both school and district level leadership and subsequent support. Leadership was also seen as a source of financial support</td>
</tr>
<tr>
<td>Prior Experience</td>
<td>Participants’ prior experiences (such as travel, military, family, reading, etc)</td>
</tr>
<tr>
<td>Time</td>
<td>Sufficient/Insufficient time to access other members of the participants’ networks, resources, etc.</td>
</tr>
</tbody>
</table>

Two of these factors were generally described by participants as having a positive impact on their desire and ability to implement global education. The third was a limiting factor.

Subsequent to coding the data with both *a priori* and open codes, the researcher distilled the data into ever larger groupings which led to the four findings expanded on in chapter four. This process was complicated by the fact that participants both described the existence of network nodes and ties as well as describing how they enacted network nodes and ties. Further, similar types of relationships could be enacted for multiple purposes. For example, while weak ties are most often associated with accessing new information, strong ties can also be used to access new information. However, strong ties (and particularly strong, high-value ties) may also be enacted to collaborate to make meaning of new information. This process of distilling the data into four findings is described in Table 8.
Table 8. *Data Analysis Table*

<table>
<thead>
<tr>
<th>Network Patterns</th>
<th>Network Diversity</th>
<th>Tie Strength (Strong/Weak)</th>
<th>Nodes That Might Be Connected by Strong or Weak Ties; High or Low Value Ties (Colleagues, Students, Leadership, Organizations and Associations, Military, Universities, Communities)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Tie Value (Low-Value/High-Value)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Network Gaps/Structural Holes</td>
<td>Nodes that are missing or poorly connected (Organizations and Associations, Military, Universities, Business, Communities)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Social Capital/Loss of Social Capital</td>
<td>Losing network connections with nodes (Colleagues, Students, Leadership, Organizations and Associations, Military, Universities, Communities)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Network Expansion</td>
<td>Adding network connections with new nodes (Colleagues, Students, Leadership, Organizations and Associations, Military, Universities, Communities)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Network Clusters</td>
<td>Existence of nodes connected to each other independently of participant. Awareness of nodes connected to each other independently of participant.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Network Hubs</td>
<td>Existence of nodes with multiple connections (like the spokes of a wheel) Awareness of nodes with multiple connections (like the spokes of a wheel)</td>
</tr>
</tbody>
</table>
Table 8 cont’d

<table>
<thead>
<tr>
<th>Leveraging Networks for Knowledge Creation</th>
<th>Accessing New Information</th>
<th>Utilizing strong ties to access new information</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Utilizing weak ties to access new information</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Internet/Media</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Source of information and expertise</td>
</tr>
<tr>
<td>Collaborating to Create Knowledge</td>
<td>Brainstorming</td>
<td>Strong core relationships</td>
</tr>
<tr>
<td></td>
<td>Problem-solving</td>
<td>Utilizing strong ties</td>
</tr>
<tr>
<td></td>
<td>Future-planning</td>
<td>Utilizing High-Value Ties</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Opportunities for sharing information</td>
</tr>
<tr>
<td>Leveraging Networks to Deliver Global Education</td>
<td>Accessing External Expertise</td>
<td>Utilizing external connections</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Role of Technology</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Authentic Connections</td>
</tr>
<tr>
<td></td>
<td>Engaging Authentic Connections</td>
<td>Giving Students Voice</td>
</tr>
<tr>
<td></td>
<td>Engaging Students in Their own Learning</td>
<td></td>
</tr>
<tr>
<td>Incorporating Structures and Policies to Implement Global Education</td>
<td>Communicating a Vision</td>
<td>Leadership Commitment</td>
</tr>
<tr>
<td></td>
<td>Ensuring Access to Information and Resources</td>
<td>Leadership Support</td>
</tr>
<tr>
<td></td>
<td>Sharing Information, Best Practices and Expertise</td>
<td>Opportunity for Sharing Information and Expertise</td>
</tr>
</tbody>
</table>
**Presentation of the Data**

The sheer quantity of data collected within a qualitative study not only poses a challenge in data analysis, but also in choosing what and how to report findings. It is critical that the reader have enough information to be able to draw his or her own conclusions about the validity of the data and the researcher’s conclusions (Yin, 2009). However, the researcher has also tried to bear in mind the need to balance description and interpretation as the act of writing also became an interpretive process (Patton, 2002 as cited in Marshall & Rossman). Three findings are presented in chapter four. The first finding, exposing network patterns revealed through participant interviews and maps, speaks most closely to participants’ understanding of how their maps look. Findings two and three describe how participants enact their networks to learn about and implement global education. The descriptions include both authentic quotes and excerpts from the maps that are illustrative of the findings. The findings are linked back to the literature in chapter five.

**Trustworthiness and Validity**

“The applied nature of educational inquiry makes it imperative that researchers and others have confidence in the conduct of the investigation and in the results of any particular study” (Merriam, 1998, p. 199). According to Meadows and Morse (2001), techniques that help in evaluating validity help to assure the soundness of a study, however, they also caution that such techniques are not a substitute for good enquiry. “One of the assumptions underlying qualitative research is that reality is holistic, multidimensional, and ever-changing; it is not a single, fixed, objective phenomenon waiting to be discovered, observed,
and measured as in quantitative research” (Merriam, p. 202). Indeed, within qualitative research, one may find oneself dealing with copious amounts of data, some of which may be contradictory. Still, we have “ethical obligations to minimize misrepresentation and misunderstanding” (Stake, 1995, p. 109). Within this study, the researcher used multiple strategies to ensure trustworthiness of the data and interpretations. First, triangulation (Merriam, 1998; Stake, 1995) of the data was ensured by the use of multiple methods of data collection including an initial interview, the mapping activity and follow-up interview, and the researcher’s observation and reflection journal and analytic memos. Additionally, member checks were used to verify the map and interview data. The researcher’s journal served the trustworthiness of the study in two ways. One, the researcher journal assisted in the creation of an audit trail so that others are able to replicate the process of data collection and analysis. Additionally, the researcher journal also helped to clarify any researcher bias that emerges throughout the course of the study. Finally, the findings as captured in chapter four were written utilizing rich, thick description. Stake (1990) argued that the importance of thick, rich description cannot be overemphasized as it enables the reader to generate his or her own conclusions and to judge the researcher’s interpretations for credibility and transferability to their own setting. The researcher attempted to allow the participants’ words and maps to speak for themselves as much as possible so that the reader may judge for himself or herself as to the validity of the interpretation.
Researcher Bias

The researcher works for the Center for International Understanding, a public service organization with a vision of high school graduates with competencies that go beyond science, technology, engineering and mathematics to include the ability to communicate, collaborate and compete with students from around the world. The Center for International Understanding’s programs are designed to help connect educators, schools and school districts with a vast array of existing international resources to help them build global competence among students. As the Senior Director of Programs at the Center, I am committed to this effort. In fact, it was my commitment to this effort that led me to engage in this study. As someone working from an outsider perspective to effect change within a school district, it was my hope that this study would help me to better understand how a school district works. And, in understanding how it works, develop a better understanding of how to work with a school district’s leadership to ensure that its community members, teachers, principals, students, parent and business leaders implement the changes needed to help their students become globally competent citizens. In this same capacity, however, I recognize that my involvement in the change efforts and my closeness to the efforts may result in researcher bias. Furthermore, while I am an outsider, I also have extensive experience working with K-12 educators and have, therefore, developed my own understanding of how schools systems work that may or may not be an accurate reflection of the truth as seen by educators within the system. I have tried to guard against placing my interpretations above what is present in the data. Additionally, I maintained an observational
and reflective journal throughout the course of the study in part to capture any bias as well as to create an audit trail that may help others follow my interpretations of the data to draw their own conclusions.

**Ethical and Political Considerations**

A full explanation of the purpose of the study was shared with participants prior to their consenting to participate in the study. There were no known risks associated with participation in this project; however, despite all attempts to maintain confidentiality, it is possible that a participant may be recognized by his or her answers. As the participants’ answers refer to their professional social networks, it is possible that they may feel some discomfort in the event that they are recognized in this way. Penuel, Sussex, Korbak and Hoadley (2006) found that educators had some concerns about sharing social network data if they felt that the data might be used for evaluative purposes by administrators; shared in its original form across a school; or shared in a way that did not support the participants’ perceptions of themselves. They further found that many of these concerns could be alleviated by fully explaining the purpose of the study in question; finding ways to mask the identity of participants; and explaining exactly how the data would be used and shared. The researcher has taken precautions to minimize the risk of recognition including: using pseudonyms for all participants, schools and the system; and masking or removing any identifying names or marks from maps or other data prior to inclusion in any publications following from the study. In addition to being given a full explanation of the purpose of the study, participants were alerted to the possibility of disclosure and informed of the steps
being taken to minimize the risk. Participants acknowledged the risk of disclosure but generally indicated that they were unlikely to be embarrassed if they were recognized by their responses.

**Limitations**

One strength of qualitative research is the opportunity that it offers to explore an issue in an in-depth manner; however, there are some limitations associated with this approach. Several of these limitations are particularly pertinent to this study and are, therefore, delimited here, along with efforts that the researcher made to lessen any risks associated with these limitations.

One limitation, alluded to above, is the potential for researcher bias. The researcher is both employed by an organization committed to increasing global education in schools and personally committed to that effort. Furthermore, the researcher recognizes that she holds assumptions about the nature of schools and school districts. In an effort to reduce the impact of researcher bias on the study, the researcher employed the following strategies. First, as mentioned above, the researcher maintained a researcher journal which included observations and reflections. The journal both assisted in creating an audit trail for others to follow and allowed for the surfacing of researcher bias. Additionally, the researcher engaged in peer debriefing and review of both coding schemes and coded data. Finally, the researcher made an effort to be very open with both participants and readers concerning her positionality.
A second limitation relates to both setting and participant selection. The setting, Eastern County Schools, was chosen because of the system’s recent commitment to include global education as a priority in its schools. Furthermore, participants themselves were chosen on the basis of their commitment to implementing the district’s global education priority. Both choices could be considered limiting. One concern may be whether or not there is something different about either the district, the educators or both that may not appear in other participant samples. In fact, this is a fair concern. However, both were deliberate choices made to enhance the design of the study. By both situating the study in a school system with a relatively new global education priority and by choosing to work with participants who are leaders in implementing the priority but not experts in the field of global education themselves, the researcher had the opportunity to gain insight into how participants’ social networks may be useful to them in terms of seeking and sharing new information as well as collaborating to develop and incorporate new knowledge and practice. The researcher acknowledges that this choice may be both a strength and a limitation for the study and offers the reader as much thick, rich description as possible in order to allow the reader to draw his or her own conclusions about the reliability of the study and the usefulness of its findings in other settings (Stake, 1990).

A final limitation is the small sample size. In addition to potential limitations associated with participant selection, the sample size of ten may be of concern to some. The sample size was impacted by several factors. Qualitative research, while producing large volumes of data that can be mined, is time-consuming for both the researcher and the
participants. The researcher has a demanding full-time job and the research site is a several hour drive from the researcher’s home. Additionally, the study participants were asked to participate in two lengthy interviews, often after having worked a full school day. Further, the original district superintendent who gave the researcher access to conduct her research in the school district retired and the research had to be concluded relatively quickly. Therefore, additional participants were not pursued. The researcher acknowledges that it would be interesting to pursue an additional study with further participants. However, the sample of size of ten was sufficient to produce large volumes of data. Further, although all of the participants’ stories and maps were individual, saturation of the data was achieved within the confines of the study.

Summary

Chapter one began by elucidating the purpose of this study to explore how emerging global leaders experience their social networks and the role of those networks in helping them to implement a global education initiative within a school system. Chapter two reviewed the related literature. Chapter three began by indicating the overall design and approach of this study, then outlined a more detailed description of data collection and analysis, validation, and how the researcher intended to limit both researcher bias and any risk to participants. A set of a priori codes were listed for the reader as well as the additional codes that emerged from open coding. Further a data analysis table was generated for the reader to be able to follow the trail distilling the coding into findings. Chapter three also detailed potential study limitations. The research findings will be presented in Chapter four,
including participant quotes and excerpts from participant maps. The findings will subsequently be illuminated and discussed in chapter five.
CHAPTER 4

The purpose of this study is to gain a better understanding of the role of social networks of self-identified leaders participating in a school district’s global education initiative. Chapter one identified the purpose and framework of the study as well as the research questions and significance of the study. Chapter two focused on a review of the related literature while Chapter three focused on the design and methodology of the study. This chapter will focus on the findings of the study in relation to the research question. As a reminder, the research question guiding the study was:

- How do school-level educators who self-identify as emerging global leaders describe and leverage their professional social networks to accomplish global education goals?

In order to answer the research question, the study employed a social network perspective to explore the role of social networks and the meaning that educators attach to their social networks in relation to the implementation of a global education initiative. Rather than studying the attributes of the individuals, a social network perspective offers an ideal opportunity to examine the relationships between actors in a network and understand the impact of these relationships on learning and action.

Overview of the Findings

As described in detail in chapter three, the sources of data supporting the findings described in this chapter included two interviews with ten volunteer participants as well as network maps created by study participants during the second interview. For nine of the participants, the interview transcripts were analyzed both separately and as a set. As
mentioned previously, one participant did not have time to complete the second interview and mapping activity, however, her remarks in the initial interview were descriptive of the findings to the research questions. Therefore, there are only nine maps but, occasionally, descriptions or examples from all ten participants are presented to illustrate the findings. Additionally, while portions of the maps are included for illustrative purposes in the text, full versions of the (redacted) maps may be found in Appendix G.

Four findings emerged from the data analysis process: one finding is about the networks patterns themselves; two findings are about how participants leveraged their networks; and the fourth finding expands on the role of leadership. The first finding was a greater understanding of network patterns exposed by participants as they described their networks. In the discussion below, we will see that participants had considerable awareness of the diversity in their networks. Further, their awareness extended beyond their own networks to allow them to describe network gaps, clusters and hubs. The second finding suggests that study participants leveraged their networks for knowledge creation. The third finding confirmed that study participants engaged and relied on their social networks to accomplish global education goals. The final finding expanded on the role that leadership occupies in the implementation of a global education initiative. Interestingly, study participants had a tendency to describe their networks by how they were used. Therefore, the network patterns revealed in finding one are enacted by participants to create knowledge and implement global education as we will see in findings two and three. The next sections of this chapter more fully explore the findings and provide rich, thick descriptions as well as
excerpts from the maps to answer the research question. The sections are organized by finding and provide a deeper understanding of each of the three findings utilizing in-depth descriptions of the participant’s networks as well as details about how participants enacted their networks to create knowledge and to accomplish global education goals. The chapter concludes with a summary of the research findings with a transition to chapter five.

**Network Patterns**

To help answer the research question (and as described in chapter three), in addition to the interviews, participants were asked to draw a map of the network they use for their global education work. Overall, the maps themselves were a critical supplement to the narrative analysis of the interview transcripts in understanding how participants described their networks. Participant descriptions of their social networks revealed three significant network patterns including: 1) diverse networks; 2) network clusters; and 3) network hubs. As demonstrated below, these network patterns have been shown to be more effective at accomplishing goals (Burt, 1992); accessing new information (Granovetter, 1973, 1983); and transferring knowledge (Hansen, 1999; Reagans & McEvily, 2003). In addition to describing these patterns, participants described how these patterns added value to their work as global educators. In this study, these network patterns allowed participants to recover from losing connections; intentionally create new relationships; identify gaps or areas of need in their networks; and value network expansion.

The first significant network pattern is the diversity of network ties and structure inherent in participants’ social networks. Participants described networks that included both
strong and weak ties. As will be further discussed below, strong ties are most commonly associated with one’s primary affiliation group and weak ties with acquaintances or others with whom one is not in regular contact (Granovetter, 1973). Participants described strong tie connections with internal connection groups such as colleagues, students, and leadership. They also described both weak and strong tie connections with external connection groups such as organizations/associations, universities, the military, and community. The first section under network pattern one below shares participant descriptions of ties with each of these connection groups. Beyond tie strength, participants were also able to identify the relative value of their relationships. Tie value can be a nuanced notion. The second section under network pattern one shares descriptions of participant understanding of both high and low value ties. In addition to awareness of their existing network connections, participants were also able to identify gaps in their networks as will be discussed in the third section under network pattern one. Increased network diversity mitigated the loss of network connections and participants strove to continually expand their networks as will be described in the fourth and fifth sections under network pattern one.

In addition to understanding and valuing the diversity within their own networks, participants also revealed an awareness of the greater networks outside of the egocentric networks they were asked to describe for this study. The second significant network pattern revealed in this study is participant awareness of network clusters that included members of their maps who were connected to each other independent of their connection to the study participant. Further, study participants also revealed an awareness of network hubs within
their own or the greater system networks. Hubs, like the spokes of a wheel, have the opportunity to connect many different aspects of a network. Participant descriptions of each of these network patterns will be further shared and discussed following the sections on network diversity.

**Network Pattern #1: Network Diversity**

In this study participants described their networks as diverse, although they varied in degree of diversity. Participants described networks that included both strong and weak ties. Further, however, every participant was able to clearly and easily identify relationships, both strong and weak, that they felt to be of higher value. In describing their social networks, participants were also able to expose network gaps. While gaps may be viewed as network deficiencies, they may also be viewed as opportunities to expand networks and increase network diversity. Finally, in addition to an increased ability to accomplish goals, network diversity proved to be important in recovering from the loss of network connections.

**Network diversity: Tie strength.** Analysis of the participants’ network descriptions elicits evidence of both strong and weak ties in each participant’s network. As might be expected, network members who might be characterized as strong ties most often belonged to internal connection groups such as colleagues, students and leadership. The ties described by participants include colleagues, students, leadership, organizations/associations, universities, the military, and community.

Tie strength is generally characterized by frequency and/or regularity of interaction. An individual’s strong ties tend to be members of that individual’s primary affiliation group
(Granovetter, 1973) with whom he or she is in contact on a regular basis. In addition to these strong ties, however, individuals generally have a collection of acquaintances (Granovetter) who can be characterized as weak ties. Both types of ties are useful in acquiring and sharing new information and influencing attitudinal change (Gargiulo & Benassi, 2000; Hansen, 1999; Krackhardt, 1992).

**Colleagues.** Colleagues with whom one interacts on a frequent basis and who share similar attitudes are trusted sources of information and problem-solving. It is perhaps unsurprising that all of the study participants included colleagues in their network maps. As we will see in findings two and three, colleagues were frequently seen by participants as collaborators in learning about and implementing global education. They acted as both sources of information and influence as well as people with whom the study participants shared information and/or might hope to influence concerning global education.

Leslie, an elementary school principal, identified colleagues under the umbrella groups of influencers and influence. However, she also included the District Level Global Schools Action Team (see Figure 4). Leslie described this team as a district-wide taskforce of school and district level administrators propelling the vision of global education in the county, of which she is an enthusiastic member.
Figure 4. Leslie Colleagues

Hazel, an elementary school principal, included “Peers/Colleagues” in a portion of her map (see Figure 5), further identifying them as partners in collaboration.
Parker, an assistant principal at an elementary school and Lynn, a high school teacher and IB coordinator, indicated strong relationships with colleagues in their feeder district schools (see Figures 6 and 7).
In both cases, the connection with colleagues at the feeder district schools may have already been in existence; however the connections were enhanced by the emphasis on global education and also offered an opportunity to collaborate around the issue. For Parker, the feeder districts collaborated around a Chinese language program while, for Lynn, the collaboration was heavily focused on the IB program. Note that on Parker’s map, there is also an indication of discussions around global connections and initiatives. Lynn also specifically mentions two other categories of colleagues in her network map, teachers and staff, particularly IB staff at her school, as well as fellow coordinators and teachers she has met through the state-level IB organization.
Strong ties with colleagues were not only indicated at the administrative level. Both Dennis, a high school teacher, and Susan, an elementary school teacher, included specific groups of colleagues in their network maps (see Figures 8 and 9).

Figure 8. Dennis Colleagues

Figure 9. Susan Colleagues
Dennis included the members of his department while Susan included two different sets of colleagues, her teammates and the “Morning Crew”. Susan’s teammates are the other two teachers in her school teaching the same grade level. In addition to including them in her map, Susan mentioned frequent collaborations with her teammates. Susan included them twice in her map to indicate that they are both sources of information as well as people with whom she shares information. The “Morning Crew” is a group of teachers of different grade levels who meet informally before school starts and with whom she shares resources across grade levels. Clearly, the colleagues that Susan included play an important role in her ability to implement global education.

**Students.** In addition to colleagues, students also represent strong network ties as participants are in contact with them on a daily basis. While we might expect to learn that participants view their students as recipients of the global education they are tasked with imparting, interestingly, students were included not only as receivers of information and influence but also as sources of information and influence. Six participants, three teachers and three administrators, specifically included students as members of their social professional networks and placed them in their network maps. Of these six, five indicated some degree of incorporating students as resources for global education. For example, Leslie, an elementary school principal, specifically included “The Children” in both her groups of influencers and of those Leslie feels she influences (see Figure 10).
Hazel, also an elementary school principal, specifically included students in the school community of stakeholders that she feels she influences concerning global education (see Figure 11). But Hazel also mentioned that many of her students also can be seen as a resource for her school due to their military and international backgrounds.
As evidenced above, students also embody strong network tie relationships that play a pivotal role in the ability to implement global education. As we have seen, students might be considered an influencing factor in encouraging their educators to teach globally. However, they might just as easily be seen as resources for their teachers and principals.

**Leadership.** While colleagues and students with whom one is in contact on a daily basis can clearly be seen as strong ties, leadership could be perceived as either a strong or a weak tie relationship depending on the individual. For example, while administrators might have very frequent contact with district level leadership, teachers might feel less strongly connected to district leadership and more strongly connected to building level leadership. However, there was evidence that study participants saw strong tie type connections between themselves and the next level up leadership. One indication of this tie strength is that every study participant included leadership (district, school or both) in their network maps and
clearly felt that leadership was an integral part of their social professional networks. In fact, Hazel’s map indicated the centrality of the district level office (see Figure 12).

Figure 12. Hazel Leadership

In drawing her map, the district office was the first network member that Hazel placed on her map after herself. She also shared that her first connections with many of the organizations in her network came through the district indicating a strong tie relationship with district level leadership. While a number of the teachers in the study incorporated district level leadership in their network maps, their strong ties were more likely to be with school level leadership. All of the teachers included school level leadership in their social
professional networks and even those who also included district level leadership indicated that school level administration was a more regular source of information and resources.

As important as these strong tie relationships are to increasing the ability to learn about and implement global education, weak ties are also an important factor. Participants were equally able to describe connections that might be characterized as weak ties. As might be expected, these ties are generally external connections. External ties are more likely to be weak ties by virtue of a lack of proximity (Granovetter, 1973; Krackhardt, 1992). Weak ties offer opportunities for access to new and novel information (Granovetter, 1973, 1983). The external ties most often mentioned by study participants included: associations/organizations; universities; military; and community. Each of these external ties offered study participants access to new information and/or resources about global education or global issues. Access to these relationships, therefore, proved crucial in participants’ efforts to learn about and implement global education.

**Organizations/associations.** The most varied group of external ties was the group of organizations/associations, although several organizations were mentioned repeatedly. For example, VIF International Education (or a program thereof) was mentioned by nine different participants; the Center for International Understanding (or a program thereof) was mentioned by eight different participants; and WorldView was mentioned by six different participants. Each of these three organizations is dedicated to improving international education in the state of North Carolina and has a heavy presence in the state. However, they were by no means the only organizations of this type that were included in participants’
network maps. The International Baccalaureate Organization (IBO) and Heifer International were each mentioned by three different participants. Hanban (or Confucius Institute) and NASA were each mentioned twice. In addition, a number of other organizations with an international outreach arm were also mentioned, including the NC Museum of Natural Sciences, NOAA, Wounded Warriors, etc. These associations were credited with sharing resources and information and with offering opportunities for the study participants to travel and/or connect with international partners.

**Universities.** Two participants mentioned existing connections with university partners. Hazel, an elementary school principal included university partners in general, and specifically included UNC-Chapel Hill and UNC-Wilmington (UNC-W) among her external connections. Cindy, an elementary school teacher also mentioned a specific connection with Appalachian State University as well as connections with NC State University and with UNC-Chapel Hill through the Cultural Correspondents program.

*Figure 13. Hazel University Connections*
**Military.** Eastern Public Schools is a school district situated in a military community in North Carolina. The influence of the military community was definitely visible in the study participants’ social network descriptions and maps. Six participants referenced the military connections in describing their social networks. Hazel, a principal at an elementary school, indicated that, in addition to mining military families’ experiences, Hazel has been able to tap the military’s resources in other ways:

By far our biggest pool of resources is that military community, because so many of our students have traveled internationally and so we do take advantage of that. The Marine Corps base, we really have a nice relationship with them because of our military population here, and so I mean, they’ve donated well over $100,000 in technology to us in the last five years. And so that kind of my technology’s been taken care of, because of the Marine Corps, so I didn’t have to worry about replacing ageing technology. The Marine Corps has been great about supporting us in that avenue.

Leslie, also an elementary school principal, would agree that the local military is invested in the initiative and is a good partner and network connection:

So I would say that not just our district promotes that vision, I think our community promotes that vision. And we’re unique in that as a military community, we’re global whether we like it or not so it’s a good thing we like it. But we are very global and we have a nice partnership with the base. And then our county, we have military
liaisons and the base has military liaisons and we work on collaborative programs between the base and Onslow County schools to support our military families. It was clear from participant responses that the military plays a role in their networks and some hope that it will play a larger role in the future.

**Community.** In addition to the military, participants also referenced the community in general in describing their networks. Cindy, Hazel and Parker specifically included other community members or organizations in their network maps (see Figures 14, 15, 16)

*Figure 14. Cindy Community Connections*
As can be seen in each of these map excerpts, participants considered parents, community organizations – such as Rotary – and other community stakeholders among their network members. Sometimes, such as in Parker’s example of a connection with Rotary, the connections resulted in an increase of funding for specific purposes. However, these network
connections were also seen as a source of information and opportunities for connecting students with authentic international experiences.

As is evidenced above, external connections were found to be an important part of participants’ networks as they offered opportunities to connect them to new information and resources concerning global education. The external ties most often mentioned by study participants included: associations/organizations; universities; military; and community. As we will see in findings two and three, participants value the opportunities that these connections represent not only for themselves in learning about global education but also for sharing information with others, including their students. Participants found, therefore, that access to these weak tie relationships played an important role in their efforts to implement global education.

While all of these external ties began as weak ties and many have remained weak ties, for some participants, these weak tie connections eventually became strong tie connections. For example, as Dennis implemented his cultural studies class, he found that he accessed an external organization (VIF, the course creator) on a much more frequent and regular basis. Similarly, Lynn, as an IB coordinator, found that she accessed the IB staff and resources with greater and greater frequency. Burt (1992, 2000, 2002) suggested that weak tie relationships were subject to either decay or to becoming strong tie relationships. However, as we will see in findings two and three, it is clear that both strong and weak ties are necessary for learning about and implementing global education.
Network diversity: Tie value. In their 2006 study, Carmichael, Fox, McCormick, Procter, and Honour found that understanding the role of tie strength is complicated by the concept of tie value. Tie value offers a more nuanced understanding of relationships indicating not only how often or regular contact may be but also how useful the relationship is. So, both weak and strong ties may have high-value. Similarly, strong ties may be considered to be low-value ties.

For example, Andrew, an assistant principal at an elementary school, incorporates other administrators and other schools as colleagues in his map (see Figure 17).

Andrew indicated that he had frequent and regular contact with these network connections. However, Andrew connected himself to these colleagues with dashed lines rather than solid lines because of his perspective that while they certainly communicate regularly, the communications may focus less on global education than on other challenges and
opportunities. Thus, while these are strong ties, they are also low-value ties for Andrew in relationship to global education.

Hazel, on the other hand, spoke about the value of her relationship with UNC-Wilmington (UNC-W). This was a relationship that had begun as a weak tie relationship and eventually developed into a strong tie relationship. However, Hazel indicated that the relationship was particularly valuable to her as the source of her connection and partnership with schools in Belize. In her map, Hazel distinguished these ties of particular value by drawing red circles around those connections she felt were most valuable to her and her connection to UNC-W was one of those so marked as it is the source of her connection and partnership with schools in Belize as can be seen above in Figure 13.

**Network diversity: Gaps.** Network gaps may not always be easy to ascertain. Sometimes you don’t know what – or who – you don’t know. Burt (1992, 2002) offers that these gaps may be considered structural holes. According to Burt (1992, 2002), these structural holes are opportunities for those who may be able to make connections with members in other groups. Burt (2002) suggests that the fact that holes exist does not imply that people are not aware of each other, rather that they are so involved with their own actions that they are simply not paying attention to the actions of members of the other group. For the participants in this study, gaps were seen as both a challenge and an opportunity. Gaps represented connections that participants would like to see strengthened as well as future connections that participants would like to make. As we will see in this
section, participants saw overcoming these gaps as important to their ability to implement global education.

Participants were asked to consider gaps in their social professional networks. The definition of the concept of a gap was left to the participants to determine and there was some interesting variation in how participants saw gaps in the network. Both Andrew and Parker, for example, suggested that the gaps that they saw in their networks were in connections they would like to see strengthened. Parker did not include a representation of these gaps in her network map but, when questioned about them said,

What I think is lacking, I would like more business support. I think as far as district, the district is very supporting of global initiatives. I think we need to have more partnerships like the Rotary. I think we’re starting to do more with the military even when we just had…I would like to see more integration with the military because of the fact that they are so globally connected. The travel, they could bring back and share so much that our kids can’t do. So I think that that would be an area I could expand on.

Parker also mentioned that she would like a better connection between the teachers in her school and the idea of implementing global education

And another thing is too, I mean it is hit or miss with our teachers based on their interests as well. So like we have some who are really into it, and then some… you know… I do think it helps with having it as a piece of the evaluation system. So if nothing else, at least they know, hey I’m going to get evaluated on, you know global
connections and I need to probably make an effort at least to have some kind of global connections going on in my classroom.

Andrew also felt that, even though he had good connections with the teachers in his school, he might be able to do a better job of helping them be more globally connected,

As an administrator, it’s a lot more difficult to get everybody on board. We’ve got a wide range of teachers here. Some that feel very comfortable with technology which is where my mind immediately goes when I’m talking about global connections. It immediately goes to Skyping and emailing and that sort of thing. Um, and there’s a lot of teachers that are really comfortable with technology like that and that’s just a small piece of the puzzle because you’ve got to have someone you’re connecting with....

Also, similarly to Parker, Andrew added several specific organizations/institutions in his map with whom he felt he had some connection but would like more, including the military, UNCW and ECU. Andrew placed these organizations outside his network map to indicate the gap he saw in their connection (see Figure 18).
But Andrew also mentioned that there might be other community members he could and should connect with saying, “I don’t know, but it seems like we’ve got assets that we could use and we’re just not aware of them and how to connect with them.”

Hazel also experienced a gap with some of the teachers in her network, specifically the international teachers. Because the international teachers are in the United States and allowed to teach on temporary visas, they can only stay in the school for a relatively short period of time so the turnover of those teachers becomes a gap for Hazel.

One of the other challenges, and I mean it’s to be expected, is just the turnover in the international teachers. Now, that’s part of the gig, I mean, it’s a two to five year commitment. At the end of two years, some of them want to go back, which is totally understandable. We support it. But it creates that situation where you’re constantly turning over teachers and then starting over again. So that is-, I mean it’s a challenge,
but it’s just part of the understanding that that’s going to be the way that it is. And, you just got to do it.

However, as is evident from her comments, Hazel sees this gap as a challenge rather than an insurmountable hurdle. Leslie chose to include her gaps in her network map simply as future connections (see Figure 19), viewing them as connections she did not currently have but was working to make.

Figure 19. Leslie Gaps

Susan also indicated a challenge, rather than a gap (see Figure 20).
Susan said,

The biggest challenge always in the curriculum is the differentiation challenge. No matter how much I have, I always want additional differentiated tech sources. That is always. Because you always want more. You want the kids to have a plethora of different materials they can look at. And in the classroom this year, for example, I have 22 kids. I have 13 kids identified at the beginning of the year that are below grade level. They're reading at second, first, very low first, high kindergarten level, and then you have your readers who are above grade level. So you want there to be enough for everyone, especially when you're researching science and social studies. Because, for these guys, if you introduce it the right way, those concepts are not boring in any way, shape or-, social studies is not boring. Social studies brings alive the global connections and everything that pulls in, science connects to the social
studies because of the locality of everything. But that's the biggest challenge, and it always is.

Several participants, on the other hand, indicated very little in the way of gaps in their networks. For example, Becky, when asked about gaps in her network said,

Not that I feel I I couldn’t get if I wanted to ‘cause I know people to go to….I mean I get all these books and stuff like that from them, magazines and if you're willing to work, or if you're willing to go, like you can go anywhere if you ask the right people and if you don't know who to ask then you ask me or, you know, I'm the clearing house, you know, so but if you, you can get on the internet and pretty much find anything you want if you're willing to put a little effort into it.

Lynn indicated that while she did see a gap in her network in terms of access to some of the middle school level students and parents for IB high school recruitment efforts, in terms of other types of connections she felt little in the way of gaps,

But I don't really see, I mean I just don't really see a whole lot of gaps as far as my communication and what access I have to global resources and global, you know, any kind of conversation or, you know, professional development or anything like that. And I really think it's because of the culture of this school. I'm not sure if I was in another school that would be true, you know.

Cindy similarly indicated that she felt that she knew who to go to in order to find resources. Several non-network gaps that were mentioned included funding and other resources as well as time. As described above, for the participants in this study, network gaps were seen as
both a challenge and an opportunity. Gaps represented connections that participants would like to see strengthened as well as future connections that participants would like to make.

**Network diversity: Impact on the loss of network connections.** In several cases, a loss of network connections was indicated by study participants. In these cases, when external changes disrupted an individual’s access to his or her former network ties and new network ties had not yet been established, his or her ability to implement global education was hampered. In some cases, the hampering effect was minimal while in others it was extreme. The degree to which the work was hindered varied depending on the criticality of the lost relationship to his or her global education efforts and the relative number of other relationships upon which the participant could rely to help with implementing global education. Greater network diversity, therefore, proved to have a positive impact on an individual’s ability to recover from the loss of a network connection.

An example in which a loss of a network connection had an extreme effect is described in the case of Andrew. When he participated in the study, Andrew was a relatively new assistant principal at an elementary school. He had previously been a social studies teacher at a nearby high school and had felt that he had a good handle on implementing global education in the classroom. The previous assistant principal at his new school had traveled to England and established a working relationship with a school there whose administration and teachers were interested in partnering with their school in order to promote mutual understanding. Attending a WorldView conference in the fall of his first year at his elementary school with a team of teachers, Andrew and his team created a global
education plan for their school based heavily on interactions with the school in England. They did also create a back-up plan based on project-based learning but were heavily invested in the idea of their students having the opportunity to interact with students from another country. Unfortunately, Andrew and his teachers were having difficulty continuing the relationship with the school in England. As Andrew indicated,

you’ve got to have someone you’re connecting with and I’ve been trying to continue relationships the previous assistant principal started with some schools in England and we’ve had considerable difficulty continuing those relationships and getting teachers over in England to respond to our emails and to set up times where we can Skype and talk and share back and forth. And I don’t know if it’s me I don’t know if it’s the teachers that are doing it now from our side or from their side. I don’t know if it’s the time difference that was the case last year when they were having more success than it seems like we are having this year. I don’t know why we’re having what I perceive as struggles.

As indicated in the above quote, Andrew expressed uncertainty as to the cause of his difficulties in maintaining a partnership with the school in England; however, he did have a good idea that it had to do with the disappearance of the personal relationship between a member of his school community and a member of their school community. He indicated,

in a perfect world I would go to England, go to these schools and create that personal relationship so there’s some personal feelings invested in this relationship which is what the assistant principal who was here before me did. She did it as part of her grad
school studies and I feel like that those relationships have gone with her to her new school.

While this reality was frustrating, Andrew understood the legitimacy of the idea that the school partnership was based on a personal relationship and expressed that he “would hope that we could kind of create our own relationships or build new ones.”

The loss of the relationship with the school in England was particularly impactful on Andrew’s ability to implement global education for two reasons. First, the school’s primary plan for global education was based around having a partnership with a school in another country, and specifically with the school in England with whom they had, or thought they had, an established relationship. In our second interview, near the end of the school year, Andrew reflected back on the work he and a team of teachers had done on the plan earlier that year.

And then we realized it probably wasn’t very effective, but it was something we wanted to continue to try, and then we made another kind of a backup plan, which I think a lot of people were still, you know, beating their head against the wall, trying to make the real plan happen. And they spent the first half of the year trying to make it happen and then we never got the other kind of backup plan rolling. And that might be something that we focus on this [coming] year, because it’s pretty clear that those schools in England are not… no longer going to work with us, for whatever reason. I think they’ve had a change in administration or something and the person that had made the personal connections in England is no longer at our school – they’ve gone
to another school – and those relationships might have gone also. I mean, I can’t really blame anybody for that, but it is frustrating.

Additionally, Andrew was finding it difficult to establish other relationships with schools in other countries. In our first interview, Andrew indicated that he felt that he could make connections in other countries for his school through the members of his network and his school’s network.

I definitely feel like I could reach out to some school in Japan – Okinawa for example – as an assistant principal and get some attention from schools over there and make something happen. I feel like I could make something happen in maybe Spain or something like that. We’ve got a teacher that’s getting ready to move to Italy and we could make connections with all these military bases that we have around the world and I definitely feel like I could start that relationship and then pass it on to a teacher.

At that time, Andrew felt that it would be a challenge but that it was not insurmountable. He had been successful in implementing global education in his classroom as a classroom teacher and felt that he would be able to help make these connections for the teachers in this school. However, by the time we spoke at the second interview, Andrew was more frustrated by an inability to make the right connections for his school and teachers.

We’ve had… we’ve had some… we’ve had frustrating experiences in our third grade. Our teachers have a… a parent of one of the teachers is in Belize and is doing something pretty official with education in Belize and we thought we could make good connections there, but we had to go through like the head of… the director of all
the schools in the whole country kind of thing, and it was just a not-going-to-happen kind of process. So that was kind of a frustrating experience.

And then kindergarten teachers have made some contact with military parents that are overseas and they’ve sent back some pictures and letters here and there and that kind of thing. But that’s… It is global, but I don’t… it’s not really enough for me. It’s not an eye-opening experience to them.

Andrew is very aware of the significant impact that the loss of this specific relationship has had on his ability to implement global education in his current role. Further, he is frustrated that he is finding it more difficult than he had anticipated to bridge the gap.

Leslie suffered a similar loss of a network relationship but felt the impact less significantly because of her situation. Leslie, an elementary school principal, was one of several educators who participated in a program in 2007 to Mexico to develop partnerships between schools in North Carolina and schools in Mexico. She and a teacher from her school met with and eventually established a professional and personal relationship with a partnership coordinator, Margarita, at a school in Mexico. Unfortunately, in recent years, the partnership coordinator left the school in Mexico and, according to Leslie, the partnership has dwindled. Leslie is the principal of an elementary school and perhaps qualifies as more of an innovator in global education in her district than an early adopter. Leslie was inspired to implement global education in her school before the district implemented their global education initiative in 2007 and even before the State Board of Education adopted their global education priority in 2006. Unlike Andrew, who was in his first year as an assistant
principal, Leslie has had eight or nine years to develop multiple relationships and network connections to assist her in implementing global education. Therefore, the loss of a single partnership, although important, did not significantly impact her ability to implement global education. Although Leslie mentioned the loss and regretted the opportunities lost for her students as a result, she felt confident in her larger network to be able to compensate for the loss of one partnership.

Cindy, a teacher at Leslie’s school, also remarked on the loss of the partnership with the school in Mexico. Cindy had also participated in the program to Mexico and acted as the partnership coordinator for her school in North Carolina. In this capacity, she had developed first a working relationship and ultimately a friendship with Maria. Interestingly, for Cindy, although Maria’s departure from the partner school in Mexico meant the loss of the school partnership, it did not mean the loss of other connections to and through Maria as a friend and colleague. In fact, Maria figured prominently in Cindy’s map (see Figure 21) as someone who had introduced Cindy to connections at Appalachian State University and continued to link with Cindy and her school through a variety of global education projects. Additionally, Maria served as a source of resources and information through connections via email and Facebook. Therefore, for Cindy, because the personal connection remained, the loss of the school partnership was less impactful in her ability to implement global education.
As the three examples above reveal, more diverse social networks are less susceptible to the impact of the loss of social capital. Those participants, like Leslie and Cindy, whose networks were more diverse, while still feeling the loss of individual network connections, were able to access similar types of expertise and resources elsewhere in their networks.

**Network diversity: Network expansion.** Burt (1992) suggests that broad, diverse networks are more beneficial than large networks. He further suggests that, as weak ties tend to either decay and fall away or to become strong ties, that continual network expansion is useful. It appears that a social professional network gives you as much value as the effort that you put into nourishing it. A number of participants indicated that, while they needed to spend considerable effort when they were first discovering their network connections around global education, eventually their networks began to expand on their own. As long as they
maintain their connections, these very connections will bear fruit. However, for some of these early adopters, making these connections seems like second nature. For example, when I asked Becky, one of the teachers in the study, about how much work she needed to put into finding information and resources her reply was the following:

I mean, I did [have trouble] to start with, but now it’s like you know people and your friends, and your friends say well, we did this; or oh cool, you ought to apply for this, or you ought to do this, or you ought to go here. Other people that are interested in and like stuff that you do, they’ll say, hey, we did this really cool thing last summer, you know, you might really like to do it because you’d like it and you’d be involved.

When further pressed on how she connects to people and resources, Becky simply replied, “Well, I mean, it’s just like you have to get out there and then sometimes people will say, well you know, I heard about you; you’re pretty cool and I think you might be neat to go with us if you want to go with us.” A second teacher, Cindy, has similar difficulty in breaking down her ability to make connections, chalking them up to something of a domino effect. She gave two very direct examples of this knitting together of connections through existing connections. In the first example, Cindy says.

It’s like you have one connection…I mean this person, Carly, she was my very first cultural correspondent and that was in 2008. I’m still in contact with her; she has given me contacts with other people from around the world. She’s the one who introduced the ABAN program and from there it’s just so many things”

In her second example, Cindy explains that,
Margarita in Mexico, she went to Appalachian State, so she was telling her professor about what we’ve been doing and so now this year, when the TEA Fellows came – I think they’re from twenty different countries – he asked me to come up there to present to them, so I presented to them. That’s where the Pakistan connection came from. So it’s …yeah, connections… just connect to other people and then you keep building on those.

By virtue of their position, the principals in the study have natural opportunities to reach out to others within and beyond their district. For example, Hazel described an opportunity to build a partnership with schools in Belize that she was able to take advantage of through a local university.

We also three years ago started a Belize partnership with the San Pedro schools in Belize and that first year I took two teachers with me. We really established the partnership from the ground up. Our assistant superintendent, she had gone and participated on an exchange and came back and said, hey, this district is prime for developing a partnership. And so each of the principals from the [feeder] District [a sub-district of feeder schools within Eastern School District], we all went and took a handful of teachers with us and really built the relationships on the ground with the schools. Last year each school sent another team back and we actually brought six of their teachers and administrators back to Eastern County to work for a week with us last February. In three weeks, I’m sending the third group of teachers back, so I’m sending four teachers in February, who will go back now for the third time, and so the
relationship has just blossomed over the three years. In April they’re actually bringing a group of students to us – it’s just a beautiful relationship. And then in October, for the first time, we will work towards sending students, probably not the elementary level to start; middle and high school level to start. And so now our exchange has gone from administrators three years ago developing the partnership to now, what will be four years later, with students actively engaged in the exchange opportunities.”

The partnership allowed Hazel the opportunity to not only expand her relationship with partners in local schools, the local university and partners in Belize, but also with community members and business leaders as she works to raise funds to expand opportunities for her teachers and school.

Others, however, find that making the connections does not come as naturally. Andrew, for example, shared,

I guess I haven’t – I guess my problem is where do I start, you know. So I know there’re the bases in Okinawa, Japan with American children in those schools. I don’t know what their names are, I have no idea who to get in contact with or how to get in contact with them. I haven’t really searched it, to be honest with you, or investigated it. But it’s that starting place. The networking that is so important. Even if there was like someplace that I could go where schools that want to interact put a post like a Craigslist for schools – this is what I want to do with students, this is when I want to
do it; this is who/what kind of person I want to do it with; like dating for international teachers

While study participants varied in their ability to make new connections, all of the study participants recognized the value inherent in their existing networks, but also in expanding their networks to learn about and implement global education.

**Network Pattern #2: Network Clusters**

In addition to an understanding of the network diversity inherent in the study participants’ networks, data analysis also revealed participant awareness of clusters within their networks. Hakkarainen, Palonen, Paavola, & Lehtinen (2004) found that networked communities are characterized by strong ties between members of the community and either systematic or unsystematic weak and strong ties with external members. When viewed from an external perspective, these groups of strong network ties may be seen as clusters. Pahor et al. (2008) found that members of a larger learning network tend to form clusters in which learning is much more intense and that the larger the organization, the more likely it is to break down into these clusters. Burt (1992) found that people in these groups or clusters are not necessarily unaware of each other but tend not to pay attention to the activities of those in other clusters. An individual with strong ties in one cluster and weak or strong ties to another cluster can act as a bridge sharing information between the two clusters (Burt, 1992). In order to act as a bridge, however, one must be aware of and able to make connections between these disparate clusters.
Although the mapping activity was designed to have study participants develop egocentric (or personal) network maps, four of the study participants incorporated clusters into their network maps, indicating an awareness of some of the other existing network connections. These clusters include members of their maps who are connected to each other independent of their connection to the study participant. Cindy, an elementary school teacher, for example, indicated a relatively complex cluster seen in Figure 22. Cindy’s cluster describes connections that are largely external to the school district. Within the cluster, Cindy has direct connections with Appalachian State University, Maria, the Global Ecosystem Project and the Global Climate Project. However, Cindy has also indicated that Maria has independent connections with Appalachian State University, the Global Climate Project, and the Global Ecosystem Project, which also has an independent connection with Appalachian State University.

![Cindy Cluster](image)

*Figure 22. Cindy Cluster*
Lynn, a high school teacher and international baccalaureate (IB) coordinator, has also indicated a cluster in her network (see Figure 23). Her cluster relates to her understanding of how the IB schools and personnel relate to each other within the district.

![Figure 23. Lynn Cluster](image)

You can see that she describes a cyclical flow of information between the District Level; the Specific Globally Centered Personnel; and the Feeder IB Schools. The feeder IB schools are those schools at the elementary, middle and high school levels that are all within the IB program and whose students will transition naturally to each other within the program.

Andrew, an assistant principal at an elementary school, incorporates several clustering elements in his network map that indicate the connections he sees within his
school around global education as well as with one external organization, WorldView (see Figure 24).

![Figure 24. Andrew Cluster](image)

As one can see in the map, Andrew has indicated separate connections between WorldView and the Title I/Reading Teacher, the Global Team, and Other Administrators, as well as Andrew. The Title I/Reading Teacher is also separately connected with Other Administrators, the Global Team, and with the Kindergarten Teachers. As indicated on Andrew’s map, these are all flows of communication that may occur independent of Andrew’s involvement.

Hazel, an elementary school principal, also incorporates multiple clusters within her network map (see Figure 25), most of which occur across the district.
For example, on the left side of Hazel’s map, one can see her feeder district schools are connected not only with Hazel and her school but also, independently with the District Office and with UNCW. Further, University Partners (in the bottom quadrant of her map) are separately linked with organizations such as VIF and the Center for International Understanding (on the right side of her map). These organizations are then also linked back with the District Office, again independently. Although Cindy, Lynn, Andrew and Hazel each incorporated clusters in their maps in slightly different ways, how they chose to incorporate these additional connections in their maps may help to give us some additional insight into the complexity with which they describe and perceive their own networks.

An awareness of and connection to other network groups or clusters is a first step to being able to bridge the structural holes that are inevitable in social networks (Burt, 1992). Although study participants were asked to draw their networks from an egocentric, personal viewpoint, four participants chose to incorporate additional network clusters. It is possible
that other study participants were similarly aware of clusters in their own network but chose not to include them. However, for at least these four participants, their awareness and inclusion of additional clusters offers them additional opportunities to share novel information and to bridge structural holes.

Network Pattern #3: Network Hubs

Networks hubs, likes the hubs of a wheel, are those people who are highly central to a given network (Cross, Borgatti & Parker, 2002). Those people who function as network hubs can be good for a network as, having access to large numbers of other network members, they may be good conduits for information flow (Cross, et al.). However, these highly central people may also intentionally or inadvertently become blockages in the system (Cross et al.). Cross et al., therefore, recommend that an awareness of those who are or are becoming network hubs in order to ensure that information flow is smooth.

All of the study participants self-identified as emerging leaders in implementing global education. As such, it is natural that others might see them as resources. Indeed, as we will see in the findings for research question two, many of the study participants have found opportunities to share their knowledge and understanding of global education. Further, although the nature of the mapping activity asked all participants to essentially place themselves at the center of their network maps, there were four participants who seemed to emerge as recognized deep resources in their community who might possibly be classified as network hubs. Two of these participants were teachers and two were principals. Leslie, an elementary school principal, was mentioned to the researcher by district office personnel
prior to beginning the study as someone who was a leader in this area. Leslie is the principal of the district’s anchor school in the Global Schools Network and, while she might not think of herself as a network hub, it is clear from that she is not only willing to share her knowledge freely but is also very aware of other people and resources in the district. Leslie said,

Well, I mean we were a little ahead of the curve, which was really nice. You know they say timing is everything. So it was great to be a little ahead of the curve. And I think that has given us an opportunity to share within our district things that we did to globalize our curriculum. We have had the opportunity to go either to visit other schools in our district and just talk to individual teams of teachers and say this is kind of how we do it. Or even to develop little email pals between teachers in classrooms where they feel comfortable to email us. You spent time with Cindy who has just been instrumental in the global piece. She and I present at countywide staff development. We’ve had the opportunity to do that on several occasions. And because we do feel that in the positions that we’re in, you basically have to have a servant’s heart and that we’re here to do what’s best for kids. We really open ourselves up for anybody in our district to email us, to ask us questions. We invite them to come to us and I think you have to be very open to share. Also, as the global piece became more prevalent in our state, in our district, when our superintendent or our assistant superintendent of instruction would say you know, we’re going to
develop this taskforce to help propel this vision forward of global education, I very readily said I want to be on it.

So, Leslie is a resource to others in her county and outside of it; however, Leslie’s position also allows her to be aware of other global education efforts and resources in the county. For example, Leslie shared,

And our global piece has gotten so big in our county, which we are in the global schools network, we were one of the initial thirteen counties that were chosen. We’re pretty much viewed as the leader across the state when you look at us as a district. And we do things for instance, like we have many of the VIF teachers. We have the three Splash schools so that’s six teachers. We have global gateways in [one school], which has a VIF teacher in six grade levels so that brings us to nine. That will expand next year to be even greater. But then we have Chinese teachers with our relationship with Hanban….

One of the schools that Leslie mentioned and its principal, Hazel, were also mentioned by district level personnel as well as several other participants in the study. Hazel is similarly deeply invested in implementing global education in her school and in sharing her connections with other administrators and teachers. For example, at the beginning of the second interview, Hazel shared,

Since you were here last week, actually last Monday it was, we had a [delegation from another school district] came to visit [our school] ‘cause they’re thinking about getting some international teachers as they move forward. And so their Assistant
Superintendent and a couple of their Principals came down and spent a few hours touring the campus. A couple representatives from VIF came with them. But they’re kind of able to showcase [our school] as a model international school that this is what this is meant to look like.

Hazel’s school also hosts a number of global/international events for the district to which teachers and administrators from middle and high schools as well as other elementary schools are invited. These events are opportunities for teachers and administrators across the district to connect with each other and with external organizations around international issues.

Two teachers similarly act as deep resources and might be seen as network hubs. Becky, an elementary school teacher shared several times that the teachers in her school see her as a clearinghouse or “go-to” person for international resources. Her principal, Patty, also participated in the study and specifically mentioned Becky when asked about teachers who acted as resources in the school. When asked directly about sharing with other teachers in her school, Becky replied,

Oh yeah, if they ask me to. I don’t push myself, because I don’t want to say oh god, there’s Becky… she’s coming spouting off about something else. But I mean, if they're learning about stuff… I mean, like I said, I’ve been here thirty one years and so it’s like… if I don’t have it about whatever culture or people they’re talking about, I could find it or I can locate something about it….So if they ask me, I definitely will share with them. And then, like you saw the bulletin board that’s still up on the wall
there, because they won’t let me take it down when I was in Peru…But yeah, I share
with them, but I don’t… once again, you can’t force people and it’s better to have
them come to you than you to go to them, because if you… I mean, when I went to
Heifer and got all the books for Read to Feed, I said you know, here’s one for your
grade level; if you want me to order some more stuff for you I’ve got contacts, I know
them. If you want me to do it, I can call them today.

On another occasion, Becky shared,

So I think if anything, I’m kind of like the go-to person. So I think I’m sort of maybe
the connecting fibers, if that would be… You know, because I mean if I don’t have a
book about it, or something, I know somebody I can call and get you something and
help you out. And I will…

It is clear that Becky acts as a clearinghouse of information for the other teachers in her
school. She is able to do so, however, because of the strength of her external connections. In
looking at her network map (see Appendix G), it is clear that Becky has a wealth of external
connections. Cindy, also an elementary teacher, similarly has a wealth of external
connections. Her map (please see Appendix G) is easily one of the most complex in the
study. Cindy is clearly well-connected both inside and outside of her school and district.
Further, Cindy, like Becky, is very willing to share her connections and resources with
others. In addition to presenting at countywide staff development, as mentioned by her
principal, Leslie, above, Cindy has also presented at online global workshops and for classes
at Appalachian State University. Leslie, Hazel, Becky and Cindy may be seen as network
hubs or, at least as deep community resources, because they are not only well-connected but are also willing to share those connections with others in their school, district and community.

Although it is unlikely that any of the study participants would intentionally block information flow concerning global education, it is possible that other members of their schools or the district may come to rely on them more deeply. While all four of these study participants indicated a willingness to share information and resources, in this case, they may become overburdened and, inadvertently cause a blockage in the flow of information and resources around global education. Structures that allow for the increased breadth and diversity of the networks of other members of Eastern Public Schools could help to prevent such a scenario.

In exposing the network patterns described by study participants in both the interviews and their network map drawings, this first key finding uncovers how participants describe their social networks. Study participants did not see their social networks as some static and abstract concept that existed separate and apart from their ability to implement global education. Instead, participants described their networks as they used them – as a living, breathing thing that grows and shrinks and that they enact to build knowledge and implement global education. Findings two and three explore how participants utilize the networks described in finding one for knowledge creation and implementation of global education. Although these two findings are related, participants first utilized their networks
to increase their own knowledge and understanding before they were able to enact their networks for the action of bringing global education to their schools and classrooms.

**Leveraging Social Networks for Knowledge Creation**

Social networks offer a platform through which one can seek and share information, transfer actionable knowledge, reformulate problems, and create new knowledge. While the participants in this study certainly employed their networks to access new information, they were just as likely to approach their networks as places of knowledge creation rather than simply information distribution. Knowledge creation or knowledge building goes beyond learning in that those actively engaged in it actively try to draw connections between what is happening in their immediate situation, past experiences, past knowledge, and abstract concepts (Bereiter, 1997). Study participants enacted their social networks for knowledge creation about global education through: accessing new information as well as collaborating with colleagues through brainstorming, problem-solving, and future-planning to integrate new information into existing understandings to create new knowledge and solve the ill-defined problem of how to “do” global education. The first section below will share participants’ descriptions of leveraging their networks to access new information while the subsequent sections will cover how participants engaged with their networks to brainstorm, problem-solve and plan for the future.

**Accessing New Information**

Knowledge creation relies, in part, on the ability to integrate new knowledge with one’s immediate situation, past experience and knowledge, and abstract concepts. One of the
ways that participants engaged their social professional networks was in accessing information and expertise concerning implementing global education. All ten of the study participants found that the members of their social professional networks were sources of information and expertise. Connecting with this information and expertise took a number of different forms. For example, participants indicated that external organizations dedicated to global education were both direct and indirect sources of information and expertise. Lynn, a teacher and IB coordinator, indicated that external organizations in her social professional network played a critical role in her ability to get information, saying:

The people that I tap into first is a group of state IB coordinators. I attend those meetings twice a year, and that’s sort of like, they’ll have speakers and things for us but it is also an opportunity to meet with all the other coordinators. Along with this, I have the state IB [International Baccalaureate] Organization. And that’s really fellow coordinators, which I lean on heavily for a lot of stuff, coordinators and teachers. And from that I have organizations that I would go to and one, a large one, would be IBO [International Baccalaureate Organization] and all the resources that gives me, which is whether or not you’re a coordinator or teacher, they have an extreme amount of resources in global type issues and things like that, and so you’re talking about something that’s called the OCC, which is the Online Curriculum Center. And then for me personally, I have what’s called the IBIS, which is an information system that gives me access to everything.
Parker, an assistant principal at an elementary school, attended a WorldView conference and found that not only was she able to access specific resources but that she also came away with ideas for what global education might look like in her school, ideas that she could see sharing with teachers in her school in order to enhance their ability to implement global education. Parker indicated that she found this type of interaction through her social professional network to be inspiring:

You come back and you’re, ‘Oh yeah.’ You find all kinds of cool resources and projects and things. When I went, I guess it was last year, something that was really neat, a lot of them [the conference presenters] were doing global themes and global units of study. And that was really neat to come back and share some of the ideas with the teachers, of how they could take what they’re doing and just unite it under one global issue, or something to pull it all together.

The university community has also been a source of information and expertise. For example, Hazel pointed out that the partnership that her school, as well as the other schools in her feeder district, has with schools in Belize is a direct result of a connection with UNC-Wilmington. She said,

Well, the university has been a huge support system for us – the University of North Carolina at Wilmington. We’ve just had a great partnership and relationship with them. Actually they were the ones who originated the Belize partnership, and so they take a group of undergraduate teacher candidates every year for the spring to Belize to do their teaching internship. I think it’s six weeks that they do down there. So
when we started that Belize partnership, we kind of tagged onto what they were doing and it was nice, because they already had connections with hotels and schools and all that kind of stuff. That has budded from there and so they’ve been able to provide resources for us.

In addition to external resources, participants also indicated that members of their social networks who were internal to their school or district were also valuable sources of new information and expertise. Dennis, for example, mentioned that he got a number of ideas and resources from leaders and participants in county trainings and professional development workshops as well as from others in his departmental professional learning community (PLC). Lynn, also found that she could rely on the school staff development programs to be heavily centered on international issues and connected her with resources and experts.

Patty, an elementary school principal, found that while she got a lot of information and resources from the district office and from external organizations, the teachers and students in her school (and network) were often the greatest source of new information.

Teachers. They find out. And like a child will ask a question. Like the kindergartners were all about the TerraCycle [a program to collect hard-to-recycle waste and recycle it] with the little sip-up drinks. And their teacher started looking at can these be recycled. And then how to look for the symbol on something to show, like if there’s a triangle and there’s a number on the inside it can be recycled so find out where you can recycle it. So the kindergartners started looking at that saying,
‘Hey, this has a number in the middle. Why don’t we recycle this?’ So she looked it up and then all of a sudden TerraCycle was born. So that’s where a lot of it comes from, is just researching ourselves to find out ways. But it’s ideas from our children, because now they’re so involved in it.

In talking with participants, it was evident that their networks were a considerable source of information and expertise; however, they needed to play an active role in engaging with members of their network in order to gain access to those resources. As Becky, an elementary school art teacher put it, “It’s just you’ve got to get out and look for stuff, and if you’re willing to look for stuff, people are more than willing to send you stuff, I mean because people have got it; they’re more than willing to share.” Additionally, participants found that they often needed to further engage with their networks in order to make sense of the new information.

Collaborating to Create New Knowledge

Global education is still a relatively new concept in North Carolina. Further, it is still unclear exactly what global education is. Multiple definitions of global education exist (Becker, 1979; Case, 1993; Gaudelli, 2003; Hanvey, 1976; Heater, 1984; Kniep, 1986; Merryfield, 1997; Pike & Selby, 2000; Reardon, 1988; Tye & Tye, 1992; Werner & Case, 1997). While study participants were readily able to access new information, it is not enough that information be new, it also has to be actionable (Cross & Sproull, 2004). In order to process new information, study participants engaged their social network members in
collaborating to create new knowledge around global education through brainstorming, problem-solving, and future planning.

**Brainstorming.** One of the ways that participants engaged with their networks to make sense of new information for global education was through brainstorming. For example, Susan, an elementary teacher, mentioned a close connection with her planning team of three teachers in terms of not only finding and sharing resources but also brainstorming ways to use those resources in the classroom and ensure that they were grade-level appropriate. Susan’s school format is based on project-based learning so the planning team is a key part of organizing the projects. They share resources, articles, web links, and best practices with each other not only in their planning sessions but throughout the day via text. In addition to her planning team, Susan also mentioned that she often shares information and resources with a group of teachers across grade levels in the early mornings. She shared that, Well, having a team that’s on board makes it easier because it’s not a one-person journey. I think if my other teammates in the other grade levels weren’t invested, you wouldn’t be able to get as far as you can with the kids. The kids would be the ones who are cheated. And if I get here early in the morning and I’m not heavily tasked, another first grade teacher and another second grade teacher, they’re usually down there. And we’ll throw ideas off of each other. And that’s nice because it’s an informal vertical articulation but it happens naturally. And I mean I’ve shared resources with both of them before that I found across the way and they’ve done the same thing for me.
Hazel, an elementary school principal, indicated that having opportunities to share and brainstorm with her peers and colleagues was important to her as well, saying:

Certainly colleagues as well, other principals, peers, and colleagues. It would be opportunities for collaboration. Because we as a district, we have lots of like, you know, global day, and the global forum, and things like that where we come together and we have that opportunity to share and to brainstorm.

However, Hazel also indicated that finding ways to allow her teachers time to brainstorm and collaborate was equally important to her. For example, she indicated that last year, following participation in online learning modules created by VIF, she found ways to offer her teachers that collaborative time, saying:

Our teachers last year participated in five online learning modules and so it was great.

We provided protected time once a month for our teachers to come together, so they had substitutes or their classes were covered, so they were able to come together and spend like three, four hours as a group, talk through it, and then be able to support one another, and then brainstorm ideas and opportunities of how we can change what we’re doing in the classroom.

Having accessed information, brainstorming is clearly a next step in processing that information to make it actionable and create new knowledge.

**Problem-solving.** Knowledge building goes beyond learning to help re-formulate and find solutions for ill-defined problems. In implementing a new global education initiative, study participants found that practices, policies and, sometimes, even structures
were not yet in place to help them solve problems. Therefore, they needed to enact their networks to problem-solve issues that might emerge in any of these areas. Leslie, an elementary school principal, described a time when she and several other elementary school principals were able to problem-solve collaboratively and view an issue comprehensively. Leslie and three other elementary level schools were interested in starting Splash! programs (Splash! is a VIF program for dual language immersion). All four principals believed that the program was well worth their time but knew there would be challenges in implementing the program. Leslie described the process for considering the implications and challenges:

But instead of working that out on our own, we started thinking about and having conversations about, okay, well we’re going to have these children that are fluent in a second language. They’ll be able to teach the second language by middle school. So then what are the implications for what that’s going to look like? What foreign language needs to look like at middle school and then of course high school? So we start having these conversations. And from those casual conversations and just some emails back and forth with each other, then we develop the world language action team. And so that’s a group of principals and county office personnel that are working to develop a vision for foreign language in our system.”

Leslie recognized that each school’s principal could have simply worked on the issues in his or her own school, or even worked out issues for such a program at the elementary level with the principals in their immediate circle. However, by taking the time to consider the issue from multiple perspectives and asking others to join the network around this issue, the initial
group was able to open the network to a larger group to work not only on the immediate issue but also to discuss related issues. Not only were they able to problem-solve the issue at hand but they were also able to build communal knowledge around articulated language and global education programs.

**Future-planning.** While understanding that implementing global education in the school and classroom is a constant and iterative process, study participants also recognized that future-planning was essential to their efforts. Future-planning within a social network offers an opportunity to shape current and future thinking about transforming new knowledge about global education into action. Such future-planning occurred both vertically and horizontally and was recognized by participants as crucial to their ability to implement global education.

Andrew, an assistant principal, attended a conference sponsored by WorldView (a global education organization connected with UNC-Chapel Hill) with a team of teachers of teachers from his school and said of his experience,

I think what was most helpful about it was to expose a group of teachers to things that are happening in the world and then giving us time to make a plan for how we’re going to bring the rest of the world into our school. Because we had as hour or two hours or something in those two or three days, to plan, and that was really…I think it was effective, because we got to reflect on how effective our current plan was at the time.
Hazel, an elementary principal, also included the concept of future planning with members of her network recollecting the beginning of her experiences in working with colleagues from the feeder district schools in her network map to consider how they might work together to plan for and implement global education. Hazel recalled:

So I think as administrators, we quickly realized – and that was probably 2010 – okay, we need to get serious. And at that time all of the feeder districts were having conversations of okay, what are we doing? We know that this is the expectation of the state, as the district. What are we doing as a school or as a feeder district to make sure that we’re in line with these goals and providing opportunities for our teachers to have that growth? … and we have talked about it at every feeder district meeting that we’ve participated in in the last five years. I mean, it has been a constant… before we had the Belize partnership it was… we need an international partnership. The [feeder district] area has this beautiful relationship with China and they’re doing all of this work; what are we going to do? We need to identify something that’s going to work for us.

Parker, an assistant principal at an elementary school, similarly recognized collaborating and future-planning with colleagues in her school’s feeder district around their Chinese language programs. In both cases, the connection with colleagues at the feeder district schools may have already been in existence; however the connections were enhanced by the emphasis on global education and also offered an opportunity to collaborate around the issue.
Study participants were able to enact the social networks described in finding one to build knowledge around global education. While there is certainly an aspect of learning involved in knowledge creation, building knowledge requires more than learning alone. In order to create knowledge, participants accessed information from both strong and weak ties but then relied on their network relationships to help them actualize this new information through brain-storming, problem-solving and future-planning. Even newly-created knowledge is only useful if it is acted upon. Finding three describes how study participants enacted their social networks to put into practice their new knowledge to implement global education.

**Leveraging Social Networks to Implement Global Education**

While knowledge creation is key to solving ill-defined problems such as how to implement global education, unless educators are able to act on that new knowledge it is worth very little. In addition to enacting their social networks to create new knowledge, study participants also enacted their networks to enable them to implement global education in the classroom and school. Both teachers and administrators in the study engaged their social networks to develop practices to deliver global education. Participants employed external experts to assist them both directly and indirectly with projects that helped their students learn globally. In addition to experts, participants turned to their social networks to help them connect their students with authentic international experiences. These experiences were often made possible only through utilizing technology to make the connections. Finally, however, participants found that, in enacting their social networks, they had
opportunities to give their students a voice and engage them in their own learning about global education. Each of the following practices: accessing external expertise; engaging authentic connections; utilizing technology; and engaging students in their own learning around global education, will be further elaborated on in the next sections.

**Accessing External Expertise**

As we saw in findings one and two, external network connections are frequently used to access new information and resources that increase participant understanding and capacity to create new knowledge around the concept of global education. However, study participants were also able to share examples of ways that they were able to draw directly on those connections to deliver global education.

For example, Dennis, a civics teacher at the high school level, also teaches a global and cultural connections course that is driven by his school’s connection with VIF, an international education organization. As we saw in finding one, VIF is a high-value tie for him in that the resources that VIF provides to him useful on more than one level in implementing global education not only in his specific course but also in his other classes. He said:

VIF is probably my number one go-to. I hate to use the term but the class that I teach, cultural studies, is almost like a canned course essentially where I log in, you know, here’s your lesson plan for this week, every activity is outlined for you, but a lot of times I’ll take the links and sites that they’ve provided for me in global issues and I’m like, wow, this would be really great for civics. So I really use them as a
resource and I’ll switch up, you know, some of their lesson plans if I think I can do a better one, but really, a lot of the resources I get, even for civics, is through VIF, which is good.

For Dennis, these resources that can be implemented in the classroom with little or no additional development on his part make this access to external expertise invaluable in delivering global education. Similarly, both Cindy, an elementary school teacher, and Parker, an assistant principal at an elementary school indicated the military community or individual military members as valuable partners in the direct delivery of global education.

Cindy shared that,

Parents wanted to get involved and you know, it’s great, because then you have those connections. Because especially in a military town like this, where you have such international people around, you get those connections too. That’s definitely something that I want to build on; community connections and being able to have the kids see, just here in town, how much; I mean, being a military town, you have so many people from so many different places that we, it’s like a goldmine here and I don’t feel like we’ve dug enough to get that, you know. And whether it’s speakers or dancers or whatever, we’ve got tons of those kinds of resources. I don’t feel like we’ve even scratched the surface there.

Parker shared a specific example of the types of connections the military can bring as a part of her network as well as how she might like it to increase,
I think we’re starting to do more with the military even when we just had… This past Friday, we had seventeen Marines that were here and they read with the kids, while one of them… they were reading a book in the library in their specials class about something… a cat in Japan. And anyway, the Marine that was in here had just returned from Japan, so he read it to the class and then would share his experiences. I would like to see more integration with the military because of the fact that they are so globally connected.

Thus, while study participants could rely on external connections for new information that needed to be processed in order to be actionable, they also found ways to utilize their external network connections more directly to implement global education.

Engaging Authentic Connections

Several of the study participants indicated that they found ways to connect their personal network connections, particularly their international connections, with their students and colleagues. Participants indicated that they felt that sharing these connections with their students increased authenticity for student learning about global education. Susan, for example, shared that offering her students a direct connection with a member of her network to give them an authentic international experience was a very powerful learning tool. She indicated that,

When they have the study abroad students who share with us in the classroom, that’s really powerful because it gets the kids connected. Yes, the one guy I had in Sweden last year, he was phenomenal with his presentations to the kids. And they were ready
to pack their bags and go over there and see what was going on and help out. Because the culture came alive just because of them [the study abroad student] sharing from where they were at, in a way I can’t touch. It doesn’t matter how often I go to Google Earth or the video clips, the fact that they’re sharing and talking about it, it’s more powerful than anything I could have done, short of taking them to that country.

Cindy also indicated that the learning was more effective and longer-lasting when making these kinds of authentic connections, saying,

And then the effectiveness even grew when we were able to do that connection…personal connection. I mean, I had a student…actually I did a presentation for Appalachian State a couple of months ago and I had one of my students that was in my third grade class – and she’s now in seventh grade – and she actually recorded about how she still remembers talking to the people or talking to our correspondent in Ghana. That’s something that just stays with them. It made it real and personal to them. So that’s what I’m finding with the cultural correspondents and any of the global connections that we have – the personal connections – that the learning is staying, whereas if they just read it on the internet, they wouldn’t know it next year. And the questions that they are asking as they get used to doing that, the questions that they ask the correspondents or that they ask the people that we’re connecting with globally are more profound that just, you know, what is the food that you are eating? So we’re looking into more of the global issues:
do kids have the right to go to school, you know, those kinds of things, which I’ve seen a great change.

Hazel, an elementary school principal, shares that it is not only students who benefit from authentic connections but also her colleagues. Hazel had an opportunity a couple of years ago when six teachers left her school to be able to bring in a core group of international teachers and to be able to use them as a way to ground an idea of having each grade level (K-5) focus on a different continent. About that she said,

There is nothing that replicates having an international colleague next door. I mean, having that opportunity to play together, to share ideas, to share customs and heritage and traditions; you can attend as much professional development as you want, but when you’re hanging out with your colleague who’s from England or Africa, it just immediately takes the educational setting to the next level.

The importance of being able to engage these types of authentic connections is also seen in their loss. For example, Andrew, an assistant principal at an elementary school, indicated that he and his team felt the loss of their partnership with a school in England keenly due to the loss of what he felt that relationship meant in terms of authentic connections for his students. While he was still hoping the partnership with the English school would work, he did indicate that he and a team of teachers had come up with a contingency plan, however, he was less satisfied with the contingency plan. Andrew indicated that,

It’s easier for us to do, probably, because it doesn’t really rely on anybody. The county is kind of doing this push again for PBL – which is project-based learning and
that ties in really well with projects about the world. [But] I don’t see that as being as authentic as talking with some seven-year-olds in an English classroom who have read the letter you sent them, you know.

As we can see, the study participants placed a high value on engaging these authentic connections in the service of implementing global education.

**Utilizing Technology**

Technology clearly plays an important role in the study participants’ ability to implement global education. Rogers’ (2003) suggested that a generalization concerning the communication behavior of early adopters and mass media is that they have greater access to mass media than later adopters. Because of the ubiquity of access to the mass media for study participants – living and working in North Carolina – I have altered description of the generalization to better fit the current situation while maintaining the spirit of the original intent. For the purposes of this study, access to mass media indicates evidence that the participant uses technological resources including Internet searches, social media platforms, web conferencing, etc. as a resource as well as a tool for sharing information. For the study participants, technology not only allowed them access to information and resources they could bring into the classroom but also offered them opportunities to connect with other members of their networks and deliver instruction around global education.

For example, Susan, an elementary school teacher, indicated that she accessed resources and information through both general media sources such as the news, newspapers, and websites for general audiences as well as media sources specifically geared toward
education. One main way that Susan differentiated between the two types of sources is that the educational resources are often already appropriate for elementary level students while with general media sources, she may need to work to adjust it saying,

And certain things you find you always have to filter out to see if they’re student-appropriate. Source Bed has a lot of really exceptional things. It’s how my son watches news at college. And I can bring it into the classroom, and it’s very global.

The problem is you have to make sure that it’s appropriate for a third grade audience. However, general media and internet sources may have more up-to-date information for her classroom. Susan also finds it difficult to “turn off” her ability to see connections in the media and with the curriculum her students are learning.

But I think the real meat of it comes from both the media and the teammates because we know our curriculum so well that we can see those connections. And we’re on 24/7 for it. Not that we’re always looking for those things but our mind automatically goes there. If we’re watching the news or we’re in a source, we’re automatically – it just snaps – and we’re like “Oh, that connection is made and how can we use this?”

Although she would always like to be able to find more, Susan also sees the internet as a valuable source of information and resources for differentiated learning so that students are neither bored nor too challenged by the material.

Dennis, a high school teacher, indicated that he saw the Internet as a particularly valuable external connection on which he relied on a daily basis to implement global education in his classroom. Dennis said, “Bringing, you know, Google Earth, going to other
places around the world, and, you know, the world CIA Fact Book, videos, news organizations. I mean these [other network connections], obviously, all have their influence, but this is a daily thing.” Lynn, a high school teacher and IB coordinator, also relies internet resources for International Baccalaureate schools in particular, however, Lynn also indicated that “I have a strong global interest myself, which causes me to seek outside all of this to web resources, media resources, you know, environmental organizations and things like that” which she can then incorporate into her delivery of global education.

In addition to directly bringing in resources to the classroom, several study participants also indicated that they utilize technology as a way to enhance their ability to connect with the other members of their networks in order to implement global education. Cindy, an elementary school teacher and facilitator, indicated that a large number of the members of her network live across the state or across the world. Therefore her best way to connect with them is through technology. Cindy is very comfortable with technology and, therefore, uses many different forms, including Skype, email, web conferencing, Facebook, etc., depending on the situation and the comfort level of the others involved. Cindy has also seen her ability to share technology with other teachers as a way to influence their ability to implement global education. As Cindy put it,

There’s other teachers that have never ventured out and the fact that they can venture out through technology, they were just amazed and the many different ways, I mean, whether you use GoogleDocs and you share a PowerPoint and have a project done together …I mean, we’ve done that and the kids just love that, because they…okay,
we have this and you send that GoogleDoc, open up to somebody else in another
country and they’re adding to it and you go back and forth. And it’s just a wonderful
thing, so…And it makes the kids excited because they want to be able to share that.

Cindy recognized, however, that not all teachers are as comfortable with technology as she is
and that a level of discomfort can be a barrier to using the technology and to making the
global connections. Her solution is simple, “And I think maybe each school needs to have
somebody that feels comfortable in using technology or feels comfortable in reaching out and
continuing those connections.”

Leslie, an elementary school principal also indicated the value of using technology to
make connections saying,

And you think something as simple as Skype couldn’t have had such a profound
effect on a school but it has, because again, I go back to that piece of many of our
children don’t have those opportunities to venture beyond Jacksonville. But Skype
has allowed them to visit a multitude of places. And then having Cultural
Correspondents has then branched off into helping us to develop relationships where
we view Skype beyond just Cultural Correspondents.

Leslie’s comment, however, indicates a broader willingness to not only utilize existing
technology but also to think about new and inventive ways to use it. Susan, an elementary
school teacher, also indicates a willingness to use existing technology in new and inventive
ways. Susan says,
Well even Facebook has come into play now because, for example, the teacher next door, she just recently graduated so she has friends abroad in college right now. Well she Facebooked them and asked, ‘In the country you’re in right now, what environmental issues are you facing?’ That was like the coolest thing in the world and I was like wow. So she brought all of that because all they did was Facebook her a paragraph and we knew about issues in many, many countries. And that was like wow. That’s when it was like, hmmm, I would not have thought about that. But she’s more used to doing that. So she brought in a piece that [a colleague] and I wouldn’t have thought of. Who would have thought you could do that with Facebook?

Not only is Susan willing to think about using technology in new and inventive ways but also to learn from younger colleagues in her network who have different thoughts on technology.

As evidenced above, clearly the Internet and media play an important role in study participants’ ability to implement global education. Technology is seen not only as a tool but also as an important source of information as participants seek out ways to connect the students in their classrooms with the real, global, world.

**Engaging Students in their own Learning about Global Education**

While we might expect to learn that participants view their students as recipients of the global education they are tasked with imparting, participants also included students as resources and sources of information. Participants indicated that, particularly in their community, students may have had international experiences through the military, international family members, or were themselves international students. Additionally, once
sparked, the curiosity of students about global issues often led participants to dig more deeply into those issues of concern to their students. Participants, therefore, plainly saw a pivotal role for engaging students in their networks to implement global education.

Leslie mentioned that the students are why she chooses to implement global education in her school. She wants to influence them but at the same time feels influenced by them and wants them to influence others. Leslie said,

I also thought that by giving them a glimpse into the world, it would not only help them academically but hopefully what it would do would be to shape their own hopes and dreams for the future. I wanted them to be able to understand you can be anything you want to be. …I wanted them to feel empowered to do a lot. We’ve always been a huge service learning school, helping children learn the importance of giving back, not only locally, but globally. And so I wanted them to understand, I didn’t want them to be egocentric and to think about just our neighborhood, our school, even just our town. I wanted them to look throughout the United States and then throughout the world to see what the needs are.

But Leslie also wanted her students to influence others and later said of her students,

And what I like is that because they can relate it [global education] to real life that means they’re going home and having conversations with their parents about what they’re learning which, hopefully, then makes our children the peacemakers because they’re going home and talking about various perspectives, not only of maybe
students in their classroom but children around the world, people around the world, so you hope they’re being influencers.

Leslie’s experience that her school’s students are subsequently sharing their learnings with parents and the community is a powerful indicator to her that they are being actively engaged in global education. Hazel, also an elementary school principal, specifically included students in the school community of stakeholders that she feels she influences concerning global education (see Figure 26). But Hazel also mentioned of her students that, “We’re about 60% military and so a lot of our students have traveled internationally, lived internationally; they bring that experience themselves and so I knew it was a rich community of experiences.”

*Figure 26. Hazel Students*
Hazel indicated that accessing the experiences of the students themselves is one way of engaging them in their own learning about global issues.

Dennis, a high school teacher, also mentioned working with students in his network as a way of engaging them in their own learning but also as resource for the other students in his class. He included drawing on the international experiences of his students from military families but also the international students in his classes. As a high school teacher, Dennis has older students in his classes. Dennis is able to engage these students to be able to help him increase other students’ curiosity about the world. Dennis indicated,

One other thing I should mention is that [this] high school, every year we’re big on an international group of students that come. Like in my second period class I have a girl from Slovakia, I’ve got a boy from Ethiopia, I’ve got another girl from Italy in that class; fourth period I’ve got a girl from Germany. So they really try to bring in international kids, which gets the kids a little bit excited. ‘So, hey, what’s it like in your country?’ And it makes the teachers excited too and it gives us an incentive, you know. I have my international students make a Prezi or a PowerPoint or bring in pictures of the country they’re from and kind of give a presentation, which gets everybody excited.

Dennis finds he can rely on these students to offer external perspectives that he cannot provide himself.

Relying on students with prior international experiences is not the only way to engage students in their own learning about global education. For example, Parker, an assistant
principal at an elementary school, incorporated “student led projects” in her map (see Figure 27). She indicated that the students often have a large and direct influence on the direction in which her school takes global education because they are very interested in what they are learning about the world and looking for projects where they can help.

They’re always coming, “Can we do this? Can we do this?” They get all the little letters too. And I’m just like, “Well, write up a proposal.” And so I talked to them about what a proposal would be like. And so, Ms. [Principal] and I are always getting these notes from kids like, “I heard about this and I want to help in this way.” And it’s really very sweet.

Parker affirmed that the teachers in the school often take the lead from the global issues and projects that get the students excited and, in turn find and share information.

*Figure 27. Parker Students*
Cindy, an elementary school teacher, similarly included students in her network map (see Figure 28) as collaborators in creating project-based learning units that incorporate global education.

Figure 28. Cindy Students

As a portion of these projects, her students are asked to teach younger students what they are learning through videos or presentations, actively engaging them in learning for global education.
As evidenced above, students are not only an influencing factor in encouraging their educators to teach globally but are also seen as resources for their teachers and principals. Actively engaging them in their own learning is not only good pedagogy but also gives educators access to additional resources for global education.

Study participants, both teachers and administrators, described ways that they leveraged their social networks to help them deliver global education in the classroom and school. These practices, as described above, included: accessing external expertise; engaging authentic connections; utilizing technology; and engaging students in their own learning around global education. However, analysis of the data found that there was an additional role for district and school level leadership which will be described in the fourth finding below.

**Incorporating Structures and Policies to Implement Global Education**

While leadership clearly played a role in developing practices to implement global education, leadership at both the school and district level also incorporated structures and policies that encouraged the implementation of global education. These structures and policies included: communicating a vision; ensuring access to resources; and encouraging the sharing of information, best practices and expertise. Each of these structures and policies will be further discussed in the sections below.

**Communicating a Vision**

The perceptions of the study participants in terms of how the decision was made to implement a global education initiative at the district level indicated a general understanding
that the district level leadership – perhaps in response to a state level priority – had made the decision to prioritize global education across the district. District leadership, as well as school leadership for teachers, was seen as an initiator, communicator, and supporter of the vision of global education. In this role, participants indicated that they really saw district and school level leadership as taking an active interest in promoting the new global education initiative and backing up their words with actions. For some this role was particularly important because the concept of global education was entirely new to them prior to the district initiative. For example, Patty, an elementary school principal, said,

The main thing that got all of the schools in Eastern County interested in global education was our district initiative to go global. We wanted [our students] out front and ready and prepared for the 21st century. And in order to do that they needed to be global citizens. So, we started looking at, as a district, what it meant to be a global citizen….It started with our leadership, superintendent, assistant superintendent, instructional services, auxiliary services. They began talking to us in principals’ meetings about this. We watched videos. We read articles. We did tons of professional learning communities as principals, in vertical alignment as well as elementary groups, middle school groups. And then they started really asking us to work together in our feeder districts. So it really started with those principals’ meetings. They were very informative. We did some workshops that took us offsite to visit different places. And then they began encouraging us to travel, those of us that have not traveled before, to go and learn about a different culture.
Patty indicated that, as the principal of an elementary school in a small fishing village in North Carolina, the idea of teaching her students in a more global way had not occurred to her or most of her staff prior to the district level global education initiative. However, once the district leadership introduced the idea and armed them with the information and resources they needed, she felt prepared and excited to move forward with the initiative in a manner that was best suited for her school, students and community. As Parker, an assistant principal at an elementary school indicated, “They [the district leadership] kind of have the vision, school-wide. I mean district-wide and then the individual schools can adapt it for their needs.”

Andrew, an assistant principal at a different elementary school, shared an understanding that the district office had set the vision for the global education initiative but, rather than feeling freed, like Parker, by the ability to adapt the vision for his school, Andrew felt uneasy about a lack of clarity around their specific goals for individual schools. Andrew was in a relatively new role as an administrator, having previously been a teacher and he debated this question with himself a bit, saying,

I don’t really know how they’re interpreting it, but just maybe more conversation about their goals for us. I think in a lot of ways the County Office doesn’t want to be in our business all the time; they want us to have the chance to be our own school and for administrators especially to not feel like we’re not doing our job. So I don’t really know what their goals and dreams for us are, and it could simply be that they want us to create our own goals and dreams. You know, I can remember going to my first
few conferences and, before going, saying to my administration, so what’s your goal for me? And maybe that’s…maybe I just need to create my own goals for us. I think now that I’m in this position, it’s probably what needs to happen, because I can see as a real-deal principal, not wanting someone telling me your goals need to be this, your goals need to be that, from a County Office level.

Although Andrew agreed with the other principals about the importance of the district in communicating the vision around global education, he would have preferred greater clarity around specifics.

Communicating the vision of implementing global education was not only played out at the district level, but also at the school building level. All of the teachers in the study indicated that the role their school level leadership plays in school culture and in the ability for them to connect with others around global education was critical. For example, both Cindy and Susan, teachers at the school where Leslie is the principal, indicated that Leslie’s leadership was key in the ability for their school to provide the global education programs that it does. They both indicated that Leslie had the vision and then surrounded herself with colleagues who were also excited by the vision. By not only making herself accessible to the teachers in her school but also by ensuring that their colleagues were excited about the possibility, Leslie enabled Cindy and Susan to move further ahead in their own efforts to implement global education. Lynn, a high school teacher and IB coordinator, similarly felt that her school administration was forward thinking and really initiated a school culture that encouraged her to implement global education. Lynn indicated,
Really, it’s through the administration of the school. The school has, you know, I mean, I love the school, but I have to say that I think that it is one of the more forward thinking campuses that we have. The former principal saw what was going on and understood the enormity of it and what we needed to do, so she was the one that really sort of jumpstarted everything and then, of course, everything filtered from the county level. But, you know, for a long period of time all of our PD and everything has been focused around some sort of international emphasis.

Becky, an elementary school teacher, similarly shared that,

I know that my principal’s real dedicated to it [the global education priority]; she’s like all about it and wants the kids to be globally aware. And so we are a school of global stewardship now…we got that a few years ago and we had to apply for that. And we’re a Confucius Classroom school. So we’re as international as you can be in a fishing village in southeastern North Carolina.

Communicating a vision around the global education initiative is clearly key to educators’ ability to implement the priority, however, a vision in and of itself is not sufficient.

**Ensuring Access to Information and Resources**

An additional role that leadership seems to play in participant networks is that of supporter of global education efforts. This support was expressed not only as “cheerleading” but also incorporated access to information and resources (financial and material). Although all ten participants certainly indicated that they had gaps in their networks and that they could
always use more money and/or time, they also indicated that they felt a real commitment and support from their leadership that this initiative was important.

Leslie, an elementary school principal, indicated that the district level office was one of the particularly valuable members of her network map in terms of support and information, saying about them, “Our executive staff [is particularly valuable] because they’re so supportive and they keep that flow of information and without them we wouldn’t be able to have the partnerships that we do.” Leslie indicated this value visually in her map by drawing a circle around the district leadership, which she had placed in a category of influencers in her map (see Figure 29).

![Figure 29. Leslie Leadership](image-url)
Patty, also an elementary school principal, shared that the district level leadership is a great source of information for her. While not insisting on specific actions, district leadership regularly shares information and opportunities.

We have really strong leadership in our district because they’re constantly coming up with new ideas. They’re telling us about, ‘Here’s an opportunity. Here’s an opportunity here. Here’s something you might want to present to your parents.’ And it’s amazing. They actually research a lot for us and they say, ‘Here’s what it might look like for elementary.’ And then we take it from there. It’s up to us then to take it from there and research further and see if this will work with our students, our area.

Andrew, an elementary school assistant principal, indicated the following, “I’ll say this, I’ll say that when I came to Onslow County, I was very pleased with where we were in our global education and the tools we have in comparison to other counties in the state and even across the country. We’re definitely on the right track.” Hazel, an elementary school principal, also indicated that the district support was significant, saying, “I would say that the district office and the support there has been the most significant. So I guess, the most significant variable in the process.” Hazel went on to be more specific about some of the support she felt from the district saying,

Certainly the district office in giving us permission to do what we’ve done. We wouldn’t have been able to do it without their financial support. You know, when you hire seven international teachers, there’s a lot of logistics that go into that. And
so, I think their support of us pursuing the international programs has been substantial.

In addition to simply sharing information and resources, leadership plays a connecting role in providing initial access to external organizations. For example, Hazel, an elementary school principal, expressed that,

[external organizations have] been a huge support and source of resources for us. And of course that feeds back to the district as well because the district is how we’ve become connected with those organizations. The district certainly provided that first avenue to those different organizations and community resources but now that’s just a direct feed I think for me and for the school and the teachers as far as resources go.

Teachers in the study were similarly aware of the district level commitment to ensuring access to information and resources. For example, Dennis shared,

Here at [Eastern] County, they’re really committed to the global stuff so we have the resources. I mean, it doesn’t seem like much but every one of us has a world map…. I think the resources our county provides us are pretty good, you know, between professional development and the beginning of every year they have a global conference at a high school across town and they’ll actually pay you to go to it. I feel like our county does a good job of providing what they can to teachers to make all this happen.

Susan, an elementary school teacher, similarly found the district level leadership to be a source of information and resources. For Susan, district leadership shared information and
resources through a regular email as well as through the literacy facilitator and instructional coach. In her map, see Figure 30, this is indicated by the directional arrows from these network members to her.

![Figure 30. Susan Leadership](image)

Although the teachers saw the value of the district level leadership as a network connection and identified their role as supporter, and supplier of information and resources, they tended, as a whole, to feel that the school level administration was a more valuable and/or regular source of information and resources. Susan mentioned her principal and assistant principal specifically in her network map as sources of information (see Figure 30). She indicated that one of the most valuable services that her school level leadership performed in her network was to help find resources and connections as well to help distill information coming from the county level and other external sources. Susan further shared,
The district initiative we’ve heard about because, especially at the beginning of the year, we have different training sessions and it comes into play. But there are different global initiatives. They’ve sent us to training, too. And Mrs. [Principal], for example, she’s had us visit other schools within North Carolina. They’re about two or three hours radius, so we could see what global education looked like at their schools, which was nice because then you could either take and adjust what you see so it fits our school.

While teachers indicated that resources and information filtered by school level leadership proved more valuable to them in their daily efforts to implement global education, they also indicated an appreciation for the flow of information and resources from the district. Both district level and school level leadership found ways to ensure that access to information and resources was readily accessible by both administrators and teachers.

Encouraging Sharing of Information, Best Practices, and Expertise

While we saw in finding two that study participants were able to take advantage of more informal opportunities to collaborate, district and school level leadership were also able to encourage sharing of information, best practices and expertise for the implementation of global education. Opportunities for being seen as an expert and for sharing across the school and across the district were evident. Not only are the opportunities there, but all ten felt an enthusiasm for sharing when possible. Sharing of expertise occurred in multiple forms from more informal to more formal. Becky, a teacher who has been in the profession for over thirty years indicated that while she does not ever want to be seen as pushing information and
opportunities on others, she is more than willing to be a source of information and opportunities for others in her network – particularly teachers and students. For example, Becky was able to share her work with Heifer International with others in her school and as a result she said,

There are several teachers in our school that have gotten involved, because I was involved with Heifer [International] and did some Heifer trips with them, with some of the places down in Ecuador and stuff like that, and so, you know, I got them involved with that and they were raising money for the books – Read to Feed. You can’t force people and it’s better to have them come to you than you go to them. I mean, when I went to Heifer and got all the books for Read to Feed, I said, you know, here’s one for your grade level; if you want me to order more stuff for you I’ve got contacts. If you want me to do it, I can call them today. And so there was two or three [who were interested].

Becky has become a recognized leader within her school and others who are interested in learning more about implementing global education know that they can come to her and she will be responsive. While Becky indicated that she did not want to seem pushy, she also found it exciting to help others find resources and opportunities to bring global education into the classroom. Cindy indicated a similar feeling about sharing her expertise. She found it particularly exciting to help other teachers in her school to use technology to connect with study abroad students and with classrooms in other countries. She wanted the teachers and their students to have these kinds of connections and found it exciting that she could help
make that happen simply by sharing her expertise. She said, “So once… – it it was kind of neat – because once I got to the teachers that were very adamant – no I can’t do this – I said, I’ll walk you through it, and once they did it, they were like, this is the best thing! The kids kept talking about it all year long, we would keep going back to it.”

In addition to the more informal sharing that happens within a school, study participants indicated that there are often more formal opportunities to share information and expertise. As an example, participants indicated that they were given opportunities to make presentations in front of colleagues. Dennis, for example, indicated that he has opportunities to share resources “through the workshops and through the early release days, which I think we have four each year where the kids get out at 11:15 AM and we do professional development from noon until about four. You know, I’ve done some global stuff, I’ve presented a few different things.” Dennis also indicated that he was asked to present at a district-wide global workshop. Cindy also indicated that she has found multiple opportunities to make presentations by others in her network and in her district. She has presented for university classes at Appalachian State University and at state level and national level conferences. Of her principal and herself, Cindy says,

We are actually often asked to do workshops. In fact this summer I did an institute with Ms. [Principal] on using non-profits and showing how you can do that and incorporate that into your global education and global connections – how you can connect. Because one of the non-profits was actually started because of a cultural correspondent who went to Ghana.
Cindy found that giving these types of workshop presentations pointed out to her a need for an additional resource for teachers in her district and other members of her network. So, she has set out to create this resource to share her knowledge with her network and beyond,

I actually am in the process of creating a website myself for global connections; it’s called The Global Reach, because when I was at the [county-level] global showcase, I had teachers asking me well, what books go with what country, you know, that kind of thing. So that’s one of the things on my website.

Lynn also finds herself being asked to make presentations about her work to multiple types of audiences. She said, “Anytime we have any kind of you know public type thing they want IB there and they want it front and center. So I’ve addressed you know, community, civic organizations, my kids have gone out and addressed these organizations.”

Cadres that function across schools are a place that Susan, an elementary school teacher, feels she has an opportunity to share. These cadres bring together veteran teachers to learn from each other and to share best practices with each other.

With the cadre, she had us actually teach behind the glass so that the other teachers could see how you teach. You would actually, like I brought some of my kids. I was supposed to model and interactive think aloud. So they got to see different moving parts and how I would do that in the classroom. And then each of the different teachers was teaching a different component, so again, we’re learning from each other. Because, yeah, everyone in that room is a veteran teacher.
Susan indicated that this kind of sharing and learning allows her to model the ways that she brings global education into her classroom.

Two of the three principals in the study, Hazel and Leslie, specifically indicated that they have opportunities to go out and speak to other schools as well as to invite others to visit their own schools. For example, Hazel said, “since you [the researcher] were here last week, we had [redacted] county schools come to visit [our school] because they’re thinking about getting some international teachers as they move forward. And so their Assistant Superintendent and a couple of their principals came down and spent a few hours touring the campus.” While Leslie indicated that,

I think that has given us an opportunity to share within our district things that we did to globalize our curriculum. We have had the opportunity to visit other schools in our district and say this is kind of how we do it. You spent time with [Cindy] who has just been instrumental in the global piece. She and I present at countywide staff development. We’ve had the opportunity to do that on several occasions. We really open ourselves up for anybody in our district to email us, to ask us questions. We invite them to come to us and I think you have to be very open to share.

Both of these principals also indicated that their positions in the district and their interest in global education allowed them to make new network connections and then to share within those network connections. Hazel, for example, shared that, “We have a Global Schools Action Team at the district level and I think we meet quarterly for that, so there’s groups of administrators who are always coming together to talk about these processes through the
county and I’m on all of those committees, probably because of my background and experiences, as well as having the largest percentage of international teachers in the county.” While Leslie shared her enthusiasm this way, “Also, as the global piece became more prevalent in our state, in our district, when our superintendent or our assistant superintendent of instruction would say, you know, we’re going to develop this taskforce to help propel this vision forward of global education, I very readily said, I want to be on it. Please let me be on it.” Leslie further shared that the district leadership actively found ways to encourage the sharing of information and expertise at all levels saying,

That’s one of the things that I can say about Eastern County Schools is that we very readily share with one another. And our superintendent is a master at highlighting the talents that each of us bring to the district. I hope that’s not unique but I go to enough statewide things that I think that in Eastern County, especially as large as we are, is kind of unique in the relationship we have with our superintendent and executive staff and the way they highlight our talents and abilities in our school and connect us with each other.

In actively communicating a vision around the district global education priority, ensuring access to information and resources and encouraging sharing of information, best practices, and expertise, district and school level leadership are developing structures and polices that significantly ease the ability of study participants to implement global education at the school and classroom level. Thus, we can clearly see that the role leadership plays in creating
these structure and policies at both the district and school level has a significant impact on the study participants’ ability to implement global education.

**Summary**

The purpose of this study was to gain a better understanding of the role of social networks within a school district’s global education initiative by exploring the social network experiences of school-building level educators who self-identify as emerging global leaders within the context of a school district implementing a global education initiative. Overall, the findings suggest that professional social networks can positively impact an educator’s ability to implement global education and the educators in this study valued that quality in their networks. Four findings emerged from the analysis of the data. The first finding was a greater understanding of network patterns exposed by participants as they described their professional social networks. As described above, study participants tended to describe their networks by how they were being used. Therefore, the second and third key findings help us to understand how educators are able to utilize the network patterns uncovered in the first key finding to create knowledge around and accomplish global education goals. Finally, the fourth finding describes the role that leadership has to play in developing structures and policies that facilitate the implementation of global education. These four findings led to two conclusions. One: not only having a broad, diverse network, but also having greater awareness of one’s network, including available resources and gaps, greatly increases an educator’s ability to learn about and implement global education. Therefore, an educator’s ability to development and enact such a network is crucial to his or her ability to implement
the global education initiative. Two: even within a loosely-coupled school system, supportive leadership at both the district and school levels is critical to an educator’s ability to implement the global education initiative. These two conclusions will be further discussed in connection with the literature and the context of the findings in chapter five.
CHAPTER 5

In chapter four, we met ten educators, five teachers and five school-building level administrators, from Eastern County Schools who self-identified as emerging leaders in global education. We heard their voices and examined their maps as they described their experiences with their social professional networks in implementing a global education initiative. This final chapter offers the researcher’s discussion and analysis of the findings in the context of the existing literature and offers implications for practice and future research.

The end of the Cold War era brought with it an increased interest in internationalizing K-12 education (Dolby & Rahman, 2008). In 2006, the North Carolina State Board of Education first implemented a guiding mission that all of North Carolina’s students would graduate globally competitive and ready for career or college. It is perhaps unsurprising that Eastern County Schools would follow with a district-wide global education initiative. However, many of today’s educators were not themselves the recipient of a global education. Nor was it likely to be a part of the teacher education curriculum. How, then, do educators, and particularly those leading the charge, learn about and implement global education in their schools and classrooms? As we saw in chapter two, research suggests that that one factor that influences the decision-making process of principals and teachers is their social networks. The findings that emerged from the narratives and maps in chapter four echo this understanding that educators rely heavily on their social networks to learn about and implement global education. In addition to accessing new information, the educators in this study enacted their networks to help them figure out and “do” global education.
The purpose of this study was to gain a better understanding of the role of social networks within a school district’s global education initiative by exploring the social network experiences of school-building level educators who self-identify as emerging global leaders within the context of a school district implementing a global education initiative. Specifically, the study aimed to answer the research question: How do school level educators who self-identify as emerging global leaders describe and leverage their professional social networks to accomplish global education goals? Overall, the findings suggest that professional social networks can positively impact an educator’s ability to implement global education and the educators in this study valued that quality in their networks. Further, four findings emerged from the analysis of the data. The first finding was a greater understanding of network patterns exposed by participants as they described their professional social networks. The second finding was that participants are also enacting their networks for knowledge creation. The third finding suggests that participants are also enacting their networks to accomplish global education. Finally, the fourth finding suggests that there is a critical role for leadership to play in incorporating structures and policies to facilitate the implementation of global education.

These findings have significant implications for global educators, administrators, and policy makers. Most importantly, the findings imply that an educator’s ability to develop and leverage knowledge-creating and action networks is crucial to his or her ability to implement the global education initiative. As described in chapter four, study participants tended to describe their networks by how they were being used in support of their global education
work. The network patterns (finding one) were those that were enacted by study participants to both create knowledge and to accomplish global education goals. The study found that not only having a broad, diverse network, but also having greater awareness of one’s network, including available resources and gaps, greatly increased an educator’s ability to learn about and implement global education. Consequently, this study concludes that global educators, administrators and policy makers need to develop and encourage the development of diverse networks in the service of implementing global education. Therefore, an educator’s ability to development and enact such a network is crucial to his or her ability to implement the global education initiative.

The second conclusion of the study has to do with leadership. As described in chapter four, a thread of leadership and its value ran throughout participants’ narratives and network maps and led to this second conclusion. Even within a loosely-coupled school system, supportive leadership at both the district and school levels is critical to an educator’s ability to implement the global education initiative. The study found that participants viewed leadership as an integral part of their social networks and played a key role in their ability to implement global education. Further, leadership is in a position to develop structures and policies that communicate vision, ensure access to information and resources, and encourage the sharing of best practices. These two conclusions will be further discussed in connection with the literature and the context of the findings in the next two sections of this chapter. Subsequently, I will share implications for policy, practice and research.
Conclusion One: The Need to Develop and Enact Broad, Diverse Networks

The implementation of a global education initiative is still a relatively new concept in the state of North Carolina. Further, it is still unclear exactly what global education is. Multiple definitions and understandings of global education exist (Becker, 1979; Case, 1993; Gaudelli, 2003; Hanvey, 1976; Heater, 1984; Kniep, 1986; Merryfield, 1997; Pike & Selby, 2000; Reardon, 1988; Tye & Tye, 1992; Werner & Case, 1997). Although educators agree that global education is important; they often feel inadequately prepared to provide it (Brown & Kysilka, 1994; Gallavan, 2008, Ukpokodu, 2006). In her survey of the literature, Smith (2012) found that, in order to implement a change initiative, people must feel that they are equipped with the skills to implement the change. Teachers, administrators and teacher educators still struggle with how to “do” and teach global education.

The participants in this study self-identified as emerging leaders in global education. As indicated previously, for the purposes of this study, I am identifying these participants as early adopters. Rogers (2003) indicated that an early adopter is “a local missionary for speeding the diffusion of innovation [who] serves as a role model for many other members of a social system. The early adopter decreases uncertainty about a new idea by adopting it, and then conveying a subjective evaluation of the innovation to near peers through interpersonal networks” (p. 283). Rogers also suggests that early adopters are opinion leaders. By definition, therefore, early adopters have few examples to follow and may also feel a sense of responsibility to their peers. Furthermore, perhaps unlike the distribution of a new irrigation system, for example, the implementation of global education in the classroom and school is a
constant and iterative process. Educators consistently need to create new knowledge to adapt to an ever-changing environment. Social networks offer a platform through which one can seek and share information, transfer actionable knowledge, reformulate problems, and create new knowledge. Rogers (2003) suggested that early adopters have different communication behaviors than do later adopters of innovation. Perhaps, then, their different communication behaviors are indicators that they are utilizing their social networks differently than later adopters. By understanding how these early adopters rely on existing and/or create new social relationships to help them to make sense of new information and apply it in the context of implementing a new innovation, we may glean information that could inform other global education initiatives by helping educators build and enact their own social networks.

Cross and Cummings (2004) found that broad (diverse) social networks “facilitate acquisition and absorption of potentially useful knowledge” (p. 929). Not only do broad networks increase the probability that an individual will be aware of disparate expertise within the network but also, holding “a more diverse perspective should increase the likelihood that one understands how to use relevant information located in socially distant regions of the network” (Cross & Cummings, 2004, p. 929). Burt (1992, 2002, 2004) suggested that diverse networks may be a greater indicator of success than large networks and participants in this study clearly benefitted from having broad, diverse networks on which they could rely to help them learn about and implement global education. Although the ability to build these networks may come instinctively to some, as we saw in chapter four, for others this ability must be developed. While having diverse networks is one part of the
solution, an educator must also be able to utilize his or her connections effectively. The literature on social networks and organizational learning suggests that some structures and policies may increase this ability to build networks and utilize. Several of these appear to have been employed in Eastern County Schools to good effect.

Diverse social networks include both weak and strong tie connections. As we saw in chapter two, there is some theoretical dissent as to whether strong ties or weak ties are more valuable in terms of organizational change and the inherent organizational learning that accompanies true change. Weak ties are most often external to one’s primary affiliation group and, therefore, are particularly useful in seeking out new information (Granovetter, 1973, 1983) as they have access to different information than one’s strong ties. Clearly, as implementing global education is a new knowledge and skill set, access to this type of external information is necessary for participants. In chapter four, for example, Parker, suggested that simply having access to the new ideas and resources she acquired by attending a WorldView conference sparked new ways of thinking about global education. Study participants indicated that being able to access new information was critical and they valued these types of connections. However, participants also indicated that they occasionally felt that they suffered from information overload. Not all of the information they accessed was equally useful to them and they did not always have the time to sift through the information to ascertain which would be most useful. Cross and Sproull (2004) found that just because information is new does not automatically make it useful. To be useful, knowledge that is acquired has to be actionable.
While strong ties may be less useful in acquiring new information, they do play a role in the transfer of information, particularly complex or non-routine information (Hansen, 1999; Krackhardt, 1992). The participants in this study were also prone to sharing information accessed through elsewhere with their strong tie network members in order to process the information to solve a common problem – using the information in their classrooms and school. So, a participant like Susan, for example, might access information from a magazine article, website, or an email, but then process that information with several members of her team in order to translate it into the classroom. Cross and Sproull (2004) found that strong ties became more important when information is being sought to help solve or re-formulate ill-defined problems and that “strong ties probably shape how people think about problems, and thus seek additional information, an important complement to a weak tie’s ability to yield nonredundant information” (p. 458). Certainly, the implementation of a global education initiative in the classroom could be classified as an ill-defined problem requiring more complex knowledge transfer and even knowledge creation. Furthermore, by sharing information with strong ties, and in turn accessing the information those strong ties also bring to the network, the study participants also helped to solve their own problem with a lack of time to address the issue of implementing global education. Not only were they aware of the expertise these strong ties embodied (Cross et al.; Reagans, Argote & Brooks, 2005; James & McCormick, 2009) but they also trusted the source (Cross et al.; Cross & Sproull, 2004, Reagans et al., 2005) allowing for this opportunity for sharing and learning.
The strong tie/weak tie question is further complicated by a concept put forth by Carmichael, Fox, McCormick, Procter, and Honour (2006) concerning high value and low value ties. Carmichael et al. found that in addition to, and independent of, a tie’s relative weakness or strength, a tie could also be classified in terms of its “utility, relevance, and value” (p. 230). Participants in this study were able to easily identify not only a relationship’s relative strength but also its relative utility or value, lending credence to this finding by Carmichael et al. Further, high-value ties, whether weak or strong, appeared critical to efforts to learn about and implement global education. Participants learned to trust the information offered by high-value weak ties but were also able to process new information with high-value strong ties. Working with their high-value strong network ties in this manner, allowed participants to understand how others in their network are approaching implementing global education; access and share appropriate resources; and, potentially, spend less time formulating a solution and acting on that solution. Krackhardt (1992) found that a particular type of strong tie, a *philos* tie, engenders the type of trust and cooperation necessary for major change. High-value strong ties may be a type of *philos* tie. At the very least, these two types of ties appear related. As we saw in chapter four, participants were also able to identify low-value ties. For example, as we saw with Andrew, he had very strong ties to the district central office and other administrators but felt that, in the case of implementing global education, these ties were of lower value because they were more likely to discuss different issues. For Andrew, his strong district level ties may have been of high value for understanding the impact of Common Core but of lower value for
implementing global education. Thus, from the findings of this study, tie value can be a very nuanced concept. Beyond the work of Carmichael, et al, there is very little in the literature expanding the understanding of tie value. I suggest that this lack of expansion of this area is due, in part, to a lack of qualitative social network analysis. Tie value and its nuances are not revealed in a quantitative social network analysis but must be uncovered through a qualitative study that allows participants to unpack and share their understandings.

While the participants in this study certainly employed their networks to access new information, they were just as likely to utilize their social professional networks to approach their networks as places of knowledge creation rather than simply information distribution. “According to the knowledge-creation metaphor, the learning process is characterized by deliberate efforts to advance knowledge, transform social practices, and develop expertise” (Hakkarainen et al., p. 110). The educators in this study seemed to be very aware that they were on the leading edge of implementing global education within their classrooms, schools and communities. While acknowledging that they did, in fact, have expertise to share, they participants also understood their networks as places wherein they could not only share their own expertise but also learn from others, test hypotheses, and explore new methodologies. This understanding supports and is supported by Bereiter’s theory of knowledge creation. Bereiter (1997) observed that the world is changing constantly around us and we are frequently faced with new situations with which we have no previous experience. In order to act competently in new situations, Bereiter concluded that we engage in knowledge building. Bereiter’s theory distinguishes knowledge building from learning. Learning can be either
incidental or intentional but is essentially considered to be about a change in knowledge, understanding and/or skills that is a by-product either of everyday living or intentional work to develop those skills (Bereiter & Scardamalia, 1993). Knowledge building goes beyond learning as those engaged in it actively try to draw connections between what is occurring in their immediate situation, past experiences, past knowledge and abstract concepts (Bereiter). Ultimately, knowledge building is the result of members of a community “not simply trying to learn something, but to solve problems, originate new thoughts, and advance communal knowledge” (Hakkarainen et al., 2004, p. 117).

Broad, diverse networks offer increased opportunity for exposure and access to the expertise of others. Cross et al. (2001) found four features that were important in knowledge acquisition through social networks 1) knowing what a person knows, 2) being able to gain timely access to that person, 3) willingness of that person to engage in problem-solving, 4) a degree of safety in the relationship that allowed for learning and creativity in problem-solving. Similarly, both being aware of and valuing another’s expertise, as well as one’s perception of the ability to access that expertise are significant factors in seeking out knowledge (Borgatti & Cross, 2003; Kang & Kim, 2010). Increased access and exposure to the expertise of others does not only mean others within one’s organization but also to those outside of one’s organization (Penuel & Riel, 2007; James & McCormick, 2009). These external ties, be they weak or strong, offer access to novel information and expertise. Drawing on a 1984 study by Resnick and Neches, Bereiter (1997) concluded that some people may be naturally inclined to try to draw these connections, while others must be
prompted to look for a relationship. As we saw in chapter four, some study participants found it relatively easy to develop their networks while others found it to be more difficult.

Hakkarainen et al. (2004) and Paavola, Lipponen and Hakkarainen (2004) developed a model of an innovative knowledge community. Innovative knowledge communities are similar to communities of practice – and may, in fact be considered a special form of community of practice (Hakkarainen, et al). Within an innovative knowledge community, there is a very deliberate effort to seek out, accumulate, and create new knowledge.

Innovative knowledge communities consider not only “old-timers” but also external experts and newcomers as repositories of expertise. Thus, diverse social networks also improve the quality of an innovative knowledge community by improving access to various sources of expertise. Innovative knowledge communities focus on the creation, distribution and use of new knowledge (Hargreaves, 1999). Participants in this study enacted their social networks in a manner consistent with the concept of innovative knowledge communities. Participants accessed new information and then worked together with others in their networks to collaborate, problem-solve and future plan around global education issues. Perhaps the deliberate formation of innovative knowledge communities around the issue of global education would offer more educators the ability and possibility to create innovative solutions for its implementation in schools.

While innovative knowledge communities focus on the creation of new knowledge, Hargreaves (1999) found that they also focus on the use of that new knowledge. Participants in this study were not simply interested in learning about global education; they wanted to be
able to implement global education in their classrooms and schools. As was revealed in finding three, participants also depended on their diverse networks to allow them to implement global education in the classroom. As we saw in chapter four, for example, some information and resources were easily and immediately transferable into the classroom. These resources could come from either strong or weak ties. However, just as participants accessed their strong ties to share information and create new knowledge, they also indicated using them to implement global education. For example, we saw that Cindy shared her expertise in using technology with others in her network to help them utilize technology to bring global education alive in their classrooms by connecting via Skype or other web programs with students abroad. Participants were also able to capitalize on their strong tie connections to engage students in their own learning about global education.

Participants’ diverse networks also allowed them opportunities to engage authentic connections to both their own and their students’ benefits. Through their social networks, many of the study participants were able to offer direct international experiences to their students. Several expressed that this type of learning experience was more effective for their students. Many of the study participants also expressed their own transformational experience with members of other cultures through either travel, the military, working with international teachers and parents, or living and studying abroad. This type of authentic international experience contributes to increased knowledge of other cultures and countries (Thorpe, 1988; Wieber, 1982, Wilson, 1983, 1984). Additionally, such experiences contribute to having a more global perspective (Bachner & Zeutschel, 1990; Case, 1991;
Kauffmann, 1983). The study participants were very aware that they were unable to offer each of their students an opportunity to travel abroad during their K-12 educational experience. However, they found that the access they could provide through their social networks to authentic international connections helped to instill similar understanding in their students. There is certainly more work to be done on understanding the impact of these experiences on student learning and global education. However, the impact expressed by the study participants aligns with the existing literature and additional studies could expand in this direction.

Clearly, having a broad diverse network that one can enact to build knowledge about and implement global education efforts is critical to an educator’s ability to be effective in implementing global education. Cross, Borgatti, and Parker (2002) further found that having an awareness of network patterns in one’s own organization led to better access and utilization of that network. The participants in this study exhibited a strong awareness of their own networks. They were all able to clearly identify strong and weak ties; high and low value ties; and network gaps. Several also included various clusters in their networks and indicated awareness of others who might be considered network hubs. Furthermore, participants expressed the value of expanding their networks, although some participants indicated they may not have the expertise to effectively expand their networks.

Bereiter (1997) suggested that some people may need to be prompted to develop network relationships. The social network and organizational learning literature suggests that there are some structures and policies that may help organization members better develop
and utilize their social networks. These structures and policies include those that: increase network awareness (Cross, Borgatti & Parker, 2002; James & McCormick, 2009); increase access to others (Cross, Parker, Prusak & Borgatti, 2001; James & McCormick, 2009; Reagans, Argote & Brooks, 2005); increase exposure to expertise (Cross, et al, 2001; Cross & Cummings, 2004; James & McCormick); and allow for alternate uses of time and space (Penuel & Riel, 2007; Tsai, 2002). School systems, while structured to provide professional development around content and school specific issues, may not have previously considered how they might help their employees develop the social networks necessary to implement change initiatives. To what degree do educators already develop and leverage their social networks? How can they best be encouraged to further develop and leverage their networks? What are the most effective structures and policies? While not all of these structures and policies have been deliberately addressed by Eastern County Schools, based on participant responses, school and district level leadership have at least begun to address some of these structures and policies and they will be further addressed in the next section about the importance and value of leadership.

Conclusion Two: The Importance and Value of Leadership

A thread of leadership and its value ran throughout participants’ narratives and network maps and led to the study’s second conclusion. The study concludes that supportive leadership at both the district and school levels is critical to an educator’s ability to implement the global education initiative. Smith (2012) found that supportive networks, including supportive infrastructure, can facilitate and support the adoption of an innovation.
However, such leadership can be complicated by the organizational make-up of a school district. As we saw in the literature in chapter two, a school district can be considered a loosely-coupled system in which elements are linked and responsive to each other but may also act independently (Weick, 1976). While organizational change may occur relatively easily within individual elements of a loosely coupled system, planned organizational change across the system as a whole may prove more challenging. The decentralization inherent in loosely coupled systems may make two conditions that foster organizational learning and, thus, change particularly difficult. One of the conditions for organizational learning is “facilitating the dissemination (sharing) of knowledge, skills, and insights” (Collinson, Cook & Conley, 2006, p. 110). Although loosely coupled systems by their very nature hold multiple knowledge and perspectives, individual elements within the system may not share that knowledge as easily as they might in more tightly coupled systems. A second condition that fosters organizational learning that may prove particularly difficult for loosely coupled systems is shared vision. Senge (1990) argues that a truly shared vision cannot be imposed but must be entered into jointly. Additionally, a vision can die if it loses its connection to the members of the system or if they lose their connection to each other. One of the strengths of a loosely coupled system may be its multiple perspectives, however, it may be difficult to create and sustain a shared vision from those perspectives.

Within such a system, what is the role of leadership? As mentioned above, there is some tension around the degree to which leadership is important to decision-making at the school or classroom level. While there is certainly an understanding that there is a role for
leadership in determining top-level decisions (Honig, 2006; Young, 2006) – such as the implementation of a global education initiative – an educator’s social network may have an equal or greater influence on what he or she does in the school or classroom given the structure of a school district (Daly, Moolenaar, Bolivar & Burke, 2010; de Lima, 2007; Rusch, 2005; Young, 2006). Within this study, it quickly became obvious that both district and school level leadership played an active role in study participants’ ability to implement the global education priority. In fact, leadership was clearly incorporated into the social networks of the participants. However, several of the actions taken by district and school level leadership follow social network perspective suggestions for improving organizational learning which both support those propositions and may help to explain the central role leadership appears to play.

Eastern County Schools' district leadership was very clearly seen by study participants as a source of information, support (both financial and other) and, perhaps most importantly, vision. Teacher participants, although very aware of the role of the district leadership, were also heavily influenced by their own school level leadership. Existing literature that indicates that teachers may be more heavily influenced by their school building level leadership than by district level leadership (Daly, Moolenaar, Bolivar & Burke, 2009; de Lima, 2007, 2010; Honig, 2006; Young, 2006). However, study participants clearly understood the commitment and support of district level leadership to the global education initiative. As early adopters of the global education priority, participants felt aligned with the district, and it is unclear from the parameters of this study the degree to which later adopters
might feel connected to the district level vision. However, two participants who had not
previously considered the importance of global education indicated that they were swayed by
influence of the district commitment to the initiative. Clearly, therefore, the district
leadership was able to develop some degree of the shared vision necessary for organizational
change.

Whether the district and school level leadership were aware of the organizational
learning literature and/or the recommendations of the social network literature or not remains
uncertain within the scope of this study. However, both levels of leadership took actions to
implement structures and policies which the literature suggests may maximize organizational
learning and change through the diffusion of the global education priority. One such action
was to actively find and promote opportunities for Eastern County Schools educators to have
exposure and access to the expertise of others. As we saw in the first conclusion, one
advantage of having broad, diverse networks is being aware of; valuing and feeling that you
have access to the expertise of others in your network (Borgatti & Cross, 2003; Cross,
Parker, Prusak & Borgatti, 2001; Kang & Kim, 2010) including not only those within your
organization but also those outside of your organization (Penuel & Riel, 2007; James &
McCormick, 2009).

Study participants took advantage of more formal opportunities to learn from and
share with others such as attending workshops, leading workshops, visiting other schools,
and hosting other schools. In fact, they indicated that district and school leadership seemed
to make deliberate attempts to facilitate their interaction with and learning from others within
and outside of the school district. For example, participants indicated that district level leadership used existing network structures, such as principals’ meetings, to distribute information and resources about the global education priority. In addition, district level leadership also created new opportunities for principals to work together around issues related to the global education issue, such as the world languages working group that Lori mentioned. Further, they encouraged teachers and administrators in their district to expand their own social networks by acting as initial connectors or bridges between external organizations and administrators.

Teachers in the study expressed that school level leadership played a similar role in encouraging the vision of global education; offering professional development; providing opportunities for teachers to share best practices. In doing so, district and school level leadership created structures and policies (Tsai, 2002) to support social network growth around global education. These structures and policies helped educators within their district gain access to the expertise of others within their networks; provided opportunities for them to seek expertise outside of their existing networks; and share best practices (Cross et al., 2001; Cross & Cummings, 2004; James & McCormick, 2009; Penuel & Riel, 2007; Reagans, Argote & Brooks, 2005). This deliberate exposure to the expertise of others within and external to one’s own network, offered increased opportunities for network members to expand their knowledge and their networks to implement global education.

There was some indication that district level leadership was taking advantage of one of the characteristics of loosely-coupled systems by encouraging each school or sub-district
to find their own way to embrace the global education priority. For example, Patty’s school chose to become a School of Global Stewardship, while Hazel’s school followed the Global Passport model. In these and other cases, the model is successful, however, Andrew’s experience – that the district provided vision and resources but less direction – underscores one of the potential pitfalls described in the loosely-coupled system literature, that success may be unequally distributed across a system. Additionally, this study only looked at early adopters of the global education priority. The study participants were very much aligned with the goals of the school district to implement global education. It is possible that this very alignment may have colored their perception of the role of leadership. It would be interesting to further explore this issue in a study engaging later adopters.

Admittedly, the parameters of this study did not allow for an in-depth examination of the role of leadership outside of the social network perspective. Still, the thread of the importance and value of supportive leadership ran quite clearly throughout the participant narratives and their network maps. Leadership was viewed as an influencer of a common vision around global education; as a financial supporter; as a provider of resources, professional development, and material support; and as an instigator. Additionally, all of the principals in the study set examples by engaging themselves in learning about and implementing global education. The prominence of the role of both school and district leadership in participants’ networks led me to wonder about the role of leadership in global education and to investigate briefly the existing literature. Remarkably, there is very little literature connecting global education and educational leadership. However, questions
abound. A few include: what are the best structures and policies to build consensus around a
global education initiative?; how can leaders best help educators to develop the broad,
diverse networks necessary to deliver global education?; how can leaders build their own
global competency and ability to help others increase theirs? I believe this is a new area
within the educational leadership literature that needs to be researched and shared if we are
truly going to be able to provide global education to our students.

Summary of Study Conclusions

In summary, this study confirms that professional social networks can positively
impact an educator’s ability to implement global education and the educators in this study
valued that quality in their networks. Three findings emerged from the analysis of the data: a
greater understanding of network patterns exposed by participants as they described their
professional social networks; an understanding that participants are enacting their networks
for knowledge creation; and an understanding that participants are also enacting their
networks to accomplish global education. As discussed in this chapter, these findings led to
two conclusions. The first conclusion is that broad, diverse networks greatly increase an
educator’s ability to learn about and implement global education. Therefore, an educator’s
ability to development and enact such a network is crucial to his or her ability to implement
the global education initiative. The second conclusion is that supportive leadership at both
the district and school levels is critical to an educator’s ability to implement the global
education initiative. The literature suggests that leadership can implement structures and
policies that assist employees in developing and leveraging their networks (Cross, Borgatti &
Parker, 2002; Cross, Parker, Prusak & Borgatti, 2001; James & McCormick, 2009; Penuel & Riel, 2007; Reagans, Argote & Brooks, 2005; Tsai, 2002). This study found that district and school level leadership in Eastern County Schools are engaging in at least some of those policies and structures to the benefit of the ability of their educators to deliver global education. These conclusions lead to implications for practice and research which will be discussed in the next section.

**Implications for Practice**

As a practitioner hoping to influence the implementation of global education in K-12 schools in North Carolina, it was my hope in starting this study that implications for practice would emerge. Following on its establishment of the global education priority in 2006, the North Carolina State Board of Education approved a Global Teacher Badging process in late 2014 and was poised to approve criteria for Globally-Ready Schools and Globally-Ready Districts in early 2015. These directives, although as yet unfunded, offer an opportunity for district and school level administrators, and external organizations interested in helping districts, schools and teachers implement global education to consider how the findings and conclusions of this study might influence their own practice. Consequently, my study has the potential to immediately contribute to the next wave of global education initiatives in the state of North Carolina.

**For District-Level Administrators**

As we saw in conclusion two, supportive leadership is critical to the advancement of a global education initiative. Following the lead of Eastern County Schools, district level
leadership can promote a shared vision of global education not only through their own visible commitment but also through structures and policies that allow school level educators to buy into the overall vision while retaining some of the individuality inherent in a loosely-coupled system. Eastern County Schools, for example, developed meetings, professional development sessions, and action teams for school-level leadership to understand and support the global education priority. However, they also gave schools some flexibility in how they might implement the priority on a school level. Further, they offered and continue to offer district-wide professional development programs, email newsletters, and resources to both school-level administrators and teachers that promote learning and skill-building in implementing the global education initiative.

Additionally, as we have seen, those study participants who felt the most successful in their efforts to learn about and implement global education also described broad, diverse social networks. Such networks offer greater access to expertise and resources as well as opportunities to create knowledge that becomes the action of implementing global education. Additionally, diverse networks are more resilient in the face of the loss of individual network connections. While some educators may be naturally inclined to build networks, others may be less so. District-level administrators should consider fostering opportunities for school level administrators and teachers to have access to and be exposed to the expertise of others; and activities that encourage collaboration and creative problem-solving around global education. Professional development programs, action-planning teams, and formal opportunities to present to other educators are a few of the ways that Eastern County Schools
helped to encourage this connection-building while also meeting their need to communicate the district vision.

**For School-Level Administrators**

Both of the implications for practice for district-level administrators could be adjusted slightly for school-level administrators to consider fostering a shared vision and offering opportunities for teachers to develop broad, diverse social networks around global education. School-level administrators, however, might also consider fostering additional opportunities for encouraging informal connections and network building on a daily or weekly basis. These might include: moving teachers to be closer to those they might naturally collaborate with on global education; finding ways to open up time in the day for teachers to collaborate around global education – such as common planning time, professional learning communities, or early release days; and/or incorporating a “learning from faculty” component into staff meetings.

**For External Organizations**

Study participants indicated that they did not lack for information. They were able to access information about global education from multiple sources. In fact, one participant indicated that they might even have too much information. However, participants also indicated a lack of actionable information. It often took extra effort to translate the information they received into something they could use in the classroom. External organizations and associations interested in promoting global education should consider the amount and quality of information they provide. While simply providing information and
resources is a start, organizations should consider finding ways to assist with the process of translating information into actionable information.

Additionally, external organizations should consider that building diverse social networks for global education does not come naturally to all educators. Organizations who have access and expertise in creating those connections should consider not merely making an introduction but also find ways to encourage the kind of interaction that will help educators build social networks designed to help them implement global education. Some possibilities might include: including “guided” networking time within professional development workshops or offering one or more suggested topics for partners to collaborate on when making a connection rather than simply leaving that decision to the partners themselves.

**Implications for Research**

In addition to implications for practice, the findings and conclusions of this study also offer implications and avenues for future research. As a scholar/practitioner, it is my hope to be an ambassador for rigorous scholarship and sustained research agendas focused on global education. As evidenced in chapter two, there is clearly very little literature currently focused on the implementation and evaluation of global education delivery. There is even less that supports an understanding of leadership for global education. However, this study’s conclusions clearly support additional efforts in that direction.
Expanding Research in Leadership for Global Education

As indicated in conclusion two above, the role and value of leadership at both the district and school levels was a very clear conclusion from this study. Leadership is critical to the success of a global education initiative. However, there is a dearth of literature concerning the role of leadership in global education. What are the characteristics of a globally competent educational leader? How can he or she best support and evaluate global education efforts? Which structures and policies does research support as the most effective for leadership in global education? Additional studies expanding our understanding of this role would add not only to the global education literature but also to the educational leadership literature.

Expanding Research on Global Educator International Networks

An additional avenue of research that would expand on the global education literature is suggested by an understanding of educators’ use of social networks to bring authentic international connections into the classroom. The participants drew the conclusion that these authentic connections were valuable to their students based on the transformative effect of their own international experiences as well as the perception of impact these connections have on students. While there is some data to support the transformative effect of international experience, there is less data to support the perception of impact in the K-12 classroom. Additional research in this area would not only expand the global education literature but might also contribute to an understanding of best practices around international connections in the K-12 classroom.
Expanding Qualitative Research in Social Network Analysis

As indicated in chapter two, most of the social network analysis research utilizes quantitative methods. While this study only added one additional study to the list of social network analyses utilizing qualitative methods, it also underscored the necessity of further expanding qualitative research methods into social network analysis. Qualitative methods allow us to delve more deeply into understanding why specific network patterns develop and how they may help or hinder change. This study, for example, found evidence that supports Carmichael, Fox, McCormick, Procter and Honour’s (2006) concept of high and low value ties. Very little has been done to explore this concept beyond their original work. However, this study found that tie value is nuanced. The same strong tie may be high value for one area, such as finances, but low value for another, such as global education. While tie strength and weakness can be determined in a quantitative study, it took a qualitative study to uncover the concept of tie value and yet another qualitative study, this one, to further uncover this nuance. Additional qualitative studies are clearly indicated to expand our understanding of how networks enable change.

Further, the qualitative nature of this study allowed the understanding of the role and value of leadership to emerge from the findings. While a quantitative social network analysis might – or might not – have captured the presence and centrality of leadership in a network map, this qualitative study allowed for an expanded understanding of the role of leadership and of the value placed on leadership by the study participants. This finding led to the
implication that there is need for a new area of research that will impact both the education leadership and global education literature.

**Conclusion**

Just as globalization is, it seems, here to stay, so too is global education – at least until it becomes such a natural part of the system that “global” is simply folded into the larger concept of education. In a world of testing and accountability, educators are also asked to prepare their students for an unknown and increasingly complex future. However, we still have trouble agreeing on a definition of global education, much less on the best ways to implement global education for lasting impact on students. Even educators who feel that global education is important, may feel inadequately prepared to deliver it. Still, some educators are forging ahead and breaking new ground. With no roadmap to follow, this study sought to understand how these emerging global leaders utilized their social networks – the people around them – to learn about and implement global education.

As discussed in this chapter, I have concluded that two factors are crucial to the ability to build knowledge and implement global education – the first is the ability to build and enact a diverse network. Diverse networks offer the variety of relationships that engender access to new information and expertise but also the ability to capitalize on that information and expertise. The second factor crucial for global education is school and district leadership. Leadership can communicate vision and support but also create structures and policies that allow for the collaboration necessary to enact networks in the service of global education. These conclusions offer implications for practice, not only for leadership
within school districts planning to implement global education but also for practitioners in external organizations hoping to be of assistance in those efforts. Further, the study offered several avenues for future research that will contribute to the fields of global education, educational leadership, and social network theory. Global education is an exciting field for both research and practice. While this study contributed to our understanding of the role of social networks in learning about and implementing global education, we need to continue to move forward in understanding how educators make sense of, build knowledge around, and “do” global education.
EPILOGUE

I began this study with an understanding that one of the challenges currently facing the state of North Carolina is preparing students to be globally competent and prepared for life and work in the 21st century. The North Carolina State Board of Education has indicated that providing a global education is (or should be) a priority for education in the state. However, as mentioned in my prologue, incorporating global education into the education paradigm represents a sea change for North Carolina. Even educators and administrators who agree with the necessity of delivering global education may feel ill-equipped to incorporate it into their classrooms and schools. They themselves were not likely to be the recipients of a global education nor likely taught how to deliver global education in their teacher education programs. Still, in the face of this uncertainty, there are pockets of excellence in North Carolina schools. Classrooms, schools and districts that have found ways to make it work and “do” global education.

I felt, and feel, very strongly that we are cheating our students if we do not find ways to help their educators help them understand not only how to compete with the rest of the world but also how to communicate and collaborate with them. I also feel that it is incumbent upon me to not simply talk about global education but to also find ways to make a real contribution. I need to walk the walk, not just talk the talk. Research for its own sake may be interesting but for me, as a scholar/practitioner, research must be actionable. My interest in this study was driven by my desire to not only contribute to the literature but also to find real action items to further the cause of global education.
Designing, developing, and implementing this study has helped me to grow as both a researcher and as a practitioner. I have developed confidence in my ability to design research that does not simply sit on a shelf but is actionable – research that has the possibility of impacting not only my work and that of my colleagues but also that of other educators engaged in global education. I also now have a better understanding of what that means. In preparing for the initial interviews with participants, I was often asked what I hoped to gain from this project beyond a dissertation study. My answer was always the same – that I hoped to discern ways that the Center for International Understanding and I, in particular, could help them better “do” global education. They were very ready to help me answer that question – some of those answers made it into my study and will make it into my work. For example, participants were hungry for the ability to offer their students connections with international partners but did not always have the means or time to make those connections. In the past, we have helped to make these types of introductions but the partnerships have been hit or miss. Based on my conversations with participants as well as my work, it may be more useful for us to help educators develop broad networks that will enable them to foster these types of connections. I am re-energized by my conversations with these educators who were so willing to share with me and with others as they move forward doing the best for their students. I can only hope to do the same.
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*American Journal of Education*, 112, 521-548

APPENDICES
Appendix A

North Carolina State University
Institutional Review Board for the Use of Human Subjects in Research
SUBMISSION FOR NEW STUDIES

GENERAL INFORMATION

Date Submitted: ______
1a. Revised Date: ______

Title of Project: Exploring the Role of Social Networks in a Global Education Initiative (doctoral dissertation project)

Principal Investigator: Meredith Henderson
Department: Adult and Continuing Professional Education

Campus Box Number: ______
Email: mlhenderson@nc.rr.com
Phone Number: 919-554-1890
Fax Number: ______

Faculty Sponsor Name and Email Address if Student Submission: Julia Storberg-Walker

Source of Funding? (required information): N/A

Is this research receiving federal funding?: no

If Externally funded, include sponsor name and university account number: ______

RANK:

☐ Faculty
X Student: ☐ Undergraduate; ☐ Masters; or ☐ PhD
X Other (specify): Ed. D

As the principal investigator, my signature testifies that I have read and understood the University Policy and Procedures for the Use of Human Subjects in Research. I assure the Committee that all procedures performed under this project will be conducted exactly as outlined in the Proposal Narrative and that any modification to this protocol will be submitted to the Committee in the form of an amendment for its approval prior to implementation.

Principal Investigator:
Meredith L. Henderson

(typed/printed name) (signature)

As the faculty sponsor, my signature testifies that I have reviewed this application thoroughly and will oversee the research in its entirety. I hereby acknowledge my role as the principal investigator of record.

Faculty Sponsor:
Julia Storberg-Walker

(typed/printed name) (signature)

*Electronic submissions to the IRB are considered signed via an electronic signature. For student submissions this means that the faculty sponsor has reviewed the proposal prior to it being submitted and is copied on the submission.

Please complete this application and email as an attachment to: debra_paxton@ncsu.edu or send by mail to: Institutional Review Board, Box 7514, NCSU Campus (Administrative Services III). Please include consent forms and other study documents with your application and submit as one document.

*****************************************************************************

For SPARCS office use only
Reviewer Decision (Expedited or Exempt Review)
☐ Exempt ☐ Approved ☐ Approved pending modifications ☐ Table
In your narrative, address each of the topics outlined below. Every application for IRB review must contain a proposal narrative, and failure to follow these directions will result in delays in reviewing/processing the protocol.

A. INTRODUCTION

Briefly describe in lay language the purpose of the proposed research and why it is important.

Interest in internationalizing K-12 education has enjoyed a resurgence in the United States with the end of the Cold War era (Dolby & Rahman, 2008). For example, according to Asia Society’s website (http://asiasociety.org/node/8740), twenty-five states are now members of their States Network on International Education in the Schools and either have or are working toward completion of a strategic plan for international education in the state. However, they also acknowledge that, even in states with a strategic plan, most individual schools go it alone and it is difficult to find whole districts who “give priority to international education” (Heller, R., July 29, 2009, http://asiasociety.org/education-learning/policy-initiatives/district-initiatives/when-districts-go-global).

In the United States, most education policy issues are decided at the state level (Tye, 1999). Additional policy decisions may be made at the local school district level. However, the nature of a school district as a loosely coupled system means that how (and sometimes whether) a state or district level policy is implemented is decided in the school building and in the classroom by school building level administrators and teachers. In a loosely coupled system, an educator’s social network ties may have a greater influence on what he or she does than objective data or directives from the Central Office or the Department of Public Instruction. Rusch (2005) found, for example, that educators in schools participating in networks external to their school districts felt a closer connection to other network members than to the members of their own school districts.

While a school district’s nature as a loosely coupled system does not necessarily dissuade learning about and implementation of global education from occurring in pockets within the organization, it appears to affect how information and execution may spread across a given system. A social network perspective can offer insight into the actions of individual educators. Careful analysis of the existing social networks within this context and of how educators understand, perceive and act within them may shed light on the role of social networks within a global education initiative. The purpose of this study is to explore the role of social networks in a school district’s global education initiative.

If student research, indicate whether for a course, thesis, dissertation, or independent research.

This study will satisfy the dissertation requirement for the Ed. D. in Adult and Continuing Professional Education, department of Adult and Higher Education.

B. SUBJECT POPULATION

How many subjects will be involved in the research?

Ten to 25 participants

Describe how subjects will be recruited. Please provide the IRB with any recruitment materials that will be used.

Participants will be selected by the researcher using stratified purposive sampling. The study will be conducted in one school system in North Carolina. The participant pool will consist of emerging leaders in global education. In this study, the researcher is defining emerging leaders in global education as those teachers and administrators within this school system who have made a concentrated effort to incorporate the system’s recently adopted global education priority into their schools and classrooms. To identify participants, an email will be sent to all principals, assistant principals and teachers in the system. The email will describe the study and ask for volunteers who consider themselves to be emerging leaders in global education who would be interested in talking with the researcher about their social networks, how
they describe, experience and act within them, particularly around the issues of implementing the new
global education priority. The email will state that participation will include: 1) participating in an initial
interview of about 60-90 minutes; 2) completing an exercise designed to draw their social network map;
and 3) participating in a 60-90 minute follow-up interview about their map and their network experiences.
It is expected that the recruitment email will be similar to the attached. Volunteers willing to participate in
the study will be asked to email the researcher who will then contact them by phone or email in order to
answer any additional questions about the study and schedule a time for the initial interview. In order to
ensure a sufficient participant pool, the researcher will also employ a modified snowball sampling
technique, asking participants who else in their school or school system they consider to be an emerging
leader in implementing the global education priority. If those named have not already responded to the
recruitment email, the researcher may also contact these individuals concerning participation in the study
for saturation of the data.

List specific eligibility requirements for subjects (or describe screening procedures), including those criteria that
would exclude otherwise acceptable subjects.

Participation will be limited to teachers and school building level administrators (principals and assistant
principals) from the selected school system who self-identify as an emerging leader in global education (see
section 2). Sampling will strive for participants from both the teacher and administrator categories as well
as for those with a range of experience within the school system. As there is a considerably larger pool of
teachers in a school system than of administrators, a stratified sampling strategy will be employed in an
effort to include a representative number of administrators. Should the volunteer pool of either
administrators or teachers prove to be too large, participation will be on a first come basis to the point of
saturation of the data. Additional exclusion could occur if the scheduling of face-to-face meetings proves
difficult.

Explain any sampling procedure that might exclude specific populations.

It is not anticipated that any specific population within the groups of teachers and administrators at the
school building level who meet the criteria of being an emerging leader in global education would be
excluded and no population will be deliberately excluded. However, it is possible that there may be
unanticipated population similarities in terms of which teachers and administrators choose to become early
adopters of the new global education priority.

Disclose any relationship between researcher and subjects - such as, teacher/student; employer/employee.

The researcher works for an organization that has worked in collaboration with the school district in
question to implement a part of their strategic plan, specifically to help implement global education in the
school district. However, the researcher has had little to no previous contact with participants and holds no
sway in terms of either their employment or of their participation in future programs with any of the three
global education organizations identified above.

Check any vulnerable populations included in study:
☐ minors (under age 18) - if so, have you included a line on the consent form for the parent/guardian signature
☐ fetuses
☐ pregnant women
☐ persons with mental, psychiatric or emotional disabilities
☐ persons with physical disabilities
☐ economically or educationally disadvantaged
☐ prisoners
☐ elderly
☐ students from a class taught by principal investigator
☐ other vulnerable population.
7. If any of the above are used, state the necessity for doing so. Please indicate the approximate age range of the minors to be involved.

None of the populations in item six will be specifically targeted in the study, however, the target population of teachers and administrators may include pregnant women and/or persons with physical disabilities. In this case, the persons would not be excluded from the study.

C. PROCEDURES TO BE FOLLOWED

In lay language, describe completely all procedures to be followed during the course of the experimentation. Provide sufficient detail so that the Committee is able to assess potential risks to human subjects. In order for the IRB to completely understand the experience of the subjects in your project, please provide a detailed outline of everything subjects will experience as a result of participating in your project. Please be specific and include information on all aspects of the research, through subject recruitment and ending when the subject's role in the project is complete. All descriptions should include the informed consent process, interactions between the subjects and the researcher, and any tasks, tests, etc. that involve subjects. If the project involves more than one group of subjects (e.g. teachers and students, employees and supervisors), please make sure to provide descriptions for each subject group.

Once a participant has contacted the researcher indicating an interest in participating in the study, the researcher will contact him or her to answer any additional questions they may have about the study and schedule a meeting time and location for the initial interview. The researcher will meet in person one-on-one with volunteer participants three times during the course of the study. During the first meeting, volunteers will participate in a semi-structured interview about the global education priority in their district and their response to it. An interview protocol similar to the attached will be followed. Interviews will be digitally recorded and transcribed. Participants will have the option to review the transcript of the interview. During the second meeting, participants will be asked to participate in a mapping exercise to draw their social network maps. A protocol of the mapping exercise is attached but, in brief, participants will be asked first to conduct a warm-up exercise drawing their personal network maps to be sure that they are comfortable with the exercise. They will subsequently be asked to draw their professional network maps. When it appears that they are finished, the researcher will prompt them to be sure the maps are complete to the satisfaction of the participants. Participants will be asked to describe what they are drawing out loud and the exercise will be digitally recorded. These recordings will form part of the map exercise data set. Following the map exercise, the researcher will schedule an in-person interview with participants to further discuss their maps and their perceptions of them. This interview will be a semi-structured interview. An interview protocol similar to the attached will be followed. Interviews will be digitally recorded and transcribed. Participants will have the option to review the transcript of the interview. The researcher will also request the ability to subsequently contact participants to clarify questions or issues that are unclear. Participants will be informed that they may withdraw from the study at any time and their data will not be used.

How much time will be required of each subject?

The initial interview should last approximately 60-90 minutes. The mapping exercise should take approximately 45-60 minutes. The follow-up interview should last approximately 60-90 minutes. No additional time will be required of participants unless the researcher needs to contact them for clarifying questions.

D. POTENTIAL RISKS

State the potential risks (physical, psychological, financial, social, legal or other) connected with the proposed procedures and explain the steps taken to minimize these risks.

There are no known risks associated with participation in this project. However, despite all attempts to
maintain confidentiality, it is possible that a participant may be recognized by the sum of his or her answers. As the participants’ answers refer to their professional social networks, it is possible that they may feel some discomfort in this event. Steps that will be taken to minimize the risk of recognition include: using pseudonyms for all participants and schools; masking or removing any identifying names or marks from maps or other data prior to inclusion in the study.

2. Will there be a request for information that subjects might consider to be personal or sensitive (e.g. private behavior, economic status, sexual issues, religious beliefs, or other matters that if made public might impair their self-esteem or reputation or could reasonably place the subjects at risk of criminal or civil liability)?

   No.

   If yes, please describe and explain the steps taken to minimize these risks.

Could any of the study procedures produce stress or anxiety, or be considered offensive, threatening, or degrading? If yes, please describe why they are important and what arrangements have been made for handling an emotional reaction from the subject.

   There is no anticipation of degradation, offense, or threat for participants.

How will data be recorded and stored?

   The interviews will be recorded digitally and the digital recordings will be downloaded to the researcher’s password protected computer. Interviews will be transcribed by either the researcher or by a transcriber who will be asked to sign a confidentiality agreement. Electronic copies of the transcriptions will be kept on the researcher’s password protected computer. Hard copies will be kept in a locked file cabinet in the researcher’s home office. Personal network maps from the mapping exercise will be returned to participants upon completion of the exercise or shredded by the researcher if they prefer. Professional network maps will be scanned into the researcher’s password protected computer and hard copies of the maps will be kept in a locked cabinet in the researcher’s home office.

How will identifiers be used in study notes and other materials?

   Interview subjects and their schools will be given pseudonyms. Any materials directly associated with a subject (such as their map) will be identified by the same pseudonym. No hard copy data will be directly linked to any participant in the study. No participant will be identified by name in the study. The names of anyone that a participant identifies in their social network maps will be removed or masked to ensure their anonymity. As it will be important for the researcher to be able to link individual participants with their maps and interview responses about those maps, a list identifying which participants may be identified by which pseudonyms will be kept separately from the other data. Demographic and background data about participants will also be kept separately from the list of participants. Similarly, consent forms and recorded data will be kept separately.

How will reports will be written, in aggregate terms, or will individual responses be described?

   Some individual responses may be included in the study report in order to illustrate findings. In the case where individual responses are used, participants will only be identified by their pseudonyms.

If audio or videotaping is done how will the tapes be stored and how/when will the tapes be destroyed at the conclusion of the study?

   Interviews will be recorded digitally and the files will be stored on the researcher’s password-protected computer until the conclusion of the study at which time they will be erased.
Is there any deception of the human subjects involved in this study? If yes, please describe why it is necessary and describe the debriefing procedures that have been arranged.

N/A

E. POTENTIAL BENEFITS

This does not include any form of compensation for participation.

What, if any, direct benefit is to be gained by the subject? If no direct benefit is expected, but indirect benefit may be expected (knowledge may be gained that could help others), please explain.

There is no anticipated direct benefit to participants. However, participants will have access to the final report and will have the benefit of the knowledge that they have contributed to the literature and practical knowledge in the field.

COMPENSATION

Please keep in mind that the logistics of providing compensation to your subjects (e.g., if your business office requires names of subjects who received compensation) may compromise anonymity or complicate confidentiality protections. If, while arranging for subject compensation, you must make changes to the anonymity or confidentiality provisions for your research, you must contact the IRB office prior to implementing those changes.

Describe compensation

None

Explain compensation provisions if the subject withdraws prior to completion of the study.

N/A

If class credit will be given, list the amount and alternative ways to earn the same amount of credit.

N/A

G. COLLABORATORS

If you anticipate that additional investigators (other than those named on Cover Page) may be involved in this research, list them here indicating their institution, department and phone number.

Will anyone besides the PI or the research team have access to the data (including completed surveys) from the moment they are collected until they are destroyed.

The researcher’s dissertation committee may have access to the data. Additionally, the researcher may employ a peer debriefing process in which case data would only be available to peer debriefers once any identifying information had been removed or masked. The researcher intends to transcribe interviews herself, but may also employ a professional transcriptionist who would be asked to sign a confidentiality agreement. Participants will have access to their own data.

H. CONFLICT OF INTEREST

1. Do you have a significant financial interest or other conflict of interest in the sponsor of this project?

No

2. Does your current conflicts of interest management plan include this relationship and is it being properly followed?

I. ADDITIONAL INFORMATION

If a questionnaire, survey or interview instrument is to be used, attach a copy to this proposal.

Attach a copy of the informed consent form to this proposal.

Please provide any additional materials that may aid the IRB in making its decision.
Appendix B

Sample Initial Email

Good morning. I hope that this email finds you well. My name is Meredith Henderson and I am a doctoral student in Adult and Continuing Education at NC State University as well as working for the Center for International Understanding. I am now at the point in my studies where I am working on my doctoral dissertation research. I am interested in understanding the role of educators’ social networks in implementing global education and am hoping to conduct my research in Eastern Public Schools because of your district-wide commitment to global education.

I am looking for volunteers who consider themselves to be leaders or emerging leaders in global education at the school building level and would be interested in talking with me about your global education efforts in your school or classroom; your social professional networks; and the role you feel they play in your ability to “do” global education. By an emerging leader in global education, I am envisioning an educator who may not be an “expert” in global education but who is committed to helping their students become globally aware and competent and is actively implementing the global education priority in their classrooms and schools.

Your commitment would be to an initial interview of about one hour to 90 minutes; followed by a mapping activity and shorter follow-up interview. I would come to you at your convenience for the interviews and mapping activity. In the final report, your identity will be protected with a pseudonym. Any information that could potentially identify you will be omitted or masked. You will be given the opportunity to review copies of the interview transcripts before they are used. You may opt out of participation at any time, and ask that your information not be used in the study.

I hope that you are interested in participating in this study. If you are interested in participating, please reply back to me directly. I can be reached by email at meredith966@gmail.com or by phone at 919-554-1890. If you would like more information about the study before deciding whether or not you are interested in participating, please feel free to contact me directly with any questions.

Thank you very much for your time and interest! I look forward to hearing from you.

Best regards,

Meredith Henderson
Appendix C

North Carolina State University
INFORMED CONSENT FORM for RESEARCH

Title of Study: What a Tangled Web: An Exploratory Study of the Role of Social Networks in a Global Education Initiative

Principal Investigator: Meredith L Henderson  Faculty Sponsor (if applicable): Julia Storberg-Walker

What are some general things you should know about research studies?
You are being asked to take part in a research study. Your participation in this study is voluntary. You have the right to be a part of this study, to choose not to participate or to stop participating at any time without penalty. The purpose of research studies is to gain a better understanding of a certain topic or issue. You are not guaranteed any personal benefits from being in a study. Research studies also may pose risks to those that participate. In this consent form you will find specific details about the research in which you are being asked to participate. If you do not understand something in this form it is your right to ask the researcher for clarification or more information. A copy of this consent form will be provided to you. If at any time you have questions about your participation, do not hesitate to contact the researcher(s) named above.

What is the purpose of this study?
The purpose of this study is to gain a better understanding of the role of social networks in a school district’s global education initiative. It is anticipated that this research will play a role in a longer study which will ultimately explore ways to strengthen existing and build new network ties to improve the ability to seek and share new information across school districts.

What will happen if you take part in the study?
If you agree to participate in this study, you will be asked to participate in three research sessions. The first session will consist of a 60-90 minute initial interview to discuss your understanding of and participation in the global education initiative in your school district. During the second session, you will then be asked to create a map using a technique that we will show you of your professional social networks. The final session will consist of a shorter follow-up interview to discuss your map. It is expected that the initial interview will take about 60-90 minutes; the mapping exercise will take approximately 45-60 minutes; and the subsequent interview will take approximately 60 minutes. Thus, the maximum amount of total time for participating in this project would be 3.5 hours. All activities will take place within your home school district and at a time and location agreed upon by you and the researcher. You will have the opportunity to verify the data in the interview transcripts prior to their use in the study.

Risks
There are no known risks associated with participation in this project. However, despite all attempts to maintain confidentiality, it is possible that you may be recognized by your answers. In order to minimize the risk of recognition include: using pseudonyms for all participants and schools and masking or removing any identifying names or marks from maps or other data prior to inclusion in the study.

**Benefits**
The expected benefits of participation in this study include an opportunity to add to the knowledge base about social networks as well as the ability to add to practical knowledge about the role social networks play in implementing a change initiative.

**Confidentiality**
The information in the study records will be kept confidential to the full extent allowed by law. Data will be stored securely in a locked file cabinet in the home office of the principal investigator. Digital data will be stored on the principal investigator’s password protected computer. Your name and any other identifying information will be removed from any and all data prior to use in the study. Fictitious names will be attached to both persons and schools in the published study in an effort to protect your identity. However, please be aware that, as all participants are from the same school district, there is a slight possibility that someone could discern your identity from the data.

**Compensation**
You will not receive any monetary compensation for participating in this study.

**What if you have questions about this study?**
If you have questions at any time about the study or the procedures, you may contact the researcher, Meredith Henderson at 6317 Calico Ct., Wake Forest, NC 27587, at mlhenderson@nc.rr.com or by phone at 919-554-1890.

**What if you have questions about your rights as a research participant?**
If you feel you have not been treated according to the descriptions in this form, or your rights as a participant in research have been violated during the course of this project, you may contact Deb Paxton, Regulatory Compliance Administrator, Box 7514, NCSU Campus (919/515-4514).

**Consent To Participate**
“I have read and understand the above information. I have received a copy of this form. I agree to participate in this study with the understanding that I may choose not to participate or to stop participating at any time without penalty or loss of benefits to which I am otherwise entitled.”

Subject's signature___________________________ Date
Investigator's signature_________________________ Date
Appendix D

DEMOGRAPHIC BACKGROUND INFORMATION

Respondent # _____________________

Occupation:  ___Principal
   ___Assistant Principal
   ___Classroom Teacher
   ___Other (please specify)_____________________________________

Length of Time in this position: ________________________

Length of Time at this school: __________________________

Length of Time in this school system: _________________

Total Time in education (as teacher and/or administrator): 

_________________________________________________________________________

Highest Level of education achieved: _____________________________

   Degree(s) obtained (e.g. B.A. in ECE; B. S. in Mathematics or Math Education, etc)  

_________________________________________________________________________

Are you a lateral entry teacher? Yes____ No____

   If yes, please indicate the length of time you spent in the workforce prior to teaching and previous types of jobs held.

_________________________________________________________________________

_________________________________________________________________________

_________________________________________________________________________
Appendix E

Sample Initial Interview Protocol: Exploring Social Networks Project

Date:  
Place:  
Interviewer:  
Interviewee:  

This is a semi-structured interview. In the case of each question, more specific follow-up questions may be asked to clarify or further explore the initial answer. Additionally, some questions may be modified or deleted.

Thank you for your willingness to participate in this research study about the role of social networks in implementing global education. As I mentioned, this study will have two parts. Today, what I would like to do is to talk with you about global education in your school system and your classroom. I am really interested in understanding not only your work in global education but also how social relationships contribute to or detract from your ability to implement it.

1. There are many reasons that someone might choose to get involved in global education. Please tell me the story of how you started to become involved in global education.  
   Possible probes:  
   a. Tell me a little about how you first found out about your district’s global education priority.  
   b. Is that typical of how you might find out about new initiatives?  
   c. How did you feel about the global education priority when you first heard about it? Why?  
      Were you excited about it? Did you feel it was another “flavor of the month”?  
   d. What, if anything, were you already doing to help globalize your school/classroom when you heard about the priority?

2. Now I want to know more about where things are now. Where do you feel you are now with including global education in your classroom? Your school? How do you do it now?  
   Possible probes:  
   a. Have you changed anything from how you were teaching previously? What?  
   b. What do you need in order to do a good job including global education in your classroom?
c. Who do you reach out to in order to get more information to help globalize your school/classroom? This could be people in your school or district, other people or outside organizations, for example.

d. Do you feel you are in a position to help others implement global education?

e. With whom do you collaborate on global education projects or programs?

f. When you have a question about what to do, how to proceed, what meaning to give to something, how to structure something, who do you go to?

3. Thinking about what you have shared with me so far, what are your thoughts about how your social network, the people around you, have impacted your response to global education? Talk to me about who in your network you learn from or share things with (these could be people in your school or outside of it)

Possible probes:

a. How do you think other administrators/teachers in your district/school feel about it? Do you talk with them about it?

b. Does or has anyone in particular influence(d) the way you feel about it? Do you think you have been an influence on anyone else?

c. How do you think the people around you impact your ability to implement global education?

d. Do you feel isolated in your school?

e. Sounds like there are a lot of things going on in your school – does that make it easier for you?

f. Do you feel that you have to compete for resources?

4. Is there anything more that you would like to add – either additional information on a topic we have already touched on or something that I have not asked?

Thank you again for participating in this study. What will happen next is that I will go back and create a transcript of this interview. I’ll send you a copy of the transcript so that you can be sure that I have made an accurate record of what you said and meant before I begin any data analysis. I’ll be using the transcript of the interviews along with the maps drawn by you and other participants to get a better understanding of the role of social networks in implementing global education here in your district.

If possible, I’d like to go ahead and arrange a time to come back to work with you on the mapping activity. This activity will just be another way to understand your social networks and connections with other teachers, administrators and organizations on implementing global education. I hope you’ll find it both fun and interesting.

In order to assist in maintaining confidentiality, I will be sure to keep all data locked in my office and will remove any identifying information as well as your name before sharing any information drawn from the maps or the interviews.
Do you have any questions at this time?

Is there anyone else that you think I should get in touch with about possibly participating in this study?

Thank you again and I look forward to seeing you soon.
Appendix F

Mapping Task and Interview Protocol: Exploring Social Networks Project

Date:

Place:

Researcher:

Participant:

The design of this activity is drawn from the work of Fox, A., McCormick, R., Procter, R., & Carmichael, P. (2007). Based on participant feedback as described in Fox, et al, all mapping tasks will be completed one-on-one with the researcher present to answer questions about the activity while remaining as neutral as possible. Additionally, participants will be given the information that the mapping task is part of a research project designed to gain a better understanding of their perceptions of existing social networks and the impact of those networks on their ability to implement a global education initiative.

Thank you for your willingness to participate in this project.

As you know, this study is designed to help us understand how you experience and interpret your social networks and the role these networks play in your ability to implement global education. Last time we met, we talked about global education, how you got involved in it, and how you impact and are impacted by those around you regarding global education. This part of the study involves asking you to create a picture or a map of your network – all of the people, events or places that are key to your interactions with others both within and outside of the school system around global education and how these interactions happen – by email, face-to-face contact, phone, etc.

Warm-up Activity:
We’ll start out with a warm-up activity to help you get used to the mapping task and to answer questions you may have about how to complete the task. Participants will be given an 8 ½ by 11 sheet of paper. On this sheet of paper, please draw a representation of your personal social networks. In other words, create a visual representation of all of those with whom you communicate on a personal basis and indicate how you keep in touch with them.

Study Mapping Activity:
Following the warm-up activity, participants will be given a second sheet of 8 ½ by 11 paper to complete the study mapping task. Thank you. Now please draw a representation of your professional social networks regarding global education. In other words, create a visual representation or map of all of your interactions regarding global education and indicate how these contacts are made. I would like for you to walk me through your map. You can do that as you are drawing or after you finish, whichever is more comfortable for you. If you would
like to make a key at the bottom corner of your map, please feel free to do so, but it is not necessary.

*When it appears that participants have exhausted their initial thoughts of whom to add, they will be prompted to be sure that they have included everyone with whom they interact around global education issues and if their map best represents how such communication happens. Subsequent interview question will follow to be sure the researcher understands the participant’s intent.*

1. Now I’d like to chat with you briefly to be sure I am correctly interpreting your map. So, I’d like to ask you to please tell me more about your map. Possible probes:
   a. Please tell me more about the specific people or organizations that you included (who, internal or external to the school, what type)
   b. Please tell me more about the links between you and those people or organizations (Distance, value, strength/weakness)
   c. Please think about the flow of information in your social network, especially around issues having to do with global education. Who do you consider to be sources of information? Valuable sources of information? To whom are you a source of information?
   d. Now please think about attitudes towards new ideas – in this instance the global education priority. Who influences you? Who do you think you influence?
   e. With whom do you collaborate on global education projects or programs?

2. What is your perception of your social network? Possible probes:
   a. How connected do you feel to others in your school? Your district? Your community? What gaps do you see?
   b. How do you feel that your social networks contribute to your ability to learn about global education? To share what you’ve learned about including global education in the classroom/school?

3. Is there anything more that you would like to add – either additional information on a topic we have already touched on or something I have not asked?

Thank you again for participating in this study and for your willingness to talk about your experiences. What will happen next is that I will take your map back and will create an initial interpretation of my understanding of your social networks. I will be using your map and those by other participants from your district to gain an overall initial picture of educators’ experiences of social networks implementing global education.

In order to assist in maintaining confidentiality, if you would like to keep the drawing that you made of your personal networks, please feel free to do so; otherwise, I will be glad to shred it for you. Your professional networks map will only be made available to you and to me in its original state. I will be sure to keep all data locked in my office and will remove
any identifying information as well as your name before sharing any information drawn from the maps or the subsequent interview.

Please be assured that I will make every effort to maintain your confidentiality by removing your name and any identifying information from your responses before they are used in any reports. Additionally, I will be sending you a copy of the transcript of this interview to review for accuracy before it is used in the study. As mentioned earlier, I would like to reserve the option to call or email you in case I need to clarify something. Is that okay with you?

Do you have any questions at this time? Thank you again.
Appendix G

Network Maps – Redacted

Figure G1. – Andrew’s Full Map (Redacted)
Figure G2. – Becky’s Full Map (Redacted)
Figure G3. (continued)
Figure G4. Dennis’s Full Map (Redacted)
Figure G5. Hazel’s Full Map (Redacted)
Figure G6. Leslie’s Full Map (Redacted)
Figure G8. Parker’s Full Map (Redacted)
Figure G9. Susan’s Full Map (Redacted)