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**A COMPARATIVE, PHENOMENOLOGICAL STUDY OF THE IMPACT
OF TEACHER PARTICIPATION IN VIRTUAL COMMUNITIES OF
PRACTICE ON THE LEVEL OF PROFESSIONAL CAPITAL WITHIN
THEIR RESPECTIVE ORGANIZATIONS**

John Patrick Klocek

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ORGANIZATIONS

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of the requirements for the degree of

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by

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ABSTRACT

A COMPARATIVE, PHENOMENOLOGICAL STUDY OF THE IMPACT OF TEACHER PARTICIPATION IN VIRTUAL COMMUNITIES OF PRACTICE ON THE LEVEL OF PROFESSIONAL CAPITAL WITHIN THEIR RESPECTIVE ORGANIZATIONS

John Patrick Klocek

The purpose of this comparative, phenomenological, qualitative study is to evaluate the perceptions of expert teacher practitioners and their administrators on the impact that their participation in VCOPs has had on what Hargreaves and Fullan (2012) coined the Professional Capital of their organizations. How has the teachers' development of a PLN or their participation in a VCOP fostered their growth as individuals or their Human Capital? How, in turn, has the expert teachers' increased knowledge base furthered instructional practices, promoted the development of next practices, and enhanced their organization's Social Capital? Finally, how has this new knowledge impacted the decisions teachers within the organization make as they work tirelessly to challenge and inspire the diverse group of students in their classrooms

The lived experiences of the participants in this study evidence the profound impact that teacher participation in Virtual Communities of Practice can have on the development of their Human Capital, Social Capital and Decisional Capital. Their experiences within the open and participatory cultures they became a part of were powerful as they were able to personalize their learning and connect with like-minded individuals who pushed their thinking and renewed their love for their profession. It is

clear that these interactions raised self-awareness and caused the participants to question existing beliefs and instructional practices. “Scanning and Storytelling,” asking for “Help and Assistance,” “Sharing,” and participating in “Joint Work,” accelerated their learning and brought about the use of new and innovative tools and strategies that enhanced their teaching. When evaluating the impact that these “connected educators” had on the Professional Capital of respective organizations, their colleagues’ readiness for change and the support and active engagement of their principals were key variables. As administrators become more adept at thoughtfully considering culture when managing the Social Capital within their buildings, the more and more these connected educators will be able to act as change agents and their impact will be transformational.

DEDICATION

This dissertation is dedicated to my beautiful family for all of their love and support. To my amazing wife, thank you for believing in me, for your constant encouragement, for being everything to everyone, and for making it look effortless. I am a very lucky man and I am forever grateful for all of the sacrifices you made so I could pursue this dream. I love you! To my children, the only thing I ever knew for certain that I wanted to be was a dad - Being your father has been and always will be the greatest joy that I will ever know. I love you! To my parents, thank you for the example that you set, for all of your love, and for always being there to make sure everything is okay. I love you! To my sister and brother, thank you for always listening, for making me smile, and reminding me not to take myself too seriously. I love you!

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CHAPTER 1: THE PROBLEM

Introduction

Many educators have described this time in public education as “The Perfect Storm.” In their book titled, *Pathways to the Common Core*, Calkins, Ehrenworth and Lehman (2012) reflect on this era as a time of tremendous change as the adoption of the Common Core State Standards in 45 of our 50 states has raised expectations for students, more and more of whom are living in poverty. They write, “The standards represent the most sweeping reform of the K - 12 curriculum that has ever occurred in this country. It is safe to say that across the entire history of American education, no single document will have played a more influential role over what is taught in our schools... and also what is marginalized and neglected.” The ambitious standards therein require teachers and administrators to reflect on their current practices and plan for deeper, more rigorous work in their teaching. This, added to the pressures of high stakes testing, the public’s demand for accountability, the media’s continued scrutiny, and the confines of a politically charged tax cap, has made it increasingly more difficult for teachers and administrators to navigate the tumultuous waters of public education and maintain a true course towards learning.

To help right the ship and keep public education afloat, school leaders need to find new, inspiring, collaborative and sustainable ways to develop the professional capital within their organizations. In their book, *Professional Capital: Transforming Teaching in Every School*, Michael Fullan and Andy Hargreaves note that professional capital is made of three types of capital; *human capital* (the individual), *social capital* (the group and the interactions amongst members of the group) and *decisional capital* (the ability of

individuals within an organization to make decisions). Fullan and Hargreaves (2012) emphasize the importance of developing these three critical elements within an organization when they write:

When the vast majority of teachers come to exemplify the professional capital, they become smart and talented, committed and collegial, thoughtful and wise. Their moral purpose is expressed in their relentless, expert-driven pursuit of serving their students and their communities, and in learning, always learning how to do that better.

But how do we do this? Often, the answer to this question is professional development. Although there is a myriad of data that supports that typical forms of one-shot, one-size fits all professional development are not effective, the preponderance of the professional development opportunities offered by districts across the country follow this model and focus on the adoption of a “program” or the implementation of an initiative. Sadly, many still believe that answers to questions like how to close the achievement gap come from outside of a school or a district as opposed to the individuals that comprise the organization. When this occurs, districts negatively impact their human capital as they discount teachers and communicate little to no value in their “home grown” expertise. Then, opportunities for collaboration created to further the organization’s Social Capital suffer as teachers come to these meetings with feelings of inadequacy and resentment as the curriculum they are learning is something given to them instead of developed with or created by them. Decisional Capital also suffers as feelings of uncertainty fester and individuals begin to fear deviating from the prescribed “silver bullet.” As a result, teachers make fewer decisions, they differentiate less, and student choice and voice

become less present in the educational opportunities they present their children. There are glimmers of hope that have emerged from schools and districts that have come to the understanding that teachers' choices in what aspect of their craft they wish to hone and how they go about that process is imperative. Here in these avant garde places, individualized, teacher-driven, sometimes digitally based professional learning has become more prevalent. Participation in Professional Learning Communities (PLCs) and in Virtual Communities of Practice (VCOPs) via the use of Social Media have been encouraged to foster teacher leadership resulting in better instructional practice and student achievement. Within these structures lies the potential for highly effective professional development as opportunities for learning are on-going, collaborative in nature, and they foster reflective practice that is focused on the specific needs of teachers. Perhaps most importantly, professional development in this manner treats teachers as professional adult learners (Barkley 2012). With continued access to learning opportunities like these, it is possible for individuals to further their own human capital while simultaneously enhancing the social capital of their organization. While both means of professional development have their merits, one could argue that participation in a VCOP via Social Media has benefits that are not available in a traditional PLC. In his book *Digital Leadership*, Eric Sheninger, former principal of New Milford High School in New Milford, New Jersey, cites the work of Alec Couros (2006) when explaining that networks found in traditional schools are more closed than open. They are limited in scope as members are typically teachers from the same grade, school and/or district while VCOP membership could encompass teachers from across the world. Sheninger writes at length about the importance of developing a Professional Learning Network (PLN) and participating in VCOPs and notes this "connectedness" as

an integral practice for educators trying to keep pace with the changes in education, the upgrades in technology, and the ever-diversifying needs and interests of students. He writes, “Digital leadership requires connectedness as an essential component to cultivate innovative practices and lead to sustainable change.” To further emphasize the importance, he adds, “It is not an option, but a standard, and a professional obligation.” (Sheninger 2012)

Tom Whitby, the founder of #edchat, the first and one of the largest education discussion groups on Twitter, echoes the benefits cited by Sheninger in his book, *The Relevant Educator: How Connectedness Empowers Learning*. He notes how educators who participate in VCOPs exemplify collaboration as they share their successes and they explore their failures in an open and collegial forum. Here, problems are dissected, solutions are proposed, plans are analyzed and reflection is encouraged after actions are taken. Whitby offers a unique perspective particularly advantageous to teachers who sometimes feel like small cogs in a large, ever-grinding wheel. He writes, “Ideas are exchanged for their worth and not by who delivers them. An idea is an idea - an idea from a teacher is given the same consideration as one from a superintendent. Consequently, titles of individuals are less important when the ideas are the focus.” (Whitby 2013) He shares how those who put forth ideas are referred to as “thought leaders” and how the culture of the connected communities they are a part of embolden others to share.

Problem Statement

While the development of a PLN, or a Professional Learning Network, and the participation in a VCOP, or a Virtual Community of Practice, have become a more common means of advancing professional learning, a majority of teachers are not taking

advantage of these opportunities and only a minority of principals and central office leaders understand and espouse the benefits of this unstructured sharing of ideas and practices.

Purpose of the Study

The purpose of this study is to evaluate the perceptions of expert teacher practitioners on the impact that their participation in VCOPs has had on the Professional Capital of their organization. How has the teachers' development of a PLN or their participation in a VCOP fostered their growth as individuals? How, in turn, has his or her increased knowledge base furthered instructional practices, promoted the development of next practices and enhanced their organization's Social Capital? Finally, how has this new knowledge impacted the decisions teachers within the organization make as they work tirelessly to challenge and inspire the diverse groups of students in their classrooms?

In his study, *School Principals and Virtual Learning: A Catalyst to Personal and Organizational Learning*, Dr. Bill Brennan recommends the need to continue the conversation that began around the impact that participation in a Virtual Community of Practice has on professional and organizational learning. He notes the significance of examining the impact that social networks and informal socialization supports have on knowledge building in schools and cites it as "an area which is severely lacking in education and might be the next big idea to understanding how organizations learn." (Brennan 2010)

This study is intended to help fill that void in the research by examining how organizations learn using Social Media tools through the lens of Professional Capital.

Perhaps now more than ever there is a tremendous need for all stakeholders in the educational community to understand how schools and districts learn and develop both the individual teacher and the collective organization. Before this understanding can be ascertained, there is a need to examine realities in the profession that have hindered the strides that have been made in developing or furthering best practices and promoting collaboration.

The dark cloud of APPR and the shadow of fear that it has cast has contributed to two phenomena which have impeded the growth of teachers and have hindered the development of a climate that promotes sharing. The first of these is considered by Fullan and Hargreaves as they examine isolation and individualism in education better known as “I’m just going to close my door and teach.” Citing Susan Rosenholtz’s (2000) work titled *Teacher’s Workplace: The Social Organization of Schools*, they caution against educators operating in a vacuum and express the need for teachers to receive feedback when they note, “Isolation protects teachers to exercise their discretionary judgment in their classrooms, but it also cuts teachers off from the valuable feedback that would help those judgments be wise and effective.” (Hargreaves & Fullan 2012) Afraid to take risks and without access to new ideas, teachers tend to retreat to what they have always done, or as Dan Lortie (2002) coined it in his book *Schoolteacher: A Sociological Study*, “classroom conservatism.”

In addition to the pressures attributed to the teacher evaluation process, Fullan and Hargreaves note three additional factors that contribute to isolation and individualism including “Guilt and Perfectionism,” “Pressure and Time,” and “Architecture.” They recap these elements as they write about individualism, “It is rooted in the very conditions and contexts of teachers’ work - time, buildings, feedback systems and so on”

(Hargreaves and Fullan 2012). In this study, the researcher will examine if and to what extent participants' participation in VCOP via the use of Social Media has combated these issues and has resulted in individual teachers developing their own Human Capital. The researcher also seeks to determine if and how each participant's experience in the VCOP has fostered the individual's ability to enhance the Social Capital in his or her own organization.

The second phenomena that has interfered with organization's learning and hampered the development of professional capital has been the impulse of school or district leadership to endorse "a program" or "one methodology" as they attempt to "teacher-proof" the curriculum. The "Reading Wars" that have erupted between proponents of Whole Language v. Phonics as well as Balanced Literacy v. Content or Knowledge Based approaches have launched a plethora of studies, many of which support one approach or program over another. The New York Times featured these hotly debated viewpoints in the July 2, 2014 op-ed piece titled *The Right Approach to Reading Instruction* where six experts presented their thoughts. E.D Hirsch Jr., the founder of the Core Knowledge Foundation, attempted to discredit one approach in his article titled *A Foundation of Phonics and Knowledge Is Key to Literacy* while touting his program which promotes systematic phonics plus coherent content. He wrote:

So here are two types of programs (Core Knowledge and Balanced Literacy), both of which are attractive to teachers and students. One significantly outperformed the other in the New York study. Why? The answer must be an informed guess, because the implementation of Balanced Literacy is variable, owing to the freedom of choice it offers teachers and students.

While this statement reflects the views of one participant, it is a pervasive sentiment perpetuated by high stakes testing that questions if teaching is indeed, a profession, while striking at the heart of what Hargreaves and Fullan call Decisional Capital. Do teachers have the autonomy to make informed discretionary judgements? Do they have choice? Should they?

Fullan and Hargreaves quote Pasi Sahlberg's important book, *Finnish Lessons: What Can the World Learn from Educational Change in Finland*, when discussing the importance of autonomy and decisional capital for teachers in one of the highest performing nations on the planet. Sahlberg (2015) writes, "Teachers at all levels of schooling expect that they are given the full range of professional autonomy to practice what they have been educated to do: to plan, teach, diagnose, execute and evaluate." Are our teachers? With the pressures outlined in the first phenomena described above, do they want it? In this study, the researcher will examine if and how participation in a VCOP has fostered a renewed sense of self as a professional amongst the participants. In addition, the researcher will determine if and how the participants' Decisional Capital was furthered from insights, experiences and feedback provided by members of their VCOP.

Research Questions

This is a study of teachers who actively participate in VCOPs and of the effects that their work has had within their schools or districts. As the researcher is attempting to understand and describe the "lived experiences" of individuals and the learning organizations they are a part of, a qualitative, phenomenological approach will be utilized. To examine experiences of the individual teachers, the following research questions will guide the study:

1. To what extent has the participation of expert teacher practitioners in Virtual Communities of Practice impacted their levels of their Human Capital, Decisional Capital and Social Capital?
2. How and to what degree do these expert teacher practitioners perceive that their new learning obtained in Virtual Communities of Practice has been shared within their schools and/or districts?
3. To what extent do the administrators of these expert teacher practitioners who participate in Virtual Communities of Practice believe that this phenomenon has impacted the teachers' Human Capital, Decisional Capital and Social Capital?
4. How and to what degree do the administrators of these expert teacher practitioners perceive that the teacher's new learning obtained in Virtual Communities of Practice has been shared within their schools and/or districts?
5. How do they compare?

Conceptual Framework

Hargreaves and Fullan (2012) propose a framework for school improvement which they have coined *Professional Capital* which will serve as part of the conceptual framework for this study. In their formula, *Professional Capital* is the product of, *human capital*, or the individual talent (teachers) within an organization, *social capital*, or the quality and quality of the interactions and relationships among the individuals within the organization, and *decisional capital*, or the capital that educators develop through structured and unstructured experience, practice and reflection.

Another critical framework which is woven through this study is the fifth pillar of Eric Shenerger's Seven Pillars for Digital Leadership. These pillars include;

Communication, Public Relations, Branding, Student Engagement/Learning, Professional Development, Re-envisioning Learning Spaces and Opportunities. The fifth Pillar, Professional Growth and Development, is at the heart of this study as the researcher intends to explore the learning that teachers have done in virtual spaces that has impacted their classroom practices.

Finally, as the researcher will examine the lived experiences of “Connected Educators” in their virtual communities and how their new learning manifests itself in their respective organizations, Social Network Theory is also a critical aspect of the conceptual framework of this study. Social network theory explores and analyzes the extent to which relationships allow for the diffusion of information between individuals within an organization and between organizations (Daly, 2010).

Rationale and Significance

When discussing how to foster continuous improvement by way of developing Professional Capital in schools and organizations, Hargreaves and Fullan (2012) highlight the need for formal, disciplined school based professional learning communities where teachers work collaboratively to refine instructional practices with a focus on student learning. They also note the need for innovation and for the exploration of new ideas which they assert can occur in digital spaces where global connections to teachers and learners are possible. In his book *The Innovator’s Mindset*, George Couros expands on this idea as he promotes the need for educators to embrace the open culture and asserts, “Networks are crucial to innovation.” Citing Chris Anderson’s 2010 TED Talk about “Crowd Accelerated Innovation”, Couros explains that social media tools have enabled connections between people who share common interests. These connections

result in the development of PLNs, or VCOPs, where members are encouraged to participate, to publically reflect, and to share. In these spaces are where innovation happens.

This study is significant as it intends to capture the lived experiences of Connected Educators and their interactions within Virtual Communities of Practice. Using the Continuum of Collaboration outlined by Judith Warren Little (1990) as a framework, the researcher will examine the degree to which teachers were able to engage in meaningful learning with other educators in their Professional Learning Networks. From weaker to stronger, the forms of collaboration detailed by Little read:

- Scanning and Storytelling - exchanging ideas, anecdotes, and gossip
- Help and Assistance - usually when asked
- Sharing - of materials and teaching strategies
- Joint Work - where teachers teach, plan, or inquire into teaching together

The study is also unique as the researcher will study the impact that these empowered, Connected Educators have on their respective organizations. What happens when ideas generated or gathered in a digital space are brought back to the schools? How are these educators perceived by their colleagues and to what extent does their new learning manifest itself in other classrooms? How are these tools, techniques and resources shared across departments and/or grade levels? Why are some ideas well received while others fail to move forward?

To attempt to capture the individual teacher's impact on his/her organization, the principals of each teacher's respective school will be included in the study. The principals of the subjects of the study will also be interviewed and their responses will

be used in a comparative nature to provide a more rounded picture as to the individual teacher's impact on their colleagues and the organization. Building leaders will be asked to explain how the performance of the Connected Educator changed since his/her involvement within a VCOP. What is the perception of the teacher amongst his/her colleagues and peers? How would you describe his/her professional interactions? To what extent have the best and/or next practices of the teacher materialized in the classrooms of his or her colleagues? What opportunities exist within your organization that allow for the sharing of these practices to happen?

Role of the Researcher

The role of the researcher in this qualitative study will be to examine the lived experiences of teachers who are taking charge of their own professional learning by participating in Virtual Communities of Practice through the use of Twitter. Twitter is a Web 2.0 social networking tool and a micro-blogging platform that allows users to send short, public messages limited to 140 characters called *tweets*. The researcher will identify participants using a snowball sampling beginning with Teacher B, a Google Educator, a 2015 PBS Lead Digital Innovator and a kindergarten teacher in an elementary school in Nassau County, NY. An interview protocol will be developed and utilized to explore Teacher B's perspective on how the cultivation of relationships with other educators in a digital space has affected her teaching practices and her ability to influence teachers within her organization. To capture the impact that she and other "Connected Educators" have on the Professional Capital of their organizations, the researcher will also interview the administrators of the teachers involved in the study. As such, Principal B, principal of Teacher B's school, will also be interviewed. Using qualitative research

methods, the researcher will attempt to identify patterns that exist between the perspectives of the participating teachers and their administrators as a means to gauge the possible benefits and/or drawbacks of these interactions on a personal/professional level as well as on an organizational scale.

Definitions of Key Terminology

Professional Capital - A formula or framework for school improvement developed by Michael Fullan and Andrew Hargreaves in their book titled *Professional Capital* which will serve as part of the conceptual framework for this study.

$$PC = f(HC, SC, DC)$$

HC or Human Capital - The knowledge, skills and practice of the individual talent (or teacher) within a school or district

Social Capital - The quality and quantity of both formal and informal interactions and subsequent relationships between individuals where collaboration and knowledge sharing occurs within organizations

Decisional Capital - the individual teacher's ability to monitor and adjust, or the capital educators develop through structured and unstructured experience, practice and reflection.

Community of Practice (COP) - Groups of people share a common concern, set of problems or a passion about a topic and who deepen their knowledge and expertise in this area by interacting on an ongoing basis. (Wenger, McDermott & Snyder 2002) **Virtual**

Community of Practice (VCOPs) - A self-organized group of people who are motivated by common interests related to their daily practice with the objective of developing knowledge and improving performance by interactions between its members done almost

completely via electronic means. (Correia, Paulos & Mesquita, 2010) **Professional Learning Network (PLNs):** a term newly connected educators coined to describe a network of like-minded individuals interacting through Social Media. The Social Media tool used primarily by the researcher and the individuals that comprised the sample in this study is Twitter. However, Facebook, Google+ and Instagram are other platforms that are currently being used.

The Open Movement: a philosophy that values certain freedoms related to knowledge dissemination (e.g. sharing, reuse, redistribution, non-commercial) and favors unique collaborative process and tools (e.g. digital repositories, open-access journals, blogs, wikis) in the creation of new knowledge (Couros, 2006)

CHAPTER 2: REVIEW OF THE RELATED LITERATURE

An Overview of the Literature Review

The purpose of this study is to explore the impact that teachers' participation in Virtual Communities of Practice via Social Media has on an organization's Professional Capital as outlined by Fullan and Hargreaves in their book titled *Professional Capital*. Before this can be examined, the structure of the organizations that teachers have traditionally been a part of needs to be investigated. In the first component of the Literature Review, the formal, hierarchical organizational structure that has typically dominated the landscapes of schools will be compared and contrasted with a more integrated and collaborative structure that is outlined in Peter Senge's *Schools That Learn*. This less linear, more networked structure is fundamental for Professional Capital to develop within an organization.

The second component of the Literature Review will examine the concepts of Social Capital through the lens of Social Network Theory. Parallels between these integral ideas and Senge's *The Fifth Discipline* will be drawn and the structure of the Professional Learning Community, or PLC, will be considered. Research regarding the experience of teachers, or nodes within the Social Network of a school community, once they enter a structured PLC will be explored. Strengths and weaknesses of this most common alternative to top-down professional development will be outlined before presenting research pertaining to Virtual Communities of Practice.

The third component of the Literature Review will examine the impact that technology and Social Media has had on professional learning. The event of the Open

Source Movement and the development of Virtual Communities of Practice will be delved into through the lens of one of Eric Sheninger eight Pillars of Digital Leadership - Professional Growth and Development. The manner in which more avante-garde teachers and administrators are leveraging Social Media via Twitter through the development of Professional Learning Networks, or PLNs, will be detailed as the researcher unpacks the term “Connected Educator” that Whitaker, Casas and Zoul detail *What Connected Educators Do Differently*. The Literature Review will conclude with a summary of the collected research and set the stage for this study where the researcher will attempt to capture the impact that educators who leverage online communities of practice to improve their effectiveness have on their respective learning organizations.

Research Related to Organizational Structure

In a blog post titled *Radical Reframing: From Resistant Reform to Creative Innovation*, David Culberhouse discusses the enormity of the shifts necessary for schools to remain relevant and vibrant in an ever-changing world. He argues:

To do this work is going to require some rather difficult and uncomfortable shifts. It is going to require some *radical reframing* and *purposeful perspective shifting* that rubs abrasively against the status quo and the convenient wisdom of the day. It comes face to face with the “what we’ve always been” and “how we’ve always done things” mindset that pervades the mentality of many of our organizations. It requires us to not only question our current thinking, but our behaviors, **structures**, processes and expectations.

When considering this quote and the impact that a teacher’s participation in a VCOP via a Professional Learning Network might have on an organization’s Professional Capital, it

is evident that the traditional organizational structures in schools and districts captured in the image below is incongruent with the need for collaboration and communication which allow for sustainable learning to occur.



Figure 1. Traditional Organizations Structures In Schools and Districts.

In *Schools That Learn*, Senge (2000) attributes this structure to “industrial-age assumptions” about schools that are pervasive and akin to the operating systems that educators “run on” as they have spent the majority of their lives as either teachers or students within this framework. Senge argues that the first assumption - Schools are run by specialists who maintain control - has caused the specialization and division of labor that exists between administrators, teachers, departments and the like which has resulted in their being “no need to build partnerships among people or a sense of collective responsibility.” In short, “What exists in schools is a far cry from a learning community.” Instead, as Hargreaves and Fullan (2012), Rudduck (1991) and Rosenhotz (1991) note, isolation and individualism have become the norm in many schools. Rosenhotz refers to many schools as “learning impoverished” settings where teachers do not learn with their

colleagues and the feedback they receive is minimal at best.

The problems that teaching in isolation create are multi-faceted as described in Jim Knight's *Unmistakable Impact - A Partnership Approach for Dramatically Improving Instruction*. Knight (2011) cites the work of Proschaska, Norcross & DiClemente (1994) when reflecting on administrators, teachers and coaches and their ability to change themselves or their organizations. He explains how individuals, specifically those who tend to operate in a vacuum, struggle moving past the first of the six stages of change that Proschaska and his colleagues outline - **Precontemplation**, or when we are unaware of our need for change. They quote G.K. Chesterton when they write, "It isn't that they can't see the solution. It is that they can't see the problem." In the light of Proschaska and his colleagues work, the adage, "We cannot go it alone," takes on a whole new meaning and provides insight as to why Fullan and Hargreaves criticize reform efforts that focus solely on attracting outstanding individuals, not on the entire learning community or system. While Senge acknowledges the importance of the individual, he cautions, "Individual learning does not guarantee organizational learning."

In *The Fifth Discipline*, Senge writes more about the individual and suggests the potential pitfalls of isolation when he outlines two of his five disciplines, **Personal Mastery** and **Mental Models**. He notes that Personal Mastery is a dual awareness that is equal parts seeing and understanding a current reality and shaping and continually refining a personal vision. He notes that **Mental Models** are our behaviors and attitudes which are often below the surface and tend to go unchallenged. He writes, "In any new experience, most people are drawn to take in and remember only the information that reinforces their existing mental models." For teachers working alone in "learning

impoverished” settings, how well defined can this personal dual awareness be? Without others to help unearth and challenge these mental models, how can one move past the precontemplation stage that Knight cites in his book? When emphasizing the importance of Social Capital, Fullan and Hargreaves more than suggest that they cannot.

The other piece of this assumption that requires careful examination is the control, or the perceived sense of control, that results from this linear organizational structure. Senge notes, “In a system based on maintaining control, it is the job of the teacher to control the students, the administrators to control the teachers, and the school board to maintain control over the system as a whole.” What has resulted is leadership that promotes a sense of fear and compliance, especially in the age of accountability where teacher effectiveness measures are rooted solely in student performance. The perils of this are noted in W. Edwards Demming’s *Out of the Crisis* where he champions driving fear out of every organization so that everyone may work more effectively for the company or the organization. Daniel Pink expands on this in *Drive: The Surprising Truth About What Really Motivates Us* where he outlines why “Carrot and Stick” motivators, which perpetuate fear, do not work. To apply his research to the world of education, a bedrock assumption must be made - that teaching is **not** an algorithmic task, or “one in which you follow a set of established instructions down a single pathway to one conclusion.” If it is viewed as a “heuristic” task, or a “artistic, empathic, non-routine” type one where you need to experiment with possibilities and devise novel solutions, Pink’s research suggest that the use of “carrots and sticks” in schools can “extinguish intrinsic motivation, diminish performance and crush creativity.” Further, they can “encourage cheating, shortcuts and unethical behavior” while they “foster short-term thinking.”

Through the lens of Organizational Structure, it is imperative to examine Pink’s

solution to encouraging motivation and innovation in the workplace as it embodies the “*radical reframing* and *purposeful perspective shifting*” noted earlier that Culberhouse writes about in his blog and his book *The Changing Face of Modern Leadership*. In the second part of *Drive*, Pink names Autonomy, Mastery and Purpose as the three drivers essential for success for the 21st century worker. With regard to autonomy as it relates to structure, Pink writes, “To encourage Type I behavior, and the high performance it enables, the first requirement is autonomy. People need autonomy over task (what they do), time (when they do it), team (who they do it with), and technique (how they do it).” In essence, he calls for a complete paradigm shift in the way that traditional organizations like schools operate. Here, the premise is that the individual or a group of individuals from a self-organized team from within the organization has the ability to move the organization forward because they were given the freedom by the individual at the top of the organization to do so.

Given the research presented in this component of the Literature Review, it is imperative that schools need to become less linear and more collaboratively networked organizations. John Seely Brown, John Hagel III and Lang Davison capture this in their article *The New Organizational Model: Learning at Scale* where they write about a “big shift” or the move from organizations designed for “scalable efficiency” to “scalable learning.” They write:

The rate of learning, innovation, and performance improvement within the institution must match (or exceed) that of the surrounding environment if the institution is to survive (or thrive). Given that innovation is inherently a human activity—one performed by talented individuals—it follows that talent will pull

institutions into the 21st century. That’s because a rapid rate of innovation cannot be programmed from above. At best what institutional leaders can do is to create the environments—the “creation spaces”—that foster innovation and faster learning.

Research on Social Capital, Social Network Theory and Organizational Learning

Because of the work of Senge and countless others, school leaders have moved towards the understanding that a more networked, connected structure like the one depicted below allows for meaningful learning to occur.

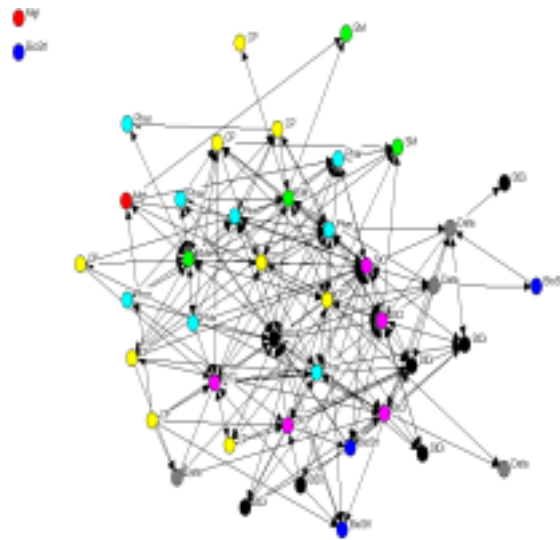


Figure 2. “Networked Connected” Organizational Structures.

In a recent tweet, Dr. Bill Brennan (@Dr.BillBrennan) captured this when he stated, “Learning isn’t a linear process. It is a mindset formed by meaningful and frequent feedback loops.” In 140 characters or less, he captures the essence of Social Capital that Hargreaves and Fullan (2012) describe when they cite the work of Carrie Leana, a business professor at the University of Pittsburgh. Leana, who followed over 1,000 fourth and fifth grade teachers in 130 New York City Public School, “points out the well-known

finding that patterns of interaction among teachers and between teachers and administrators that are focused on student learning make a large and measurable difference in student achievement and sustained improvement.”

Leana’s findings mirror research cited by Cross and Parker (2004) in their exploration of the impact of social networks and organizational performance. Echoing A. Brevas (1950) in *Communication Patterns in Task Oriented Groups*, they state, “Well managed connectivity matters.” With Jonathan Cummings of MIT, they studied the interactions of 182 temporary product development teams and their findings are documented in *Structural Properties of Work Groups and their Consequences for Performance* (Cummings & Cross 2003). They found that “Teams whose networks kept teammates from connecting with each other - such as teams focused on a boss or ones that had split into subgroups - were significantly worse performers than those in which teammates could leverage one another’s experience more seamlessly.” In the ever changing landscape of education where veteran and novice teachers find themselves asking, “Where do we go when we need help?”, organizational structures that foster consistent interaction reflect an understanding of the research Cross and Parker (2004) cite when they argue, “Whom you know has a significant impact on what you come to know, because relationships are critical for obtaining information, solving problems and learning to do your work.”

Senge’s Disciplines of Team Learning and Shared Vision and Communities of Practice

In schools and other enterprises outside the realm of education that are committed to the development of innovative practices and the diffusion new knowledge throughout

their organizations, leaders have worked to structure Social Capital as they have come to understand that “If you want to accelerate learning in any endeavor, you concentrate on the group.” (Hargreaves & Fullan 2012).

In *Schools That Learn*, Senge (2000) notes the importance of “the group” and Social Capital when he writes about the discipline of Team Learning. In schools that are moving forward, he argues that teams are everywhere and whether they be curricular teams, site based teams, or staff development teams, they “conduct the bulk of work” and they “set the tone for innovation.” For those reasons, he asserts the importance of **Team Learning** which he defines as “a discipline of practices designed over time, to get the people of a team thinking and acting together.” In order for teams to be successful, it is not only necessary for members of these teams to be able to work together, they must also have a crystal clear understanding of their organization’s **Shared Vision**, or as Simon Sinek (2009) calls it “The Why” of their respective organization. Senge argues, “In building Shared Vision, a group of people build a sense of commitment together. They develop images of ‘the future we want to create together,’ along with the values that will be important in getting there and the goals they hope to achieve along the way.” He cautions that visions based on authority are not sustainable and that “the core team” consists of people who return to the classroom day after day: the teachers and the students.

In their seminal work titled *Cultivating Communities of Practice*, Etienne Wenger, Richard McDermott and William Snyder detail efforts made by organizations to develop more connected and networked structures where knowledge is constructed, refined and shared among individuals within communities of practice. Senge’s principles of Team Learning and Shared Vision manifest themselves within these communities

which are defined as “groups of people who share a concern, a set of problems or a passion about a topic and who deepen their knowledge and expertise in this area by interacting on an ongoing basis.” (Wenger, McDermott & Snyder 2010) They echo Senge as they argue that in order for learning to occur and for knowledge to become expertise, practitioners need to engage with others who face the same struggles. Within these clusters, the responsibility to bring about new knowledge and to disseminate it is given to those “in the trenches” and a high value is placed on the consistent, focused interactions between individuals that comprise the community. Wenger et. al assert, “As they spend time together, they share information, insight and advice. They help each other solve problems. They discuss their situations, their aspirations and their needs. They ponder common issues, explore ideas and act as a sounding board.” Here, knowledge is not fixed or static. It is living. It is developed collectively and sharing “requires interaction and informal learning processes such as storytelling, coaching, conversation and apprenticeship of the kind that Communities of Practice can provide.” (Wenger, McDermott & Snyder 2002)

Defining Professional Learning Communities and the Relational Supports Necessary for Their Success

In *Professional Capital*, Hargreaves and Fullan (2012) credit Shirley Hord (1997) for coining the term **Professional Learning Communities**, the name by which Communities of Practice are often referred to in the field of Education. They synthesize Hord’s explanation of PLCs as “a place where teachers inquire together into how to improve their practice in areas of importance to them, and then implement what they learned to make it happen.” Three elements that they state are key in defining PLCs

include:

1. The communities are continuing groups and subsequent relationships that are committed to a common purpose. They are not transient.
2. The process of improvement is heavily informed by professional learning via inquiry into student learning and into effective principles of teaching and learning in general
3. Collaborative improvements and decisions are informed but are not dependent on data. Challenging conversation and the experienced collective judgment of teachers are used to gauge the effectiveness of instructional practices

In *Organizing Schools for Improvement*, Bryk, Sebring, Allensworth and

Luppescu (2010) note the importance of school-based professional learning communities.

They note how these structures form a middle ground between two extremes that have often characterized teachers' work in schools. The first extreme - a "teacher proof curriculum," has relegated teachers as replaceable actors performing in an instructional play comprised of heavily scripted lessons. The other extreme where "each classroom is a Leonardo," gives teachers complete autonomy as their practice is so content-specific and situationally complex that it cannot be formalized. Bryk et. al note that PLCs "represent a creative middle ground that acknowledges the complex nature of teachers' moment-to-moment work in classrooms while still locating this activity within a common instructional system, where analysis of evidence from shared practice creates the common ground for disciplining and improving practice." Seashore Louis, Marks and Kruse (1995) argue that the professional ethic of the individual, or Human Capital, and the collective responsibility of the organization, or Social Capital, support three essential

practices which breathe life into the definition school based professional learning communities offered above. These practices include making teachers' classroom work public for examination by colleagues and external consultants, instituting processes of critical dialogue about classroom practice, and sustaining collaboration among teachers that focuses on strengthening the school's instructional guidance system.

In *Leading Professional Learning Communities - Voices From Research and Practice*, Shirley Hord and William Summers (2009) describe five components of effective Professional Learning Communities. The components include:

1. Shared Beliefs, Values and Vision - The staff consistently focuses on students' learning which is strengthened by the staff's own continuous learning

2. Shared and Supportive Leadership - Administrators and faculty hold shared power and authority for making decisions

3. Collective Learning and Its Application - Community members are able to determine what to learn and how they will learn it in order to address students' needs

4. Supportive Conditions

a. Structural - Time and place to meet for work, resources and policies are prerequisites established as part of the school's structure

b. Relational - factors that support the community's human and interpersonal development are supported

Shared Personal Practice - Community members give and receive feedback that supports their individual improvement and that of the organization.

Richard DuFour's and Robert Eaker's influential text *Professional Learning*

Communities at Work - Best Practices for Enhancing Student Achievement delves more deeply into this structured attempt by schools to manage collective intelligence. They assert the importance of collaboration and the need for teacher teams to be created and focused on important issues relating to student learning and teacher effectiveness.

DuFour and Eaker (2009) explore the concepts of Shared Beliefs, Values and Vision through the lens of an organization's culture. Schein (2010) defines culture as, "a pattern of shared basic assumptions learned by a group as it solved its problems of external adaptation and internal integration, which has worked well enough to be considered valid, therefore, to be taught to new members as the correct way to perceive, think and feel in relation to those problems." DuFour and Eaker assert:

"Those who hope to develop their school's capacity to function as a professional learning community must face the challenge of shaping culture. If a change initiative is to be sustained, the elements of that change must be embedded within the culture of the school. Unless collective inquiry, collaborative teams, an orientation toward action, and a focus on results become part of 'the way we do things around here' the effort to create a professional learning community is likely to fail."

In *Improving schools from within: Teachers, Parents and Principals can make the difference*, Ronald Barth (1990) notes that a culture primed for change reveals itself in the behaviors of its teachers. These actions include talking with one another about their practice, sharing their craft knowledge, observing one another while teaching, and rooting for one another's success. DuFour and Eaker argue that these behaviors will not occur within a PLC unless the conditions that Dukewits and Gowin (1996) highlight in their

article *Creating Successful Collaborative Teams* are present. These conditions include:

1. Shared beliefs and attitudes
2. High levels of trust that result in open, respectful communication
3. the belief that teams have the power to make important decisions
4. Effectively managed meetings with clear norms, collaboratively designed agendas and defined roles for members
5. Ongoing assessment and discussion

In *Unmistakable Impact - A Partnership Approach for Dramatically Improving Instruction*, Jim Knight presents more research on the importance of these conditions as he noted, “To create the setting for successful team learning, leaders must consider specific factors when designing the structure for team interaction and keep an eye on those factors during the minute by minute motions of the team.” (Knight 2011) He offers seven “Partnership Principles” that need to be present in order for learning teams to be successful. They include:

1. Equality - Each member of the community or team has an equal opportunity to share and refine what the team creates
2. Choice - Members must have choice in what they are going to study and how they are going to study it. However, a choice must be balanced with structure to ensure productivity
3. Reflection - Time for exploration and reflection is imperative for teams to be successful
4. Dialogue - Facilitators must foster conversations that are not confrontational. The goal of discourse should be “a mutual pursuit of the truth.”

5. Praxis - Conversation and subsequent learning must be relevant immediately applicable to each member's professional practice.
6. Reciprocity - Authentic conversation is a must where the mutual sharing of ideas occurs in a free "give and take"

Structural Supports Necessary for PLCs to be Successful

The research offered thus far on organizational culture, team dynamics and group norms addresses the relational supportive conditions that need to be in place for PLCs to be successful. When considering the supportive structural conditions that need to be established, DuFour and Eaker (2009) suggest ways that the team concept can be implemented in schools which included:

1. Implement team concept by grade level or subject
2. Implement team concept on the basis of shared students where curriculum content and/or specific students or groups of students can be studied
3. Implement a team concept where staff members meet like a task force to consider particular problems and develop recommendations for solving it
4. Implementing a team concept by area of professional development

They note the need for time for collaboration to be built into the school day as one of four prerequisites necessary for effective collaborative teams to be established. Once common preparation periods or other venues for collaboration have been allocated, a purpose for the time they are together must be explicitly stated and a product of their work together is a necessary expectation. Building leaders must provide training to team members as to roles they can play within their group and how they can function as skillful collaborators. Finally, there is a need for each member of the team to accept their

professional responsibility to work together with their colleagues on the agreed upon purpose for their meeting (Dufour & Eaker 2009).

Research Questioning the Effectiveness of Professional Learning Communities

To this point, the researcher has examined efforts to promote Social Capital by way of Professional Learning Communities within schools and districts as a way to improve practice. Communities of Practice, or Professional Learning Communities, as they are known in Education, have been defined and the provisions needed for them to be successful have been explored. The structural and relational conditions necessary for PLCs to run effectively are nothing short of extensive and the culture, commitment, and level of collegiality required for PLCs to maximize their impact is a very tall order. What has been their impact? How are they perceived by educators in the field?

In *Professional Capital*, Hargreaves and Fullan cite Diane Woods' *Teachers Learning Communities: Catalyst for change or a new infrastructure for the status quo?* when they discuss how the PLC effort is seen by many as something sound in theory and favored by those at the top of an organizational hierarchy - a sharp contrast to the perceptions of those on the ground. Hargreaves and Fullan (2012) themselves note, "Sadly, however, their (PLCs) strategies have been imposed simplistically and heavily handedly by overzealous administrations. Too often, they have become yet one more "program to be implemented" rather than a process to be developed." In a 2011 study titled *A Quantitative Study of Teacher Perceptions of Professional Learning Communities' Context, Process, and Content*, Daniel Johnson aimed to provide quantifiable data demonstrating the level of influence PLCs have in the defined domains of content, process, and context. As the researcher notes, "examining the perceptions of

educators within the process contributes to the growing knowledge of this reform effort; provides districts with insights regarding the process and the manner in which the method affected educators' perceptions of context, process, and content; and helps districts in deciding if this model is best for their system.” To do so, he centered his research in 10 New Jersey schools where he surveyed 522 teachers all of whom spent a year working within Professional Learning Communities. The researcher utilized data collected from pre and post surveys that were conducted within two separate three-week windows, one in the fall and another in the spring. The instrument was internet based, and each teacher was given a key to access the survey to keep all information confidential. The instrument measured teacher perceptions of twelve items categorized under three main classifications: the content, process, and context of the school structure before and after professional learning community implementation. The data from this study suggested that there was no statistical significance in teacher perceptions in any of the three main categories surveyed. Teacher perceptions remained static during the one year implementation effort in the ten participating schools. This study highlighted the complexities of successfully implementing Professional Learning Communities in a school setting and provided qualitative data that questioned their effectiveness in changing teachers’ beliefs and practices.

In *Unmistakable Impact*, Jim Knight captures the experience of many teachers who participate in PLCs when he writes, “Unfortunately, most of our own experiences suggest that meetings and group work can be unpleasant time wasters, too often boring, dehumanizing and unproductive.” The explanation of this phenomena is explored in Patrick Lencioni’s (2002) *The Five Dysfunctions of a Team* where the following issues impede the progress of that groups within organizations strive for:



Figure 3. Dysfunctions of a Team - Patrick Lencioni.

Hargreaves and Fullan (2012), DuFour and Eaker (1998) and Hord and Sommers (2008) discuss these dysfunctions when they outline the complexities of developing effective PLCs. With regard to the importance of trust, Hord and Sommers (2008) note, “Trust is the social lubricant that makes organizations run. When trust exists, organizations tend to think more creatively, take more risks, and share information more readily. There is a feeling of being supported.” Lencioni explains that trust is most evident when members of a group are able to be vulnerable in front of one another. In Gruenert and Valentine’s (2006) Culture Typology Rubric, they describe this highest form of collaborative trust as a “strong **interdependence** among teachers.” Unfortunately, as Hargreaves and Fullan note, some school cultures are “Balkanized” while others fall into the realm of “contrived collegiality.” In these cultures, Gruenert and Valentine describe trust in a balkanized culture as “There are teachers who only trust certain colleagues.” They outline a culture of contrived collegiality as “Teachers are placed in situations where they are required to trust each other” which begets the question - do they?

The concept of “Contrived Collegiality” is important when considering the fear of **conflict** that Lencioni cites as the second dysfunction. In *School Culture Rewired*, Gruenert and Whitaker (2015) note:

In a contrived-collegial school culture, leadership determines how staff are to behave. Often, principals will attempt to speed up the process of school improvement by enforcing collaboration and controlling the situations that foster it. As teacher behavior becomes more and more regulated, teacher autonomy is diminished. Though the contrived collegial culture is meant to support new approaches to techniques to teaching, it can feel superficial and actually reduce teacher motivation to cooperate with any changes. Such a culture may initially discourage true collegiality by forcing relationships among teachers who might not otherwise collaborate.

The “artificial harmony” that Lencioni believes plagues teams is ripe in this setting where teachers are forced to be together in the name of change. In *Trust in Schools*, Megan Tschannen-Moran (2004) asserts that “constructive controversy” is integral in moving teams and schools forward. However, she notes that the levels of trust and the honesty necessary for this to occur are difficult to develop and sustain in potentially passionate administrator-to-teacher and teacher-to-teacher interactions. She writes, “In schools, teachers often respond to conflict either by acting aggressively to try to force their will on others or by avoiding or suppressing conflict because they fear the consequences will be uncontrollable. This avoidance may stem from a lack of skills and confidence to manage conflict constructively.” Without these skills in place, she asserts that teachers will “go through the motions” during PLC meetings without any

meaningful discourse or collaboration that leads to the development of better practice.

Lencioni claims that the third dysfunction, **a lack of commitment**, is a function of two things: clarity and buy-in. When discussing the need to move from ambiguity to clarity, Hord and Sommers (2008) warn, “One of the enduring problems in many schools is a lack of consistent focus or direction for improvement.” DuFour and Eaker (1998) sought to remedy this and asserted, “Teams are most effective when they are clear about the results they are trying to achieve. This clarity of purpose is enhanced when teams are provided with clearly stated performance goals that indicate what the team is to produce or accomplish.” While having the administration set the performance goals and dictate the product that each PLC is to accomplish might provide clarity, what will it do to the teachers’ feeling of autonomy and their intrinsic motivation that Pink (2009) discusses in *Drive*? According to Pink, autonomy in task and technique are pivotal elements in Motivation 3.0. Similarly, Hargreaves and Fullan (2012) write about the phenomenon of “pushing” and “pulling” teachers in PLCs, the conundrum of “overwhelming force and unlimited choice,” and the impact of both on clarity and buy-in. While the long term goal would of course be to move towards “pulling rather than pushing,” this is a difficult balance that, if not remedied quickly, can lead to other dysfunctions.

The fourth and fifth dysfunctions that Lencioni outlines, **Avoidance of Accountability** and **Attention to Results** are closely linked as the former has a direct causal factor to the latter. Teams, or PLCs in the school setting, that are plagued by avoidance of accountability result from members being uncomfortable or unwilling to “call out” another member whose behavior is not consistent with the high standards of other members or that is counterproductive to the team achieving a particular goal. If this

is not addressed, it can lead to resentment among team members causing others to care less about the team and the collective goal and more about their own personal needs.

Research on Virtual Communities of Practice, Professional Learning Networks, and the Impact of Technology on Professional Learning

As the research above supports, traditional communities of practice in schools, or Professional Learning Communities, have the potential to be transformative in furthering best practices in our classrooms. However, the relational and structural supports necessary for them to be successful make them difficult to implement and the impact that each school's culture and leadership have on the effectiveness of these teams are powerful variables. This is captured in Alec Couros' seminal work *Examining the Open Movement: Possibilities and Implications for Education* when he writes, "collaborative communities of innovation are not easily formed within current contexts." Participants in his study noted administrative/bureaucratic factors, the constraints of time, and the current attitudes of teachers towards collaboration and sharing as major obstacles. He offers a ray of hope when he notes, "It is believed that some progress in supporting innovation may be discovered in light of redefining the view of knowledge in school organizations and in developing a decentralized, distributed infrastructure where individuals are encouraged to participate in varied knowledge spaces, through both formal and informal creative activities and communities." These varied learning spaces, which Couros describes as viable alternatives to traditional institutional models, are the Virtual Communities of Practice which the researcher intends to study. The spirit of these communities is rooted in the open source design paradigm which Tapscott, Ticoll and

Lowy (2000) describe in their book *Digital Capital*. These communities are defined as “alliances wherein many contributors, all acting independently in their own self-interest, create a highly integrated “good” that provides value to themselves and to others.” In his 2012 TED Talk *The Four Principles of the Open World*, Tapscott celebrates how technology has allowed the formation of these alliances and he helps us further define this paradigm when he outlines the core principles of **Collaboration**, **Transparency**, **Sharing** and **Empowerment** as the foundation of this movement.

In *Digital Leadership: Changing Paradigms for Changing Times*, one of Eric Sheninger’s eight Pillars of Digital Leadership - Professional Growth and Development - is built upon the work of Couros and his comparison of a “Typical Teacher Network” v. “Networked Teacher.” Sheninger’s and Couros’ assertion that networks found in traditional schools are more closed than open is illustrated beautifully in this graphic and is supported by the work of Cross and Parker (2004).

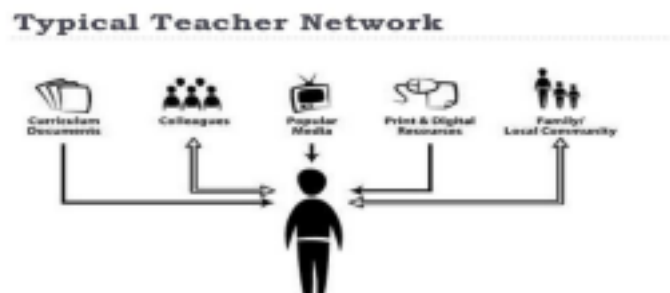


Figure 4. Typical Teacher Network - Alec Couros.

In *The Hidden Power of Social Networks*, Cross and Parker caution how this limits both individual and organizational learning when they write:

Often, organizations have high levels of internal connectivity but extremely low external connectivity. Unfortunately, the only people with external ties tend to be new hires, who are often were not listened to until they proved themselves within

the organization. Of course, by that time they were usually so ingrained in the network that they quit seeking information via external relationships.

The alternative that Couros and Sheninger offer, the Networked Teacher, is depicted in this graphic:

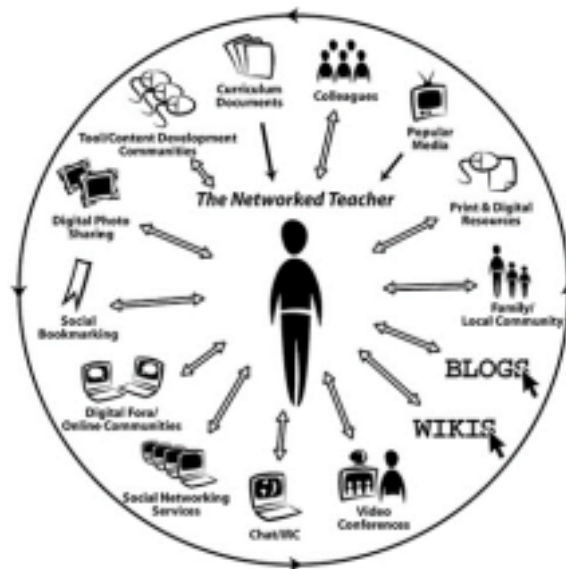


Figure 5. The Networked Teacher - Alec Couros.

Sheninger writes, “A connected leader (teacher) is still supported by traditional networks but now has the ability to tap into other professional learning resources using digital tools. Beyond the localized relations, those who are connected to a greater social network are more informed about their practice, beliefs and perceptions regarding education.” Cross and Parker’s research supports that this shift in professional learning is imperative as they believe that “The people least likely to be learning from those outside the network are the people on whom the whole network is relying.”

For the purpose of this study, the “decentralized, distributed infrastructure” that Couros suggests which provides “the network” for Sheninger’s “Networked Teacher”

will need to be further explored. Within the body of research that exists, there is not an agreed upon definition of a Virtual Community of Practice. Many attribute this to the fact that Virtual Communities of Practice are more than a concept, they are a learning process (Kirschner and Lai 2007, p.128). However, the definition provided by Correia, Paulos and Mesquita in *Virtual Communities of Practice: Investigating Motivations and Constraints in the Processes of Knowledge Creation and Transfer (2009)* provides a strong framework of understanding that mirrors the alliances that Tapscott describes. It reads:

A self-organized group of people who are motivated by common interests related to their daily practice; this group is self-organized, with the objective of developing knowledge and improving performance, by interaction between its members in almost completely electronic means.

The “electronic means” available to educators that Correia et. al incorporate into their definition of VCoPs are developing at meteoric rate. *In Educational Networking: The Important Role Web 2.0 Will Play in Education*, Steve Hargadon (2009) writes:

The advent of the Internet, however, and in particular what we are calling “Web 2.0,” has so significantly changed our relationship to information and our own personal learning opportunities outside of formal education, that we’re beginning to see a set of software tools emerge that are profoundly altering both learning processes and outcomes. These tools allow us to see the start of a radical evolution in education that will bring such dramatic changes that we’ll soon be at a point where we won’t be able to imagine education without them.

What is most revolutionary about the use of these Web 2.0 Tools is the opportunity for professionals to engage in knowledge creation and sharing. In *Wikinomics, How Mass*

Collaboration Changes Everything, Don Tapscott and Anthony D. Williams (2010)

celebrate this shift when they describe this time as “The Age of Participation” and refer to these tools as “Weapons of Mass Collaboration.” Wikis, blogs and social media platforms now have the potential to be seen as “new, low-cost infrastructures” that can be used within and between organizations to advance the dissemination of new information and innovation. Hargadon captures this when he describes primary content created with these tools are created by the users. He writes, “In retrospect, this shift changed everything. Web 2.0 has moved the Internet from our traditional one-way information flow to a two-way “conversation” in which the Three R’s: Rights, Responsibilities and Risk Management, have been supplanted by the Three C’s: Contributing, Collaborating, Creating.”

Whitby (2014), Cook (2014) and Whitaker, Casas and Zoul (2015) have written about what may be considered to be the VCoP of the day when they describe the power of the PLN or Professional Learning Networks. Trust (2012) describes a PLN as “a system of interpersonal connections and resources that support informal learning.” To highlight the benefit of an educator’s participation in a PLN, he quotes Flanagan (2011) who defines a PLN as “a teacher-driven, global support network that decreases isolation and promotes independence.”

Whether participation in the PLN be synchronous, semi-synchronous or asynchronous, Brennan (2010), Gustafson (2014), Sheninger (2014) and Cook (2014) all note how participation in a PLN can stimulate learning and bring about more rapid organizational change. In *The Innovator’s Mindset*, George Couros (2015) asserts that “Networks are crucial for innovation,” as “being in spaces where people actively share ideas makes us smarter.” In his study titled *A Phenomenological Study of Professional*

Development in the Digital Age: Elementary Principals' Lived Experiences, Gustafson's research highlights the importance of "connectedness" the impact that it has on a principal's decision-making, planning and ability to lead professional development that results in the incorporation of tools and instructional practices that are either "new" or "better" than what existed before. Gustafson (2014) notes, "Data demonstrated that connected leaders were increasingly able to lead professional development, technology integration, and innovation in general as a result of their investment in digital connections."

In his article *Learning and Knowledge Sharing in Virtual Communities of Practice: Motivators, Barriers and Enablers*, Ardichvili seeks to answer "the why" individuals become connected and he explores what motivates members of VCoPs to participate in community knowledge sharing activities. In addition to sharing new knowledge via blogs and other like formats, Ardichvili defines these activities as posting questions on online community boards, engaging in live chats, participating in synchronous online and video conference discussion sessions, and providing asynchronous answers and feedback in discussion threads. Citing an abundance of research, Ardichvili outlines the three principal motivators for knowledge sharing within VCoPs which include:

- **Personal Considerations**
 - Status and career advancement by way of furthering one's professional reputation
 - Emotional Benefits and the enhancement of one's self-esteem through belonging/being useful to the group

- Intellectual Benefits by gaining new expertise and developing/refining perspective
- Material Gain via compensation and benefits from one's organization

Community-Related Considerations

- Sharing to establish/strengthen ties with others
- Sharing to build a stronger community and furthering one's "embeddedness"
- Sharing as means of protecting from external threats

Normative Considerations

- Reaffirming an individual's connection to the values and vision of their organization
- To follow their leader's example

Gunawardena et, al (2009) offers a framework for the collective construction of knowledge that occurs in VCOPs using social networking tools that is rooted firmly in the work of Wenger, McDermott and Snyder (2010). They note the importance of a Web 2.0 tool that allows collaborative editing of its content and structure by its users and how it becomes the domain or the platform upon which this virtual learning is built. Then, they explore the learning progression of a traditional Community of Practice which begins with first establishing a **context** for why the community has come together. Through **Discourse**, the community comes to life as participants bring their experiences, knowledge and insights forward and a collective momentum builds where individuals become more willing to share. In the **Action** phase, participants identify a learning goal and contribute to the collective intelligence of the group by posting their thinking as it

relates to the agreed upon goal. During **Reflection**, participants weigh their own thinking and experiences versus the group thinking which allows for the consideration of other points of view and for new learning to occur. The **Reorganization** phase follows where participants make their reflections public thus bringing new understanding to the agreed upon goal. Finally, the community achieves what Gunawardena refers to as **Socially Mediated Metacognition**. They assert, “Mediated by interactive technology, the process of shared meaning advances, participants reflect on and adjust their understanding, a concrete expression of shared metacognition is revealed.”

As noted in Chapter 1, the educators who will be selected for this study have been identified in part because of their use of Twitter as their Web 2.0 social networking tool. Twitter is a microblogging platform that allows users to send short, public messages limited to 140 characters called *tweets*. Different from Facebook and other social media platforms, users do not have to be “friends” in order to follow one another which makes the content therein more “open.” Twitter allows users to share information via hyperlinks to other media and helps users to manage content by way of *hashtags* which serve as search markers. The hashtags are also used connect users around common interests and even engage in “Twitter Chats” where the use of a certain hashtag creates a discussion thread or stream. Hillier (2009), Ramsden (2009), Veletsianos (2011) Wright (2010) have researched how educators and students are using Twitter as a means to share information, to connect, to network and to expand learning opportunities beyond the confines of their schools and/or classrooms. Sauers and Richardson (2015) have contributed to this body of research as they studied the behaviors of school leaders on Twitter to see if they were consistent with the core elements of a community of practice which were outlined above. In their analysis of 1,000 tweets culled at random from 115 participants, 675 of the

tweets were coded as relating to education. Using hashtags, @ symbols and the inclusion of a URL as markers to classify tweets as contributing to a VCOP, Sauers and Richardson found that 564, or 86%, were a part of a personal or community conversation. They note, “This is an important finding. School leaders who were tweeting about education were purposefully targeting specific individuals or target audiences with their tweets. They were clearly creating their own online community of practice related to educational issues that were important to them.”

While this study targeted school leaders, Fortes, Humphrey and Park (2012) focused on how teachers are using Twitter as a means of grassroots professional development. Using a mixed methods approach involving surveys and the coding of 2,000 tweets, their findings mirrored Sauers and Richardson as they concluded that teachers are using Twitter to participate in a vibrant VCOP. They note how the teachers in the study perceived themselves and other educators on Twitter as “network bridges whose connections to broader professional networks gives them access to resources and positions them to act as information brokers.” Their analysis lead them to conclude that teacher participants in VCOPs via Twitter had the potential to be “powerful fomenters and enactors of reform in educational communities.”

Research on the Limitations of VCOPs, PLNs and Web 2.0 Tools

While the research presented above supports the need for individuals to engage in knowledge sharing, Ardichvili cites the work of Stan Garfield (2006) when he considers interpersonal, procedural and cultural barriers to an individual’s participation in VCoPs. In a recent blog titled *Learning to Fly; Why people don’t share knowledge* posted on June 30, 2015, Garfield summarizes these reasons as:

- Don't know why: They don't think they need to spend time on knowledge sharing.
- Don't know how: They are unclear about how and where to share their knowledge.
- Don't have time: They think they have no time for knowledge sharing.
- Don't trust others: They are worried that sharing their knowledge will allow other people to be rewarded without giving credit or something in return, or result in the misuse of that knowledge.
- Think that knowledge is power: They hoard their knowledge waiting for someone to beg them for it, treat them like a guru, or give them something in return.

In addition to these obstacles, Ardichvili (2008) notes, "Lack of technological proficiency, combined with aversion to the use of online technology as a communication medium could be a serious barrier to knowledge sharing." Gong, Xu and Yu (2004) examine this issue of resistance to technology as a means of learning in their article *An Enhanced Technology Acceptance Model (TAM) for Web-Based Learning*. The TAM, first proposed by Davis (1986), asserts that perceived usefulness (PU) and perceived ease of use (PEOU) shape an individual's attitude towards technology and can directly impact their intention to or to actually use that technology as a means to gain and/or share new learning. Gong, Xu and Yu expanded on this model by adding Bandura's (1986) work on Self-Efficacy to their research model as they believed that self-efficacy is an important construct that drives motivation and behavior. Bandura (1993) writes, "People motivate themselves and guide their actions anticipatorily by the exercise of forethought. They form beliefs about what they can do. They anticipate likely outcomes of prospective

actions. They set goals for themselves and plan courses of action designed to realize valued futures.” Gong, Xu and Yu’s research suggests that “Perceived usefulness” and “Self-Efficacy” had a direct and dominant effect on an individual’s acceptance of technology based learning while “Perceived Ease of Use” had a more indirect effect. Their findings indicated, “In order to facilitate teacher’s acceptance, it is critical to increase their perceived usefulness and perceived ease of use simultaneously. At the same time, improvement in teachers’ computer self-efficacy can enhance their system acceptance.”

Motivation, Self-Efficacy and attitudes towards technology have remained at the focal point of researchers' work on the acceptance of technology, participation in VCoPs and the use of other web-based forms of professional development. Chein, Kao, Yeh and Lin (2012) study *Examining the Relationship Between Teacher’s Attitudes and Motivation Toward Web-based Professional Development* widened the research on the TAM and resulted in the development of the MWBPD or the Motivation for Web-based Professional Development survey where researchers developed five scales built upon the motivations detailed by Ardichvili noted above. They found that individuals motivated by personal interest and practical enhancement, or those who believe that web-based professional development helps them do good work in education, expressed a belief in the perceived usefulness of social contact and social stimulation.

In addition to these barriers, new research has been conducted which calls into question the effectiveness of Virtual Communities of Practice as a means to advance professional learning. Cho (2016) interviewed seventeen administrators who were very active on Twitter and carefully scrutinized the contents of their tweets to answer the

following questions:

- What are the perceived benefits of participating on Twitter?
- What information do administrators share via Twitter?
- To what extent (if any) does information from Twitter contribute to administrator practice?

When coding, Cho designated “tweets,” or real time messages posted on Twitter which are limited to 140 characters, as either Canonical Knowledge, or relating to administrative work and Non-Canonical Knowledge, which refers more to the “craft” of leadership and is typically shared via stories, norms and metaphors. Cho further categorized “tweets” that related to Canonical Knowledge as *leadership, teaching and learning, technology, professional development and educational policies*. He distinguished Non-Canonical Knowledge as *work place vignettes, announcements (about school events) and small talk (banter, congratulations, thanks)*.

Positive impacts that Cho found were similar to the benefits noted earlier including a reduced sense of professional isolation among principals and an increased sense of belonging as they have broadened their networks and developed virtual relationships with other administrators. During interviews, Cho noted principals expressed that VCoPs by way of Twitter provided them with convenient, round-the-clock access to professional development, and constant exposure to professional readings on varied and timely topics. However, the examination of their 1,460 “tweets” revealed that the overwhelming majority of Canonical Knowledge shared dealt with technology and the plurality of Non Canonical Knowledge “tweets” involved announcements that fostered online community membership or small talk. Cho indicates that, aside from

technology, administrators' knowledge needs (supervising instruction, fostering school vision, analyzing data, building leadership teams, overseeing operations, etc...) were not reflected in their tweets. Further, Non-Canonical tweets had more to do with being a part of an online community as opposed to work in school leadership. Finally, Cho shared how administrators rarely reported changes in school policies and/or practices resulting from Twitter.

When considering Professional Learning in the Information Age, Cho states, "Before moving forward, now is the time to think carefully about PLNs and other online approaches to professional learning." He questions what makes someone an "expert" in a VCoP and cautions that "Number of Followers" or "Rockstar Status" on social media does not always equate to knowledge and skill. He also notes how in-person learning communities offer venues for conversation and constructive criticism and he debates if opportunities for disagreement and feedback are as available and effective in a virtual space. In their study *Global Village or Cyber-Balkan? Monitoring the Integration of Electronic Communities*, Van Alosty and Brynjolfsson (2005) note how information technology in the form of search engines, recommender systems, search agents, and automatic filters are allowing users to narrow their exposure to ideas and to customize content to mirror their personal interests. They assert that, "Improved communications access and filtering technologies can, in some instances, lead to more fragmented intellectual and social interactions." This can cause a virtual divide which they argue can, in some cases, cause individuals to be more insular. As participation in VCoPs are voluntary and individuals choose who to follow and which groups to be a part of, Cho warns that there might be a lack of dissenting ideas in PLNs which can result in what he calls an "echo chamber." Finally, Cho argues that the public nature of a VCoPs can cause

a panoptic effect where users censor themselves and not offer their true feelings for fear of who will read it. As a result, there is a narrowing of content as to what is deemed acceptable in the eyes of supervisors and the community the leader serves.

Summary of the Literature Review

In the review of the literature above, the researcher has outlined how core principles of Senge's *The Fifth Discipline* detailed in *Schools That Learn* provide a strong rationale for Hargreaves and Fullan's argument for educators to develop *Professional Capital* within our schools. Formal and informal interactions between teachers rooted in trust and centered on developing next practices are critical if schools are going to be able to innovate at a rate commensurate with the changes in the world around us. While PLCs or Professional Learning Communities encourage collaboration between teachers within buildings, they cannot be our sole school improvement strategy. VCOPs or Virtual Communities of Practice like those detailed by Couros (2006) and Sheninger (2014) provide educators with the external connectivity that Cross and Parker (2004) and Couros (2015) assert are necessary for new ideas to filter into an organization. The Web 2.0 tools or the "Weapons of Mass Collaboration" that Tapscott describes are being used by principals and teachers for the purposes of professional development and ideation and the potential benefits and drawbacks of learning in this manner have been explored above.

While Brennan (2010), Gustafson (2014) and others have explored the influence that principals' participation in VCoPs has had on organizational learning, the researcher intends to study how a teacher's active presence in a digital learning space impacts the Professional Capital within that teacher's respective school. Reeves' (2008) research on the power and significance of teacher leaders who he refers to as "the superhubs of

networks of great performance” provides the impetus of this study as the researcher intends to study their virtual learning to determine the degree to which it has affected their peers and their entire organizations. As noted in Chapter 1, these teacher leaders’ experiences in their VCoPs via Twitter with the members of their PLNs, or Professional Learning Networks, will be explored using Little’s (1999) Continuum of Collaboration which spans Scanning and Storytelling, Help and Assistance, Sharing and Joint Work. Their organization’s absorptive capacity, or what Cohen and Levinthal (1990) refer to as their ability to assimilate or replicate new knowledge gained from external sources will also be studied. Here, the teacher’s abilities to be what Parisi, Whelan and Todd (2015) refer to as “idea scouts” and “idea connectors” will be examined. They note, “an idea scout is an employee who looks outside the organization to bring in new ideas. An idea connector, meanwhile, is someone who can assimilate the external ideas and find opportunities within the organization to implement these new concepts.

CHAPTER 3: RESEARCH DESIGN AND METHODOLOGY

Purpose of the Study

The purpose of this study is to evaluate the perceptions of expert teacher practitioners on the impact that their participation in VCOPs has had on the Professional Capital of their organization. How has the teachers' development of a PLN or their participation in a VCOP fostered their growth as individuals or their Human Capital? How, in turn, has his or her increased knowledge base furthered instructional practices, promoted the development of next practices, and enhanced their organization's Social Capital? Finally, how has this new knowledge impacted the decisions teachers within the organization make as they work tirelessly to challenge and inspire the diverse group of students in their classrooms?

Research Design

A qualitative research design is often adopted by researchers when they are interested in exploring a problem and developing a detailed understanding of a central phenomenon. It is the design of choice as it is best suited for a study in which the researcher does not know the variables that need to be explored (Creswell 2015). The perspectives of the subjects involved in a study are of the utmost significance to the qualitative researcher as they desire to know what their participants think and why they think what they do. Their assumptions, motives, reasons, goals, and values are of special interest and these things cannot not be measured statistically (Bogdan and Biklen 2007, Roberts 2012).

Creswell (2007) describes a number of approaches that can be called upon to

conduct a qualitative inquiry including Grounded Theory, Narrative Research, Ethnography, Case Study, and Phenomenology. A qualitative phenomenological approach was selected for this study as the researcher intends to gain a deep understanding of a phenomenon from the perspectives of those who have experienced it. Gustafson (2014) cites Van Manen (1990) who stated, “The aim of phenomenology is to transform lived experience into a textual expression of its essence...a notion by which the reader is powerfully animated in his or her own lived experience” (p. 36) Roberts (2012) and Seidel (1998) note how Phenomenology zeroes in on the lived experiences of the research subjects from their own perspectives and involves the process of noticing collecting and thinking about data that is usually collected via in-depth interviews. Phenomenologists search for the *essence*, or the essential characteristic(s) of an experience and do so by “extracting what they consider to be relevant statements from each participant’s description of the phenomenon and then clustering these statements into themes. He or she then integrates these themes into a description of the phenomenon” (Fraenkel and Wallen 2009).

The central phenomenon in this study is the participation of expert teacher practitioners who engage in VCOPs and the researcher seeks to understand the degree to which these teachers perceive that their participation has impacted the development of their Human Capital, Decision Capital, and Social Capital. The researcher also seeks to understand how and to what extent the new learning obtained in VCOPs is shared within the natural setting of the participants. The researcher will also interview the principals of the expert teacher practitioners and a comparative analysis of their perspectives will be completed to provide a more robust understanding of this phenomena. The principals’ perspectives are integral as there are a myriad of unknown variables that could either

encourage or detract from this individual learning from becoming group learning and eventual organizational learning.

Research Questions

1. To what extent has the participation of expert teacher practitioners in Virtual Communities of Practice impacted their levels of their Human Capital, Decisional Capital and Social Capital?
2. How and to what degree do these expert teacher practitioners perceive that their new learning obtained in Virtual Communities of Practice has been shared within their schools and/or districts?
3. To what extent do the administrators of these expert teacher practitioners who participate in Virtual Communities of Practice believe that this phenomenon has impacted the teachers' Human Capital, Decisional Capital and Social Capital?
4. How and to what degree do the administrators of these expert teacher practitioners perceive that the teacher's new learning obtained in Virtual Communities of Practice has been shared within their schools and/or districts?
5. How do they compare?

Participants and Sample Selection

Researchers who engage in phenomenological inquiry purposefully select a variety of participants who have had different experiences with the same phenomenon (Dale, 2000). Through extensive engagement with a small sample of subjects who are able to provide varying, rich descriptions of the experience in question, the researcher seeks to create an understanding of the lived experience under investigation (Creswell,

2009, Polkinghorne, 1989; Ryba, 2007).

In the case of this study, that experience is of an expert teacher practitioner who is actively involved in a Virtual Community of Practice via the development of a Professional Learning Network by way of Twitter. As the researcher is examining how this experience has enhanced the participants Human and Decisional Capital, the participants must also agree to having their administration participate in the process so that they might shed additional light on how this experience has impacted the teacher's mindset, professional learning and pedagogical and subject-matter knowledge. In addition, the participating administrators will be able to provide a more global view of the structural, relational and cultural variables that exist in their respective buildings and districts that have either fostered or hindered the participating teachers' ability to bring the new learning obtained in these digital spaces to their colleagues within their schools. In order for the administrators to be able to speak with authority on these variables as well as to the participating teachers' Social Capital, it is imperative that the principals involved in the study have a strong working knowledge of both the teacher participant as well as the culture and social structures within their schools.

For the reasons noted above, it was imperative that the researcher established criteria when identifying initial participants. In addition to a willingness to have their administrators be a part of the research, the criteria for expert teacher practitioner selection were:

1. Expert teacher practitioners with a minimum of three-to-five years of teaching experience.
2. Expert teacher practitioners regarded by their peers and administration to be

committed to their own professional learning and to having demonstrated strong pedagogical and/or subject matter knowledge as evidenced in their teaching and their ability to monitor and adjust in the classroom.

3. Expert teacher practitioners actively involved in Virtual Communities of Practice with a vast Professional Learning Network (PLN) as evidenced by:
 - a. Use of Twitter for a minimum of one year as the virtual platform for connectivity with members of PLN
 - b. Frequency of “tweets” or posts submitted via this Web 2.0 microblogging tool
 - i. Special consideration would be given to expert teacher practitioners with a proven track record of blogging or podcasting for professional development purposes
 - c. Demonstrated participation in “Twitter Chats” where educators gather in a moderated digital discussion around topics relating to education.

The researcher also developed criteria for the administrators of the expert teacher participants. The purpose of the administrators was twofold; to provide a secondary lens through which the researcher could understand the teachers’ growth as a result of their participation in VCOPs and to provide a context for the teachers within the schools in which they work. Criteria for the administrator of the expert teacher practitioner included a minimum of three years of administrative experience within the school where the expert teacher practitioner works including years prior to the teacher’s participation in a Virtual Community of Practice.

The initial participant that met and exceeded the criteria listed above was Teacher

B, a twenty year veteran teacher from a suburban school district in Nassau County, NY. She has been actively participating in a Virtual Community of Practice since June 2013 and has amassed a PLN of over 1,300 teachers. Her Twitter profile reads, “Proud soccer and band mom of 3, Kindergarten teacher, Google Educator, PBS Lead Digital Innovator, Tech Club advisor, Edtech enthusiast.” Once she accepted the invitation, the researcher engaged in a purposeful sampling strategy called snowball sampling. Creswell (2015) notes that strategy is often used when the researcher does not know the best people to study and he explains, “Qualitative snowball sampling is a purposeful sampling that typically proceeds after a study begins and occurs when the researcher asks participants to recommend other individuals to be sampled.” After identifying the initial expert teacher practitioner and securing the participation of her administrator, individual invitations were distributed to possible participants identified in accordance with IRB specifications. The tables below note specifics on the expert teacher practitioners who participated in this study and provide information about their administration.

Table 1

Expert Teacher Practitioner (ETP) Data At Time of Interview

ETP	# of Years Teaching	# of Years Participating in VCOPs	Following	Followers	# of Tweets	Participation in Twitter Chats (Y/N)
ETP - A	17	3.5	3,803	4,378	21.4 K	Y
ETP - B	15	3.5	1,743	2,095	6,252	Y
ETP - C	18	3.5	1,461	1,908	12.3 K	Y

ETP - D	8	5	363	515	1,817	Y
ETP - E	25	3.5	868	942	5,144	Y

Table 2

Administrator of Expert Teacher Practitioner (AETP) At Time of Interview

AETP	# of Year as Administrator	# of Years In Current School of ETP	# of Years Knowing ETP	AETP Participation In VCOP (Y/N)
AET P - A	5	5	5	Y
AET P - B	11	11	11	Y
AET P - C	21	19	18	N
AET P - D	8	2	8	Y
AET P - E	17	14	14	N

Data Collection

After submitting the research proposal to my mentor, Dr. Richard Bernato, proposing my study to the Dissertation committee, and fulfilling the requirements of the IRB, the researcher will begin the process of collecting data. After confirming the expert teacher participants and securing the participation of the administrators, the researcher will begin the process of data collection. The primary sources that will provide data for this study will come from a series of two interviews with the expert teacher practitioners and a subsequent interview with their principals. Secondary data sources will include

artifacts that teachers and administrators will be invited to share which document new learning that came about in a virtual space that has been shared within the expert teacher practitioner's home school and/or district.

It is important to note here that Phenomenological Reduction will be a guiding construct in the method of data collection and analysis used in the study. Husserl (1931) describes Phenomenological Reduction as a process of pre-reflection, reflection and reduction with the goal of uncovering the essential nature of a phenomenon.

Pre-reflection, or *Epoche* as it is known in Phenomenological Reduction, is described by Moustakas (1994) as, "a process of setting aside predilections, prejudices, predispositions, and allowing things, events and people to enter anew into consciousness, and to look and to see them again, as if for the first time." This process is crucial for the researcher to undergo prior to beginning interviews as it unearths personal bias that are a result of the experiences detailed in the section below. With this new self-awareness, the researcher will be better able to listen with openness in order to understand the experiences of the participants.

When collecting data, the researcher will conduct one-on-one, semi-structured, open-ended response interviews to attempt to capture the lived experiences of teachers participating in VCOPs and the perspectives of their principals. Creswell (2015) cites interviews to be among the most popular forms of gathering qualitative data and explains that they are typically conducted in either a one-on-one setting or in a focus group. Fetterman (1989) suggests that interviews are one of the most effective tools that qualitative researcher possesses and Patton (1990) expands on this premise explaining that observation alone does not allow a researcher to understand participants' feelings,

thoughts, values and intentions or to explore any behaviors exhibited prior to the observation taking place. Frankel and Wallen (2009) detail the advantages of face-to-face, one-on-one interviews as they allow the researcher to build better rapport with their participants, to create opportunities to ask follow-up or clarifying questions, and to provide a space where incomplete answers can be followed up on. Creswell (2015) emphasizes the power of open-ended questions as they encourage participants to “find their best voice as their experiences are unconstrained by any perspectives of the researcher or past research findings.” He asserts that open-ended responses have advantages over surveys and/or questionnaires as participants have more options and freedom when answering questions instead of being forced or boxed into one or more predetermined response choices. When developing the interview protocol, the researcher will work to cultivate a sense of respect, openness and trust with each candidate and to develop an environment where the researcher is able to probe for further information, to ask for elaboration, and to seek clarification of responses.

In the initial interview with the expert teacher practitioner, the researcher will work to develop a relaxed climate as suggested by Moustakas (1994) by engaging in a social conversation. Then, the researcher will ask a series of open-ended and follow-up questions geared toward developing an understanding of the teacher prior to their participation in a VCOP. Via participant responses, the researcher will work to ascertain each participant’s perception of the following:

1. The breadth and depth of their pedagogical and subject-matter knowledge
2. Their ability to monitor and adjust in the classroom based on the needs of their students

3. Their mindset towards teaching, their morale, and their perceived effectiveness in the classroom
4. The quantity, quality and diversity of the professional development experiences they had been afforded and the impact it had on their professional learning
5. How and the degree to which their personal learning was shared with other teachers within their buildings and/or districts

The information gathered in this first interview will provide an important context that will help the researcher understand how and the degree to which the phenomena of developing and interacting with a Professional Learning Network has helped the teacher grow.

During the second interview, the researcher will capture why the expert teacher practitioner decided to participate in a VCOP and to understand the lived experience of the participant with members of their Professional Learning Network. To do so, the researcher will ask the participants to describe the quantity, quality and diversity of professional development experiences they have had on Twitter via their PLN and how it is similar and/or different from their experiences in their schools. The researcher will question the impact that members of the participants' PLN has had on their professional lives and ask for examples of specific learning experiences that have occurred which have impacted their Human and Decisional Capital.

To look closely at new learning that has occurred as a result of the teachers' participation in a virtual space, the researcher will invite each participant to bring an artifact to the second interview and to be prepared to speak about if, how and to what degree this "next practice" has been shared within the teacher's school. Sinanis (2015)

utilized this practice in a similar study to document how principals' participation in a virtual space impacted their ability to be an instructional leader and how the principals' individual learning eventually impacted their entire school. In the course of his study, Sinanis felt it necessary to define what could be considered an artifact as participants' artifacts "ranged from the concrete and practical to the more theoretical and abstract." Sinanis explained, "The artifact could be almost anything that spoke to the type of professional development experiences the participants had as a result of getting connected on Twitter." For the purpose of this study, the researcher has adopted his criteria for an acceptable type of artifact. This criteria includes:

1. It has to be something the expert teacher practitioner initially learned about on Twitter
2. It has to be something expert teacher practitioner successfully tried out and eventually implemented in their school
3. It has to be something the expert teacher practitioner could describe in an interview

The final phase of Data Collection will involve interviews with each expert teacher practitioners' principal with the goal of gauging the principal's perception as to how the teacher's participation in a VCOP has impacted their Human and Decisional Capital. In a similar fashion, each principal will be asked to bring an artifact that evidences the teachers' new learning and to be prepared to discuss if, how and to what extent this new learning has been shared in their respective buildings.

Data Analysis

In his seminal work titled *Phenomenological Research Methods*, Moustakas

(1994) summarizes the steps of Phenomenological Reduction and includes the following:

1. Bracketing
2. Horizontalizing
3. Clustering the Horizons Into Themes
4. Organizing Horizons and Themes Into a Coherent Textural Description

An outgrowth of the process of *Epoche*, Starks and Trinidad (2007) define *bracketing* as “a self-reflective process whereby researchers recognize and set aside (but do not abandon) their prior knowledge and assumptions, with the analytic goal of attending to the participant’s accounts with an open mind” (p. 1376). Tufford and Newman (2010) describe three methods by which researchers engage in the practice of bracketing which include:

1. **Memos** written during data collection and analysis where researchers examine and reflect on their own beliefs and experiences while making sense of each participant's experience (Cutcliffe, 2003).
2. **Bracketing Interviews** where researchers are asked the same questions as their participants by an outside source to uncover and bring into awareness the researchers’ preconceptions and biases (Rolls and Relf, 2006).
3. **Reflexive Journals** started by researchers prior to the defining the research question and maintained during the processes of data collection and analysis (Ahern, 1999).

For this study, the researcher has elected to engage in writing memos to

accomplish the process of bracketing as the process done over the course of collecting and analyzing data can produce important insights on the part of the researcher (Glaser, 1998). Tufford and Newman (2010) expand on the benefits of this practice when they write, “Memoing one’s hunches and presuppositions, rather than attempting to stifle them in the name of objectivity and or immersion, may free the researchers to engage more extensively with the raw data.”

The next step that Moustakas (1994) outlines in this process is *horizontalizing*, where every statement, initially, is treated as having equal value. Then, statements irrelevant to the topic and question as well as those that are repetitive or overlapping are deleted, leaving only the *Horizon*. Fraenkel and Wallen (2009) explain that researchers then take these Horizons and clusters them into themes which are married into rich, detailed narrative descriptions of the phenomenon.

To accomplish this, after both interviews with each teacher participant and the subsequent interview with their respective principal have been transcribed, the researcher will begin a preliminary exploratory analysis by reading and rereading each transcript. Then, the researcher will utilize a coding process like that described by Creswell (2015) where data will be divided into segments and labeled with an inductive open coding process. These codes will then be scrutinized for overlap and redundancy and then synthesized into themes. Once these themes have been transformed into narrative descriptions, Comparative Qualitative Analysis between the perceptions of teachers and their principals will be completed. The chart below details this process:

Table 3

Research Questions, Data Sources, Methods of Analysis

Research Questions	Data Sources	Method of Analysis
To what extent has the participation of expert teacher practitioners in Virtual Communities of Practice impacted their levels of their Human Capital, Decisional Capital and Social Capital?	Transcriptions of semi structured interviews via www.rev.com conducted in person or through Skype, Google Hangouts, and/or phone conversations	Qualitative Data Analysis using open and/or axial coding via Phenomenological Reduction by Bracketing and Horizontalizing the assembled data to identify Themes, Patterns and Discrepancies between the responses of expert teacher practitioners
How and to what degree do these expert teacher practitioners perceive that their new learning obtained in Virtual Communities of Practice has been shared within their schools and/or districts?	Transcriptions of semi structured interviews via www.rev.com conducted in person or through Skype, Google Hangouts, and/or phone conversations	Qualitative Data Analysis using open and/or axial coding via Phenomenological Reduction by Bracketing and Horizontalizing the assembled data to identify Themes, Patterns and Discrepancies between the responses of expert teacher practitioners
To what extent do the administrators of these expert teacher practitioners who participate in Virtual Communities of Practice believe that this phenomenon has impacted the teachers' Human Capital, Decisional Capital and Social Capital?	Transcriptions of semi structured interviews via www.rev.com conducted in person or through Skype, Google Hangouts, and/or phone conversations	Qualitative Data Analysis using open and/or axial coding via Phenomenological Reduction by Bracketing and Horizontalizing the assembled data to identify Themes, Patterns and Discrepancies between the responses of the administrators of expert teacher practitioners
How and to what degree do the administrators of these expert teacher practitioners perceive that the teacher's new	Transcriptions of semi structured interviews via www.rev.com conducted in person or through Skype,	Qualitative Data Analysis using open and/or axial coding via Phenomenological Reduction by Bracketing and Horizontalizing the assembled data to identify Themes,

learning obtained in Virtual Communities of Practice has been shared within their schools and/or districts?	Google Hangouts, and/or phone conversations	Patterns and Discrepancies between the responses of the administrators of expert teacher practitioners
How do they compare?	Themes, Patterns and Discrepancies identified via Qualitative Analysis of semi structured interviews of expert teacher practitioners and their respective administrators	Comparative Qualitative Analysis between the responses of expert teacher practitioners and their respective administrators

Researcher Position

For the researcher, engaging in *Epoche* coupled with the purposeful writing of bracketing memos before, during, and after the data collection process proved to be pivotal as it fostered reflection of researcher’s experience as a learner in VCOPs via a robust PLN gathered via Twitter. At the outset of data collection, the researcher had been an active participant on Twitter for over three years, had amassed over 1,000 followers, and was learning with 1,227 people. The significant knowledge the researcher had with both the successes and limitations of this phenomenon resulted in predispositions which had to be brought to the forefront of the researcher’s thinking before trying to get to the heart of the experiences of the participants (Moustakas, as cited in Brennan, 2010).

Fraenkel and Wallen (2009) note two primary concerns in qualitative research which center around the impact of researcher bias and “the degree of confidence they can place in what they have seen or heard. They pinpoint a myriad of procedures for checking in on and enhancing validity and reliability including:

1. Interviewing individuals more than once
2. Using audio and video tapes when possible and appropriate
3. Using thick, rich descriptions to convey findings
4. Learning to understand and when appropriate, speak the vocabulary of the participant or group being studied
5. Asking one or more participants in the study to review the accuracy of the research report, or *member checking*
6. Obtaining an individual outside of the study to review or evaluate the report, or *external audits*.
7. Recording personal thoughts while conducting observations and interviews
8. Clarifying the bias the researcher brings to the study
9. Analyzing negative cases
10. Observing the setting or situation of interest over a period of time

In this study, the researcher will engage in the following procedures to enhance the validity and reliability of the data collected and analyzed including: (1) Interviewing individuals more than once; (2) member checking; (3) external audits; and (4) clarifying the bias the researcher brings to the study before, during and after the process of data collection.

In addition to these measures, the research design is built to include triangulation where the perspectives of the expert teacher practitioners are compared with the perceptions of their principals. Creswell (2015) defines triangulation as the process of corroborating evidence from different individuals or methods of data

collection in descriptions and themes in qualitative research. By speaking with the principals of the participants, the researcher intends to evaluate the degree to which participation in VCOPs has enhanced their practice and to determine to the extent that new learning the teacher gained from his/her PLN has been shared throughout their respective organizations.

Conclusion

Chapter III outlines the research methodology that will be utilized in this qualitative study examining the impact of teacher participation in VCOPs on their Professional Capital and on the development of next practices within the schools. Therein, the purpose of the study has been reiterated and the research questions have been reviewed. The researcher has detailed how the participants will be selected via a snowball sampling and data will be collected using a semi-structured, open response interview protocol. In the phenomenological tradition, the researcher will undergo the process of *Epoche* and implore the use of bracketing memos to identify preconceptions the researcher brings to the study. An open coding process will be utilized to horizontalize the data and to begin separating the responses of the participants into themes.

CHAPTER 4: FINDINGS

The findings of the interviews with the five expert teacher practitioners and their principals will be shared in this chapter which will be comprised of four parts. As the researcher is using a qualitative, phenomenological approach, the first part of this chapter will expand upon the Researcher Position component of Chapter III and a more detailed positionality statement will be provided. Here, the researcher will further develop how his experiences as principal of an elementary school, and as an active participant in a VCOP, were “bracketed” from the perspectives of the participants before, during and after the data collection process. In the second part of the chapter, the researcher will further describe the Data Collection and Analysis processes by sharing the Interview Protocols, delineating the first cycle of coding, and illustrating how careful analysis of these codes lead to the emergence of themes that mirrored the theoretical and conceptual underpinnings of the study outlined in Chapter II. In the third part of the chapter, each of the overarching themes will be explored and rich, narrative descriptions of the expert teacher practitioners’ experiences will be shared and supported with in vivo codes taken from interview transcripts. The chapter will conclude with a summary of the findings which will set the stage for Chapter V where the researcher will make recommendations and outline possible future studies.

POSITIONALITY STATEMENT

The researcher is currently serving his seventh year as principal of an elementary school in Nassau County, New York. Intrigued by a keynote address given by Dr. Bill Brennan about the possibilities for learning that exist in a digital space, the researcher got involved in Virtual Communities of Practice by way of Twitter in September of 2013. Prior

to that, the researcher's main outlets for professional learning involved attending conferences, reading professional texts, participating in district-based professional learning communities with administrators and teachers, and minimal networking with other educators in surrounding districts or in New York City where the researcher began his career. At that time, the researcher's only experience with social media was personal and recreational and relegated to the infrequent use of Facebook to stay connected with friends. At the outset of his experience, the researcher cautiously began following people with whom he had existing professional relationships like Christopher Lehman, a former lead staff developer at Columbia University's Teachers College and founding director of The Ed Collab, and Dr. Tony Sinanis, a past recipient of the New York State Elementary Principal of the Year Award who the researcher met previously while attending a conference. Then, the researcher began a process known by some as "lurking" where he would observe weekly gatherings focused on announced topics of interest called "chats" like #NYEDCHAT and he read the "tweets" of trusted users to see with whom they interacted with the most. The researcher would then "follow" the trusted users' top interactors which broadened his network and further increased his exposure to new ideas and resources.

Over the next three and a half years, the researcher became an avid user, a frequent participant in a host of Twitter chats, an occasional blogger and an advocate of using Web 2.0 tools as a means to grow professionally. As a principal, the researcher has also harnessed the power of Twitter as a means to communicate with families and to share what is happening in classrooms in real time. Some of the teachers in the school have also developed class Twitter accounts and they have been using this tool for similar purposes. These teachers in his school have also started following one another as well as other

teachers within the district which has forged new relationships and fostered the sharing of materials and instructional practice. While these experiences, which Sheninger (2014) might characterize with the Digital Leadership pillars of “Communication” and “Branding,” have been positive, it is unclear to what extent the teachers in the researcher’s school have taken the next step and fully embraced the idea of learning in this manner. This question coupled with the researcher’s personal experiences fueled his curiosity and shaped the topic of this study.

The researcher is bringing forward his experiences and beliefs for the benefit of the reader in hopes that this transparency will help add validity to the study. Before each interview, the researcher wrote bracketing memos as a means to distance himself and his positive experiences from the participants so that he could more objectively gather and analyze the data. During the interviews, the researcher made sure to touch upon perspectives presented in the research in Chapter II which questions the effectiveness of Twitter as a means of Professional Development. Specifically, the researcher asked for examples where the expert teacher practitioners found dissenting opinions and engaged in collegial discourse where beliefs and instructional practices were challenged. The researcher did so to examine assertions made by other researchers detailed in Chapter II that posit that VCOPs or PLNs can be “echo-chambers” where like-minded individuals gather for validation. Following each interview, additional bracketing memos were written to make clear distinctions between the researcher’s involvement in his PLN vis-a-vis that of the expert teacher practitioner.

PURPOSE, RESEARCH QUESTIONS, DATA COLLECTION, AND ANALYSIS

The purpose of this study was to evaluate the perceptions of expert teacher practitioners on the impact that their participation in VCOPs has had on the Professional Capital of their respective organizations. As discussed in Chapter III, the perceptions of these expert teacher practitioners would be compared with their administrators' perceptions as a way to ensure validity and reliability as well as to provide a more comprehensive understanding of each organization, specifically the organization's culture and the quantity and quality of interactions of teachers within the organization that focus on student learning and better pedagogical practice.

The first research question guiding this study relies on the theoretical framework Hargreaves and Fullan (2012) propose in their influential book *Professional Capital*. In order to answer the question - *To what extent has the participation of expert teacher practitioners in Virtual Communities of Practice impacted their levels of their Human Capital, Decisional Capital and Social Capital?* - the researcher felt it necessary to have a baseline understanding of the expert teacher practitioner prior to their involvement in a VCOP and their development of a PLN. As such, the following questions were integral in gauging each participant's perception of their Human Capital and Decisional Capital:

- Prior to your participation in a VCOP and your development of a PLN, how would you describe yourself as a teacher? What did you perceive to be your strengths and your passions? What did you perceive to be your areas in need of improvement?
- How would you describe your mindset towards teaching and towards your students prior to your experiences with a PLN?

- How would you describe your sense of morale before becoming active in a VCOP?

In a similar fashion, to answer the second research question - *How and to what degree do these expert teacher practitioners perceive that their new learning obtained in Virtual Communities of Practice has been shared within their schools and/or districts?* - it was necessary for the researcher to get a sense of each expert teacher practitioner prior to their participation in a VCOP as a member of his/her learning organization. The researcher needed to develop an understanding of the quantity and quality of interactions that occurred in the expert teacher practitioners' schools that centered on learning and promoted the development of good practice. Therefore, the researcher asked:

- Who supported you in your daily quest to improve? What resources were available to you for your own professional development? Please describe your experiences with professional development prior to your participation in a VCOP?
- What was your perception as to the degree to which your professional learning was being shared with other teachers within your building and/or district? What do you believe contributed to and/or what do you believe hindered that sharing to occur?

As described in Chapter III, the perspective of each participant's administrator was pivotal in ensuring validity as well as in providing a lens to explore to what extent knowledge gained by a teacher in a PLN is shared within an organization. To answer the third research question - *To what extent do the administrators of these expert teacher practitioners who participate in Virtual Communities of Practice believe that this phenomenon has impacted the teachers' Human Capital, Decisional Capital and Social Capital?* - and to triangulate the teacher's perspective of himself/herself and his/her

interactions with other teachers within their respective organizations, the administrator participants were asked:

- How would you describe _____ as an educator prior to his/her participation in a VCOP? Please describe their content/pedagogical knowledge, their motivation and/or their mindset towards teaching.
- How would you describe _____'s relationships with his/her peers and his/her social standing prior to his/her participation in a VCOP?

To better understand the phenomena that is at the heart of this study which is a teacher's participation in a VCOP by way of developing a PLN via Twitter, the researcher needed to understand what prompted each expert teacher practitioner to search for professional development in a digital space. To get to the essence of this experience and how it compared and contrasted to their experiences within their own schools, the following questions were explored:

- How would you describe the experience of collaboration and professional development via your PLN on Twitter?
 - Scanning and Storytelling - exchanging ideas, anecdotes and gossip
 - Help and Assistance - usually when asked
 - Sharing - of materials and teaching strategies
 - Joint Work - where teachers teach, plan, or inquire into teaching together
- How does this experience compare with the collaboration and professional development you have experienced at your school or in your district?

To grasp the impact that the phenomena had on each individual teacher's Human Capital, Social Capital and Digital Capital and to fully answer the first research question, the researcher asked, "How has participation on Twitter affected your professional life and development? Can you give a few examples?" To get the administrator's perspective on if and to what extent the teacher developed as a result of participation in a PLN, each administrator was asked, "How would you describe _____ as an educator after he/she began participating in a VCOP? Please describe changes, if any, in their content/pedagogical knowledge, their motivation and/or their mindset towards teaching."

From a Social Capital and knowledge sharing perspective, the researcher asked each teacher participant, "Have you shared any of the new learning you have gained from your PLN with your colleagues in your school and/or your district? If so, what did you share? How has it been received?" In addition, each participant was invited to share an artifact of that learning with the researcher to provide a greater context. To get a more global view of each teacher within their respective school and to what extent new knowledge gained in a digital space is shared, each administrator was asked, "How would you describe _____'s relationships with his/her peers and his/her social standing after he/she began participating in a VCOP?" and "To what extent has _____'s new learning been shared among teachers within your school and/or district? What do you attribute this to?"

As noted in Chapter III, all of the interviews were recorded and uploaded to a web-based transcription service called Rev. Once the interviews were transcribed, the researcher engaged in multiple, careful re-readings of the interviews and utilized an open-coding process to begin identifying themes. These initial codes can be found below:

Table 4

Open Codes Utilized During Initial Readings of Interview Transcripts

Expert Teacher Practitioner Interview #1	Expert Teacher Practitioner Interview #2	Administrator Interviews
Within Organization - Structural Barrier	Openness as Sharing	Within Organization - Structural Barrier
Within Organization - Relational Barrier	Openness as Collaboration	Within Organization - Relational Barrier
Within Organization - Cultural Barrier	Openness as Transparency - Vulnerability	Within Organization - Cultural Barrier
Impact of APPR	Openness as Empowerment	Administrator Support
Impact of CCSS	Scanning and Storytelling - Lurking	Safe to Fail
PD - Desire for Autonomy	Help and Assistance	Administrator - Learner's Stance
PD - Compliance	Sharing	Teacher Growth - Human Capital/Decisional Capital
PD - Did not resonate	Joint Work	Individual Learning to Organizational Learning
Isolation/Loneliness	Rejuvenation	Administrator as Social Architect
Competition	Validation	Innovator v. Early Adopter v. Early Majority
District Vision Doesn't Align With Personal/School Vision	Learning - Tech	Creative ways of sharing learning
Morale - Anger	Learning - Literacy	"Walking the Talk"
Morale - Frustration	Learning - Behaviors	Beginner's Mindset - Lack of Beginner's Mindset
Pre-PLN - Desire for Mastery	Divergent Opinions - Not an Echo Chamber	Absorptive Capacity

Pre-PLN - Desire for Purpose	Digital Leadership - Branding	“Connected” Educator’s learning v. colleagues
Within Organization - Not wanting to stand out	Digital Leadership - Communication	
Complacency	Digital Leadership - Professional Development	

At the conclusion of the open-coding process, the researcher eliminated all statements that were irrelevant to the topic and the research questions as well as those that were overlapping or repetitive. In the phenomenological tradition, the remaining *horizons* were then clustered into themes which are then used to develop rich, detailed narrative descriptions of the phenomenon being studied. The following themes emerged and they will be explored in detail in the next component of Chapter IV:

1. The Expert Teacher Practitioner Within Their Respective Organizations - Structural and Relational Barriers Within Organizations Impede Professional Learning
2. The Expert Teacher Practitioner Prior to their Experience in a VCOP - In Pursuit of Mastery, Holding Tight to Purpose, and Craving Autonomy
3. The Four Principles of the Open World and The Continuum of Collaboration
 - a. Openness as Collaboration - Scanning and Storytelling
 - b. Openness as Transparency and Openness as Sharing - Help and Assistance
 - c. Openness as Sharing and Openness as Empowerment - Sharing and Joint Work
4. How, To What Extent Is and At What Rate Is New Learning Being Shared? Innovators, Early Adopters and the Impact of an Engaged Administration

The Expert Teacher Practitioner Within Their Respective Organizations: Structural and Relational Barriers Within Organizations Impede Professional Learning

During the initial interviews when discussing opportunities for growth and support within their building and districts, every expert teacher practitioner and their respective administrators made reference to structural and relational barriers to professional learning that mirrored the research of DuFour and Eaker (1998) and Hord and Sommers (2008) outlined in Chapter II. Although the teachers and the administrators involved in the study expressed that they believed time for collaboration being built into the school day was essential, putting this into practice proved to be extremely difficult. Even when these structured opportunities were available to teachers, they were not always effective. Further, the unstructured opportunities within the building for this type of work to happen did not occur often enough or they were impeded by relational factors that did not allow for significant learning to take place.

Structural Barriers

When discussing opportunities for learning and professional discourse, Teacher B explained, “Let’s be honest, we all know that once the bell rings in the morning, people shut their doors and the circus begins. There’s really no time to, ‘Let me run across the hall and ask this person what they’re doing,’ or ‘Let me call somebody on the phone and see how to do this.’ You just can’t. Even though we would like to, you have all the kids around you and there’s no time during the school day.”

Teacher A detailed how the lack of time teachers on the same grade in the same school have to work and plan together lead to unsuccessful meetings. She explained, “We

just end up sidetracked a lot with the practicalities like report cards or when we are giving the next assessment - or we just haven't seen each other in days because we are all working. We are in our classrooms until lunch so when we have that time to sit together, it's hard to stay focused on the topic we committed to."

Teacher D explained an experience early in her career when she was the only sixth grade ELA teacher in a K - 6 school and the impact it had on her learning. She shared how departmentalization, where one teacher teaches reading and writing and the others teach different subject areas, lead to few opportunities for collaboration. While teachers met to discuss students they had in common, there was little if any opportunity within the building for her to discuss pedagogy and practice. She outlined how the district made attempts to bring the sixth grade ELA teachers together during conference days or after school meetings but lack of continuity and regular discourse made these experiences feel disjointed leaving Teacher D feeling isolated. Many times throughout the interview, she noted, "There was very little opportunity for collaboration" which made her feel as if she was teaching in a vacuum and on her own as far as how she might try to improve.

In a similar fashion, the design of Teacher C's district and school contributed to the structural barriers that hindered collaboration and sharing. The school consisted of Grades Four and Five taking in students from various K - 3 schools and teachers worked within a departmentalized system. Teacher C explained, "Teachers, we don't really have time to share in my building. There are nine teachers on each grade level, you eat lunch with half of your grade level, and you don't necessarily have common prep time with the same people. There are no grade level meetings. It is hard to have that kind of sharing and discussion." When we discussed opportunities that might exist after the school day,

Teacher C explained how her district stopped having teachers teach in-service courses which contributed to her feeling like she was working within a learning impoverished setting. She elaborated, “This drove me crazy because the PD we were being given in the district came just from our administrators, and there was nothing teacher-driven. There was nothing that the teachers wanted to do - we weren’t getting to learn from the expertise of our colleagues. It was just all told to us.”

Teacher E’s experiences were similar with regard to there being few opportunities for formal meetings to occur. She explained how common planning times were not scheduled and teachers and classes on the same grade level did not eat lunch at the same time each day. She expressed how she thought mixed grade level teachers eating together might have promoted some informal vertical articulation but what resulted was “internal bickering” that pushed people away from one another. When describing this experience, she stated, “You were at lunch with a mixture of grade level teachers, which is fine, but then it became almost like, ‘My fifth graders can’t write a sentence.’ Then, third grade teachers would respond, ‘But I taught that and they left me writing a sentence, so why aren’t they writing sentences for you?’” Teacher E’s description of this experience evidences how structural barriers can lead to or reinforce the relational barriers which will be examined below.

Relational Barriers: Complacency, Competition, Isolation and Vulnerability

When examining the transcripts of the interviews, it was readily apparent that the relationships between teachers and the culture in each of the schools also had a significant impact on the sharing and collaboration that teachers were experiencing. While all of the expert teacher practitioners involved in this study celebrated their colleagues and praised

them as hard-working and dedicated professionals, they admitted to struggling to find a level of passion or love for professional learning that matched theirs within their respective organizations. When asked if Teacher A experienced the same open, excited, participatory culture that she finds in her PLN within her own school, she explained, “Sometimes there is not always the same level of enthusiasm for wanting to read a new professional book or come up with a new idea.” Teacher D expanded on this theme in our conversation as she described a sense of complacency among some of her colleagues. She stated, “Some teachers do what they need to do and that is it. When something new is shared, sometimes it is perceived as - ‘No, we don’t really need to do that. We are good the way we are.’ Other teachers do what they need to do and then they do more to make themselves better.” Teacher B reflections brought forward similar ideas about risk-taking and mindsets as she added, “We talk a lot about mindset, how we want our kids to try new things and be open. But a lot of teachers get set in their ways and stuck in what is comfortable. If it is working for me, that’s it. Oh yeah, it looks kind of fun, but that’s okay. I’ll stick with this.”

Two teachers in the study made reference to the impact this complacency had on them “not wanting the spotlight” and how sharing new practices or bringing forward new resources caused perceived feelings of animosity or judgment. Teacher A explained, “I feel like sometimes that is our culture in teaching, that you don’t want to stand out too much, or you don’t want to do or make that extra thing because then other people will say now I have to do it too. Sometimes teachers are afraid to be great because of how it will be perceived by other teachers in the building.” She spoke about feeling the need to be “almost apologetic” for being openly passionate about teaching and about the contributions she was making in her school and to the profession via her PLN.

Teacher C described similar “self-conscious” feelings and a perceived sense of unhealthy competition within her school which she believes came about as a result of the district’s Annual Professional Performance Review plan. Within the plan, teachers needed to submit artifacts monthly to support the work they are doing in their classrooms. Teacher C explained how submitting more documents than other teachers was frowned upon and how publicly sharing a lesson or a resource created a lot of friction. She stated, “You had to keep quiet about anything you did. If you were going to do a Donors Choose Project, you better not talk about it, because someone’s going to criticize that you actually did it. You really didn’t want that kind of attention.” She explained how her school became a “closed door type of environment where you just did your thing. If you tried something new in your classroom - leave it at that. Don’t make waves.” Despite this, Teacher C felt compelled to contribute to her school and did so through her principal. Teacher C and Administrator C both shared how Teacher C would share her ideas with him and he would present them to the staff via memos or through email.

Teacher A spoke about how this perceived sense of competition coupled with the pressures of the evaluation system impacted her willingness to admit things she did not know a lot about which in turn limited the rate with which she could grow professionally. She stated:

When I’m learning online, there is no evaluation. No one is evaluating what I’m learning or how I’m learning it. In school or in-district professional development, I feel like you can’t be quite as honest because there’s the expectation that you’re a professional who knows what they are doing, so you can’t really say - “Gosh, I don’t know how to do this” or “I’m not really great at this.” You’re supposed to

know how to do it. It doesn't feel quite as safe to admit that you don't know how to do something or that you have a lot of questions on it, where online, you can just be really honest or just find out as much as you can.

Teacher E made a similar observation in her powerful description of the relational barriers that exist in her school which she likened to "The Hunger Games," where it was "survival of the fittest." She described experiences earlier in her career where she would walk past other teacher's classrooms and see the use of a new manipulative or some other strong practice and be afraid to ask questions. She explained how this aspect of the culture in the building coupled with the insecurity that comes from being a new teacher made her feel uncomfortable being vulnerable. She summed up this experience stating, "It can be really isolating. You feel like you are in your own little place. You were something. You weren't a part of something."

**The Expert Teacher Practitioner Prior to their Experience in a VCOP:
In Pursuit of Mastery, Holding Tight to Purpose, and Craving Autonomy**

During each of the interviews, the expert teacher practitioners presented as intrinsically motivated individuals who exemplify the three elements of "Motivation 3.0" that Daniel Pink (2009) writes about in his book *Drive: The Surprising Truth About What Motivates Us*. As noted in Chapter II, these elements are **mastery, purpose** and **autonomy**. When examining transcripts from the researcher's conversations with the teachers, the themes detailed below emerged.

In Pursuit of Mastery

During our interviews, it was evident that the five teachers involved in this study were in pursuit of **mastery** which Pink (2009) describes as getting better each day at our work - a pursuit which many find to be incredibly motivating. Pink notes that mastery requires three particular rules which the expert teacher practitioners touched on during their interviews. These rules are as follows:

- “Mastery is a mindset: It requires the capacity to see your abilities not as finite, but as infinitely improvable.”
- “Mastery is a pain. It demands effort, grit and deliberate practice.”
- “Mastery is an asymptote: It is impossible to fully realize which makes it simultaneously frustrating and alluring

All five of the teachers involved in the study expressed a strong desire to continually improve. In the first interview where the researcher focused on the teacher prior to participation in a PLN, Teacher B’s experiences truly captured Pink’s first and third rule. While Teacher B expressed satisfaction in her connections with her students and in her relationships with their parents, there was an underlying sense of curiosity as “to what else was out there” and an “alluring frustration” as what she “did not know what she didn’t know” with regard to how she could improve her practice. As a teacher who spent her entire career in the same school in the same district, she acknowledged a narrow perspective stating, “I really didn’t know what was happening in education or where it was going. I learned from the teacher next door. ‘Oh what are you doing? Alright, I’ll try that.’ Looking back now, I could see how that could’ve gotten old really fast.” Retrospectively, she explained, “I didn’t realize how great it could be or how great the potential is until I found out what else was out there.”

Teacher A's experiences were very similar. Multiple times in our conversations, she used the word "better" and made statements like, "I've always been somebody who's been looking for more. I feel like to be a better teacher, I'm always trying new things that will help my students. What can I read about? What can I learn more about?" Pink's second rule, "Mastery is pain. It demands effort, grit and deliberate practice," was also very apparent. In her interview, she explained how in 2001, after a very difficult first year teaching, prior to the invention of Twitter, she took part in a voluntary 18 day summer institute geared towards improving her teaching of writing. Teacher A explained how this experience not only honed her teaching of writing but it also sharpened her resolve and "gave her the courage to go back and try again." Her grit was clearly visible when Teacher A spoke about how she would actively source and consume the digital resources that were available to her at that time. She cited web-based resources like "Virtual Mind," "Dr. Jean," and "Kindergarten Corner" as places where she would go to find other resources that were not readily available to her in her school. She expressed a keen interest in reading books that memorialized other teachers' experiences citing texts like *Diary of a First Year Teacher* by Esme Raji Codell. Administrator A confirmed Teacher A's hunger to learn prior to participating in a VCOP stating, "She was very well-read. She had done a lot of research. I'm inspired and awed by the amount of books she reads and how that information has given her voice credibility among members of our staff."

Administrator C shared that Teacher C was someone who was "always a learner." He spoke about her love of literacy and how she sought out her own professional development by attending as many conferences as she possibly could. Teacher C expanded on this by discussing local professional opportunities she attended which were funded by

the district as well as other out of state conferences that she paid for on her own. Though she found some value in these opportunities, she explained how she would leave some of these experiences “uninspired” stating, “A lot of things that I went to, I just didn’t feel like I was taking much that I could apply. It was more theoretical - not really things that you could apply when you go back to your classroom.

Similarly, Administrator D and Administrator E indicated that their respective teachers were people who actively sought out their own professional development opportunities in an effort to improve. Teacher D, a sixth grade ELA teacher at the time, earned a degree in Literacy from Columbia University’s Teachers College and described herself as an avid reader of adolescent literature which helped her bring high-interest pieces of text into her classroom. Teacher E, a thirty year veteran, described herself as a lover of professional books who read anything published by literacy experts like Lucy Calkins and Kyleen Beers. In addition to her work in the classroom, she trained with Gay Su Pinnell and Irene Fountas to hone her ability to differentiate reading instruction and she served as a Literacy Coordinator within the district for 13 years. Like the others, she was someone who has always and continues to see her abilities as infinitely improvable.

Holding Tight to Purpose

When discussing The Purpose Motive, Pink quotes Hungarian psychologist Mihaly Csikszentmihalyi stating, “One cannot lead a life that is truly excellent without feeling that one belongs to something greater and more permanent than oneself.” As one might expect, the five teachers that took part in this study expressed that they felt a true sense of purpose towards their profession at the outset of their careers. They spoke about teaching as something they were destined to do citing their love of children, their desire to help others,

and their yearning for the “light bulb moment” when a student finally grasps a concept or realizes what inspires them.

Though each teacher was at a different stage in their careers in 2009 when President Obama and Secretary of Education Arne Duncan announced the “Race to the Top” grants, four of the five teachers spoke about the impact that this initiative and subsequent policies and practices adopted by states and local districts had on their sense of purpose and their relationships with other educators. During the interviews, APPR, or performance based evaluations for teachers which relied heavily on student performance on state and local assessments, and the adoption of the Common Core State Standards, were referenced time and again.

During our interview, Teacher B spoke about how “the flame” that burned brightly in her during her first years as a teacher was diminished because of legislation that “made students and teachers numbers.” She noted, “In the past few years, there are many things happening in education that not everybody is thrilled about.” She cited “unhappiness” and “feelings of negativity” which began to permeate her experience when her district and school began addressing the new standards by adopting more advanced text level expectations for students which many questioned if they were developmentally appropriate. This was exacerbated when the district implemented a new program which limited student choice in text and required struggling readers to read pieces of text that were far beyond their independent reading levels. Teacher A noted, “I felt like with CCSS and the changes to Kindergarten, it was really a hard time for me as a teacher. I felt like I didn’t philosophically agree with what we were doing. I didn’t like giving multiple choice tests to Kindergarteners. I didn’t like giving them 100 sight words to memorize.” She went

on, “I felt like there was negativity in how I felt, even towards the students because I felt that my evaluation now depends on this five year old being able to rattle off letters. It just made me feel almost angry sometimes at the students and their families because they were not putting forth more effort.” She stepped back saying, “That’s terrible. That’s not why I became a teacher but that is how I felt if I am being honest. I was not happy - I was like ‘Oh God, what am I doing?’”

Teacher C acknowledged how this legislation, coupled with other factors, contributed to a decline in her purpose motivator and feelings of unfulfillment where the profession she loves began to “feel like a job.” Though her work ethic had not changed, she spoke of this time in her career as “just going through the motions” and she expressed a need to rediscover joy so that she could communicate a love of teaching and learning for her students. Administrator C’s insights shed additional light on this as he described the impact that APPR and the roll out of the Common Core State Standards had on the morale of teachers in his building. He noted how the district’s rushed attempt to be responsive to the new standards led to the adoption of new curriculum which the teachers were not sufficiently trained on. He added, “Now you put the testing piece in there, that totally destroyed morale. Our district was totally driven by tests and by numbers and some of our teachers were receiving scores of 1 on their local and state assessments. It killed them.”

Teacher E, who referred to her school as “survival of the fittest” prior to 2009, noted how the legislation further promoted feelings of isolation. She stated, “With APPR and state testing being so important in some people’s eyes, it was hard. She discussed how “being scored” prompted teachers to be more reticent to share the great things happening in their classrooms. She continued, “We all pulled away from each other, went into our

rooms, shut our doors, and taught. We didn't say, 'Well, I just did this lesson and it didn't go well. What do you do that made your kids get more successful.'"

The responses of the expert teacher practitioners and their principals equate APPR to the "carrots and sticks" motivators which Pink (p. 36 - 37) asserts provides organizations with "less of what they want." He offers what he refers to as "The Sawyer Effect," which he explains when he writes, "Rewards can perform a weird sort of behavioral alchemy: They can transform an interesting task into a drudge. They can turn work into play. And by diminishing extrinsic motivation, they can send performance, creativity, and even upstanding behavior toppling like dominoes."

Craving Autonomy, Direction and Ownership

The final component of what Daniel Pink refers to as Motivation 3.0 is autonomy and it consists of four parts which really resonated during the interview process. The four parts of autonomy outlined in *Drive* include **Task**, **Time**, **Technique** and **Team**. To summarize, in order for intrinsic motivation to be a reality, individuals need autonomy over what it is they want to work on, to study or to create; when and with whom they want to work; and how they will go about accomplishing the task they have developed.

With regard to time and team, all five participants noted that nearly all professional development they have experienced prior to their involvement in VCOP was scheduled by administration and typically involved meeting with a group of colleagues determined by the grade level they were assigned. Most times, this professional development occurred during school hours or after-school during predetermined times outlined in the teachers' contracts. Typically, the task, or what was to be studied, and the technique, or how it was to be examined, were determined by the administration and/or an instructional coach.

Teacher D who held the most favorable view of the professional development she was offered explained how these decisions were responsive to needs the teachers were experiencing and changes occurring within the district. She shared how her district had adopted a 1:1 technology plan where each child would receive a ChromeBook and utilize the various applications available in the Google Apps for Education Suite. The training provided was “what was needed and what was wanted” by teachers prior to their students receiving their new devices. However, when speaking about a professional book that was selected by administration for the teachers, she explained, “We were a little bothered by this because we *had* to - We were given the text, told to read it, and to bring concepts from the book into our classrooms without being asked or told why.”

Teacher B described meetings during the day with a literacy consultant hired by the district and her predetermined number of hours after-school with her grademates as “contractual obligations” and an “imposed structure that was put upon us.” She continued, “This is compliance. This is what we (the district) were doing. This is what the district decided and we were going to learn what, when and with whom the district said we had to.” She questioned the longevity and legitimacy of these district-imposed structures, calling to mind a day where she and other teachers worked together to develop a new Unit of Study. She noted, “It was a big long day, and a year later, the binder was tossed in the garbage.”

Teacher A expanded on this, “Learning with my PLN is more self-driven. It’s kind of like I’m seeking answers to things I’m questioning or things I’m seeing in my students. I want to know how other people are handling it. I want to get better at something. It’s really authentic and something I care about and want to get better at for real reasons in my

professional life. I think sometimes district PD is predetermined, it's the district's direction which is not always something I'm personally interested in or believe in."

As noted above, Teacher C did have the opportunity to attend some self-selected professional development meetings which were more often than not a "one-timer" that resulted in her learning something new but it failed to "take off" within her building. She attributed this to a lack of focus or direction from administration stating, "I wish - administrative-wise - there was more of a follow-through or a commitment, or something." She went on to explain how the autonomy she was given in the classroom, and in some of her professional development decisions, was given without a compass or a "North Star" or with a plan as to how that new learning would be shared systemically with the teachers in the district. She explained how this resulted in these conferences feeling random and disconnected to the work she was doing daily. She noted, "This has become frustrating to me, but then at the same time, if administration told me what my ELA curriculum was or what my professional development had to be, I wouldn't be happy with that either."

Teacher E's experiences as the district's Literacy Coordinator provided other interesting insights with regard to teacher ownership. She explained how individually, she looked at the district's ELA data to identify trends or groups of students who were not making progress. Then, she would consider if the issue was a class issue, a grade level issue, or a systemic problem that needed to be targeted. Then, she would push into teachers' classrooms and demonstrate lessons intended to address the diagnosed areas of weakness. Voluntarily, the teachers would meet with her at 6:30 a.m. one day per week because they wanted to improve but there was an expectation that they would receive planned lessons from Teacher C to use with their classes afterwards. Teacher C reflected

back on the process and explained, “The teachers weren’t internalizing it. They didn’t own it. They didn’t get down and dirty with the data.” She speculated that if there was a team of teachers invested in the data analysis and decision-making process, her colleagues would not have felt “forced” to engage in this work and many of them might have been as energized by it as she was.

In summary, the descriptions of the experiences of the expert teacher practitioners involved in the study were carefully constructed to give readers an understanding of their Professional Capital prior to their participation in a VCOP and to illustrate the school-based learning communities in which they work. In short, each teacher was an intrinsically motivated individual with a strong desire to learn who exemplified proficiency and/or excellence with the current educational practices embraced by their schools and districts. To varying degrees, the teachers expressed frustration and discontent with regard to changes in standards, with the level of autonomy they had in their professional learning, with the evaluation process, and with the structural and relational barriers within their organizations that at times made it difficult to learn.

The Four Principles of the Open World and The Continuum of Collaboration

The expert teacher practitioners involved in this study described how their experiences within a VCOP by way of their PLN were ripe with collaboration. As explained in Chapter I, the Continuum of Collaboration proposed by Judith Warren Little (1990) and quoted by Hargreaves and Fullan (2012) in *Professional Capital* would be used to explore the degree to which the expert teacher practitioners were able to engage in deep and meaningful learning experiences with members of their PLNs. The levels of this Continuum of Collaboration include:

1. Scanning and Storytelling - exchanging ideas, anecdotes, and gossip
2. Help and Assistance - usually when asked
3. Sharing - of materials and teaching strategies
4. Joint Work - where teachers teach, plan or inquire into teaching together

After careful examination of the data gathered with regard to the lived experiences of the expert teacher practitioners with members of their PLN, the Four Principles of the Open World that Tapscott alludes to in his 2012 TED Talk were readily apparent. These principles which include Openness as Collaboration, Openness as Transparency, Openness as Sharing, and Openness as Empowerment were important themes that emerged during the semi-structured interviews with the teacher participants in this study.

Openness as Collaboration - Scanning and Storytelling

At the outset of their experiences on Twitter, the expert teacher practitioners referred to the power of “scanning and storytelling” as the “tweets” and pictures shared by other educators brought to light new technology tools as well as unfamiliar and powerful texts that teachers are enjoying with their students. They also highlighted links to articles and blog posts relating to pedagogical practices that either confirmed or challenged existing belief systems which had a direct impact on the work they were doing in their classrooms. They explained how this fueled them with curiosity, positive energy, and the courage to begin taking risks in their classrooms.

Teacher B stated, “At first, you’re what they call a lurker - you’re just reading and reading and reading. You’re not sure if you could jump in, almost like testing the waters in a cold pool. You just test a little bit.” She went further to explain how even this basic involvement had tremendous benefit for her as the users she followed would “attach a great

article or a link to a blog post or a picture of something they created with their kids.” The broader her network became, the more and the faster she learned new things which directly impacted her classroom instruction. Administrator B’s comments during our interview confirmed this as he stated, “I saw how her experiences with her PLN were impacting her in such a short amount of time.” With regard to her motivation and spirit, Administrator B explained, “It was her energy. She was really excited and she was taking chances and trying different things.” The impact on her practice came shortly thereafter as she became an ambassador for technology in the primary grades in her school. Administrator B noted, “I was seeing things in her classroom that I wasn’t seeing anywhere else in our school, or even in the district.” At first, this was evidenced in her use of Twitter to share what was happening in her classroom and it evolved into a global project where her class from a suburban neighborhood in Long Island was participating in Skype calls and Google Hangouts with other kindergarten classes in Asia and Europe as the students collaborated on an international teddy bear exchange project. It has continued to evolve to a state where her Kindergarten class is the only 1:1 primary class in the entire district and her students are using ChromeBooks and iPads to blog and maintain online portfolios to share their progress in real time with their parents. These aspects of her work will be further explored later in the chapter in the section titled *Openness Is Empowerment*.

Teacher C and Teacher E also made use of the term “lurking” when describing their initial foray into the Twitterverse and the infancy of their work with their PLNs. Teacher C expressed initial skepticism towards the use of social media and questioned what, if any, learning could be shared in 140 characters or less. However, she began following different educators and children’s authors explaining, “It took me a while before I became someone

who interacted on Twitter, but I would follow. Then, it would lead me to reading blog posts or reading articles or things like that. What changed my mindset was when I found out that I could learn and grow.” Teacher E noted some initial frustration at the outset of her “lurking” experience as she did so while attempting to partake in weekly Twitter Chat that centered around Dave Burgess’ book *Teach Like a Pirate*. She stated, “I found the Twitter chat to be a very difficult thing to follow because it was a huge chat. There were what seemed like hundreds of people participating and the tweets were going so fast that I could not read them.” She explained how she persisted each week and how “lurking and listening” to the comments of other educators brought the book to life.

Teacher A’s initial experiences with her PLN mirrored much of what Teacher B, Teacher C and Teacher E explained with regard to exposure to new tools and instructional practices. She shared, “What is so cool about learning on Twitter with my PLN is that there are things people are “tweeting” about that were foreign to me. I almost feel like it is being at the mall - you find all these other places - all these other stores. I didn’t know about all of these things until I became ‘connected’ and now I can’t imagine teaching without them.” She made reference to “Two Writing Teachers” and “The Nerdy Book Club,” two teacher blogs maintained by self-organized teams of teachers from across the country who write about strong practices in writing instruction and new “must reads” in the field of children’s literature. Administrator A noted the impact of Teacher A’s participation in her PLN as her knowledge base and level of comfort in a new grade level grew exponentially.

Administrator A explained that this knowledge first manifested itself in her existing passion for reading and writing stating, “It’s about books, it’s around new titles and authors that many teachers haven’t yet learned about. It is evident in her commitment to making

sure that her students are well read across genres, in her participation in things like Global Read Aloud Day, and in her connections with authors who often Skype with the students in her class.” Administrator A shared how her scanning and storytelling brought forward a new area of strength in Teacher A explaining, “She has the broadest knowledge base about the different apps and technology tools that are out there and there are things happening in her classroom with technology that are not happening in other classrooms in our school.” Administrator A added that Teacher A is working with the instructional coaches in the building to find ways to align Teacher A’s passion and new found interest in technology with existing curricular content.

Teacher D’s experiences were very similar to Teacher B’s as her school and district administration had embraced Sheninger’s Pillars of Digital Leadership outlined in Chapter II, namely the Pillars of Communication and Branding. She explained how her principal and the district’s Executive Assistant for Technology Integration and Curriculum Support and Development encouraged teachers to begin posting images of students working as well as actual student work as a means of communicating with parents and contributing to the district’s brand. Teacher D explained how she started “tweeting” thinking routines and student work that reflected new techniques she learned at Harvard University’s Project Zero which are captured in *Making Thinking Visible* by Mark Church, Karin Morrison, and Ron Ritchhart. She shared how educators in her district and others began following her and she reciprocated stating, “I’m posting and people will retweet the thinking routines I shared and then I’ll follow them back. It just happens naturally. I just think the more you follow and the more time you spend on Twitter just looking at different work, the more you learn.”

Teacher D and Administrator D spoke about Teacher D's growth through the lens of technology as their district was just beginning a 1:1 technology plan. During the second interview, Teacher D shared her artifact which she felt best represented how the learning she has done in a virtual space has impacted her instruction. She referenced a series of lessons she created using Actively Learn, a digital reading platform that allows teachers to customize instruction and insert scaffolds like videos directly into text which Teacher D noted has enhanced interest and understanding. While Administrator D highlighted Teacher D's growing knowledge of the technology available, he did not just celebrate the tools she was using explaining, "It's not the tool, it is how it is being used." Proudly, he highlighted how apps like PearDeck, Quizlet and Actively Learn had refined her pedagogy, specifically in the areas of student engagement, assessment and feedback.

Openness as Transparency and Openness as Sharing: Help and Assistance

In the *The Four Principles of the Open World*, Don Tapscott speaks about "Openness As Transparency." He speaks about technology becoming more and more ubiquitous and how the ease of access to information is resulting in "institutions becoming naked." He compares this to "sunlight" being "a disinfectant" and expresses that this is a good thing as it requires the organizations to communicate with good values and integrity. In her book titled *The Power of Vulnerability: Teachings on Authenticity, Connection and Courage*, Brene Brown (2012) takes this idea from an organizational perspective to a personal level and she questions, "Is vulnerability the same thing as weakness?" She acknowledges what was described above with regard to some of the expert teacher practitioners and their unwillingness to ask questions or admit what they don't know within their respective organizations. She writes, "We associate vulnerability with

emotions we want to avoid like fear, shame and uncertainty. Yet we often lose sight of the fact that vulnerability is also the birthplace of joy, creativity, authenticity and love.” These two very powerful ideas were very much a part of each expert teacher practitioner’s experience within their VCOPs and will be examined through the second tier of Judith Warren Little’s Continuum of Collaboration - Help and Assistance.

During her interview, Teacher E spoke about the power of vulnerability and her first experience asking her PLN for help and assistance.

Oh yeah. It’s like lifting weights off of yourself, when you allow yourself to be a little bit more vulnerable. And Twitter allows that, because I don’t have to sit face-to-face with you and say I don’t know it. I can just send out a tweet - Does anyone know anything about standards-based grading, and how that looks on a report card?

I sent that, that’s a tweet I actually sent out, maybe two years ago or three years ago, because we were going through some real report card angst, and I was frustrated, and I couldn’t understand why things were going the way they were going, so I sent that out. Within minutes, I had maybe 100 responses as well as a few direct messages - Do this, do that, try this, try this resource, come to my school and look at this, I’m going to send you a PDF of that.

It felt like seconds later, and I only had maybe 75 followers at the time. So I was like, this is kind of cool and no one knows that it is me that doesn’t know this. So it allows a bit of freedom, but it also allows you then to take that information and

mold it into where you are, as opposed to the district saying do this, and you are trying to fit a square peg into a round hole. I could take it and think it through, put my own thoughts together, and then take my own version to my students and my colleagues.

This lengthy excerpt from Teacher E's interview was a critical one as it speaks to the power of the open and participatory culture that all of the expert teacher practitioners described when they asked their PLN for help and assistance. It also captures the third principle that Tapscott spoke about - Sharing. Here, he speaks about sharing as "embracing the commons" and "the giving up of intellectual property."

Teacher B spoke about her first venture asking for help and assistance with her PLN when she posed a question to a teacher in Vermont asking about student blogging. At first, the teacher corresponded with her via tweets which turned into direct messages and eventually into a digital face-to-face via Google Hangout. Teacher B, concerned if her Kindergarten students would be able to do this work, questioned, "How do you do that with five year olds? They can barely write?" The teacher from Vermont sent her samples of her students' work which she used as exemplars for her students. Teacher B shared her work and feedback was provided multiple times before the teachers decided to have their students share their work with one another.

The experience that Teacher C shared about asking for help and assistance was also very powerful as it took place with her students present and they were witness to the sharing that took place in the virtual community that their teacher was a part of. During a Read Aloud, one of Teacher C's students questioned whether or not the author of a book

writes their own author biography. They were curious if the authors wrote about themselves in the third person or if the biographies were written by other authors. Teacher C stated, “I tweeted three or four different authors in my PLN just to ask that question, and we had answers. Within five minutes, I had at least two responses and I received another one later in the day.” She reflected, “This gives me access to things that I couldn’t provide for the kids and answers I never would have had.”

Teacher D shared a powerful experience as to how asking your PLN for help and assistance can yield significant dividends not only for an individual teacher, but for an entire district. While “lurking” on Twitter, Teacher D became curious about a strategy called #BookSnaps that some teachers were sharing which made use of a popular social media tool to engage students and give them a contemporary means to make their thinking visible. These educators were sharing images their students created using the popular app SnapChat, where they would take pictures of poignant quotes and illustrations from books they were reading, add animations and personal reflections, and then share them via Google Classroom, SnapChat or Twitter. After reaching out to one of the teachers, Teacher D found out that students working in book clubs were doing this work between meetings as a way to stay connected with one another and to heighten anticipation for the next book club meeting. The teacher shared how this practice enhanced engagement and made students want to participate because they were using a tool that was fun and relevant to them as 21st century learners. Teacher D shared this with Administrator D who in turn invited the teacher to the district to do a series of afterschool professional development workshops. Administrator D noted how the workshops were closed out in less than a day

and that teachers were planning on attending despite the fact that they would not be receiving salary or professional development credits for participating.

Teacher A provided two very gripping examples of the power of asking for help and assistance in a virtual community. First, she shared her class website, the artifact which she felt encapsulated all of the learning with regards to literacy and technology that she gained via her participation in a VCOP. She explained how this was created after she took part in a virtual book talk around the book *Digital Reading* by Franki Sibberson where a member of her PLN talked about the importance of having a “digital hub” for students in the classroom that celebrates their work in literacy. Teacher A explained how she reached out to many of the teachers who took part in this study as she created the class website using Weebly, a website design tool that was totally foreign to her. As she shared the site with the researcher, she explained how the incorporation of screencasts and the use of Padlet as collaboration space for her students were ideas that were shared by members of her PLN that have brought the website to life. She stated, “I would not have known about any of this if it wasn’t for my PLN.”

The second example she provided was even more powerful and it occurred after she had established herself as a highly active participant in her PLN. She shared:

This summer, Dr. Mary Howard had written a blog post about the use of ClassDojo (a behavioral management application that connects teachers, students and parents and makes use of classroom economy system). In her post, she spoke negatively about the use of the app but I used it last year and I really didn’t agree with what she wrote. She, and other readers, were comparing ClassDojo to behavior charts which is something that I had gotten away from.

Through a conversation with her and a couple of other educators, I pushed my thinking and I started reflecting. Maybe I could do the things I like about ClassDojo without the idea of points, because some children never get the points and some children always do - so what am I really teaching them? I was rewarding the same students over and over again. I hadn't really seen it that way until that conversation. I think that is something that my PLN has done for me professionally. Sometimes, it can help you change your mind about classroom practices.

It was a really respectful conversation, the exchange, because sometimes people pushed back other people's ideas but no one was like, "Well, that's the worst thing in the world." Because the exchange was so respectful and involved thoughtful questions, it led me to say, "Ok, yeah - I can see that."

Of all of the examples that Teacher A provided to illustrate how she was able to ask her PLN for help and assistance, the researcher chose to include this particular sample as it refutes two proposed limitations of VCOPs that were presented in Chapter II. The first limitation this anecdote debunks is that VCOPs or PLNs are composed of "like-minded" individuals which may result in a lack of dissenting opinions creating what has been referred to as an "echo chamber." Clearly, the blog post cited by Teacher A sparked a meaningful conversation about classroom management and behavior modification strategies which resulted in a meaningful change in Teacher A's practice. The second limitation that this excerpt challenges is the idea that the public nature of PLNs create a

panoptic effect where users do not offer their true feelings out of fear of who will read their posts. Teacher A's comments suggest that the public nature of Twitter encouraged more respectful debate where participants provided more than just personal experience to validate the claims they were making. While this level of citizenship might not be the norm in some social media spaces, it might be more common within a PLN where mutual respect has been fostered through the telling of compelling stories and relationships have been cultivated with vulnerability and sharing.

The rich descriptions of the experiences of the expert teacher practitioners and their administrators in this section have been gathered and shared through the lenses of Judith Warren Little's Continuum of Collaboration where Scanning and Storytelling, Help and Assistance and Sharing have been highlighted. The details therein provide concrete examples that begin to answer the following research questions:

- To what extent has the participation of expert teacher practitioners in VCOPs impacted their levels of Human Capital, Decisional Capital and Social Capital?
- To what extent do the administrators of these expert teacher practitioners who participate in VCOPs believe that this phenomenon has impacted the teachers' Human Capital, Decisional Capital and Social Capital?

The excerpts culled from the interviews were carefully selected to illustrate the diversity in the learning that has resulted from the expert teacher practitioners' participation in their PLN. Advancements include a more robust knowledge of children's literature and standards-based grading, familiarity with a myriad of stronger practices in literacy instruction, better decision-making with regard to classroom management and student

behavior, and enhanced student engagement through the thoughtful use of technology and social media.

Openness as Sharing and Openness as Empowerment: Sharing and Joint Work

The section of Chapter IV above examines the principles of “Openness as Transparency” and “Openness as Sharing” where the expert teacher practitioners were the beneficiaries of knowledge shared by other educators in their PLNs. In the previous section, the vulnerability of the participants was described as were the benefits of them asking for help and assistance within a virtual space. In this section, the principle of “Openness as Sharing” will be explored where the expert teacher practitioners became the individuals contributing to the commons and their openness led to newfound feelings of validation and self-confidence. Now, as “consumers” of information **and** “producers” of knowledge, the participants were still comfortable in their vulnerability, but they began to experience feelings of empowerment. These feelings were made that much stronger when the expert teacher practitioners moved beyond sharing and entered the highest level on the Continuum of Sharing - Joint Work. As the experiences detailed below will illustrate, the participants experienced a very different phenomenon as they moved from “not knowing what they don’t know” to a place of “knowing.” This had a profound effect on the expert teacher practitioners both in their PLNs and in their home schools.

As mentioned earlier, Teacher D’s experiences in the Sharing stage revolved around her posting her students’ work as well as the “thinking routines” she refined after attending Harvard University’s Project Zero. This led to an increase in her number of followers as well as questions from educators who were now asking her for help and assistance. She noted, “I think the feedback on Twitter definitely helped me be more confident because

you have so many people viewing what you shared, retweeting what you shared and they tag you when they share something they've done based on something you put out there.” She explained how this provided her encouragement and led her to begin presenting annually on how to utilize technology in the classroom at two regional conferences - EdCampLI and Connected Educator Long Island (CELI). These conferences are not like traditional conferences where people running the events have set schedules and individuals are paid to present on a predetermined topic. Edcamps are described as more organic, teacher driven “un-conferences” where the agenda is created by the participants at the outset of the event. Participants are unpaid but they have the ability to lead presentations or discussions around topics that matter most to them. Teacher C described the positive impacts of sharing with her PLN stating, “I just like sharing what my students do. I feel like I have something to offer and I am proud of what they are doing!”

Administrator D shared how these experiences are impacting Teacher D’s Social Capital within their school and their district. He described how she is taking more of an “instructional coach” type of role where teachers are observing her using tools like Actively Learn and Pear Deck and then he is providing coverage to allow the teachers time to debrief. The positive ripples that this work has created has led to Teacher D hosting afterschool professional development seminars where her colleagues can learn from her in a more formal setting. He continued describing how Teacher D has evolved, explaining that she now has more leadership aspirations and is in the midst of completing her administrative degree.

Teacher B also spoke about the power of sharing and how it brought forth tremendous validation and confidence both in her school and within her broader network.

In her interview, it was evident that she had developed a real sense of self within her own network and that her voice was given more credence when she was awarded a PBS Digital Innovator Award. She stated:

I think the next level is when people ask me questions, and that feels great because you feel like your opinion and your thoughts are valued because other people are reaching out to you and saying, “Hey, have you done this?” or if someone suggests you as a resource or as a person to collaborate with. She does that kind of thing in her classroom. I firmly believe that I would not have any of the opportunities I have now like speaking arrangements or presenting professional development in other districts without my PLN and Twitter. I just wouldn’t. No one was going to pick up the phone and call Teacher A from Teacher A’s District. They just wouldn’t.

Where Teacher B’s experiences differ from Teacher D’s is that she has moved beyond the “Sharing” level in the Continuum of Collaboration and has engaged in meaningful “Joint Work” using Twitter, Google Hangouts, Skype and a host of different applications with the classes of other teachers within her PLN. She described the difference between working with teachers within her school vs. these other opportunities stating:

I think the whole thing with collaborating, I’m still trying to put my finger on why, but for me, it’s more fun to collaborate outside of the school with other people. I totally enjoy my colleagues, and things like that, but I think there’s something about getting outside, another school, kids from other buildings, different ways of thinking that makes it a little more exciting. I mean, I do learn with my colleagues and we do share things, but how much more fun would it be for your kids to do a

Google Slides presentation or something with somebody three towns or three states over?

Teacher B went on to explain the artifact that she brought to our second interview that was a result of her most recent joint work project where her Kindergarten class is working with eighth graders from a neighboring town. The teachers assigned virtual partnerships between their students and they are using Google Slides as a means to get to know one another. After the presentations are created, the Kindergarten students are making pattern books about their eighth grade buddies and the eighth graders are featuring their kindergarten buddies in the realistic fiction stories they are currently writing. Teacher B explained how the students' relationships with their eighth grade buddies and the projects that were created evidence the kind of collaboration that is possible between teachers in a VCOP.

With regard to how Teacher B's participation in her PLN has increased her confidence, changed her practice and increased her Social Capital within her building, Administrator B explained how this was first observed in Teacher B's standing up to other teachers in the school who told her she should not be putting her students or their work "out there on Twitter." Then, he described how her new learning empowered her and led her to ask the district's technology director for one iPad for her classroom. Administrator B explained that she used that iPad in so many powerful ways that she was able to convince the director to give her a class set of devices. He explained that Teacher B's classroom was in a heavily trafficked part of the building and teachers would stop in and inquire, "What's going on here?" He stated, "Teachers saw a change in her and in her classroom. Teachers

gravitated towards her. She started forming friendships. She became a leader in our building based on what she was doing, not because of her personality or her popularity.” Since then, she has run an afterschool Tech Titans club allowing her to work with older students and affect more change as the students in the club go back to their classroom and share what they learned with their teachers. She has run a series of in-service classes around Google Classroom and Symbaloo, an application that has allowed her to curate all of the digital tools she is using with her students and organize them so they are easily accessible for Kindergarteners. For these reasons and others, Teacher B was also featured as a panelist at a regional conference highlighting the impact of being a Connected Educator.

Similarly, within her own school and district, the confidence that Teacher C gained through her participation in her PLN helped her find her voice and to challenge her district’s practice not to allow teachers to run afterschool professional development meetings. Administrator C shared how Teacher C’s persistence led to the district approving a Collegial Circle around Kyleene Beers’ professional text on building reading comprehension titled *Notice and Note: Strategies for Close Reading*. Teacher C also explained how relationships she formed in her VCOP led to exciting #F2F or face-to-face meetings which resulted in her co-founding a new regional edcamp-like conference called NerdCampLI. Like Teacher B, Teacher C also moved beyond the “Sharing” level in the Continuum of Collaboration and has engaged in meaningful “Joint Work” by way of Voxer. Voxer is a mobile walkie-talkie like application that is both a “push-to-talk” system and a voice messaging system that allows users to participate in a semi-synchronous PLN where interactions are verbal and they occur close to real time. Teacher C shared how

frequent conversations on Twitter around Children’s Literature with a group of teachers and librarians sparked the creation of a new Voxer group. Teacher C explained how many of the teachers in the group were individuals she was not yet following on Twitter and how the use of this new collaboration tool further broadened her network. Teacher C described how this experience redefined what collaboration in a virtual space could be and she detailed how this application and Google Docs made joint work that much more a possibility. When describing the artifact that she brought to her second interview which represented the benefits of her participation in a VCOP, she brought forward a Mock-Caldecott Unit of Study that was created with a passionate group of educators from outside of her school. Her experience brought to life the work of Gunawardena et, al (2009) and their framework for the collective construction of knowledge that occurs in a VCOP. She stated:

It became much easier to collaborate once I got on Voxer. All of a sudden, I was getting voices to go along with the people I was following. Then, that group of people, we were sharing on a daily basis, talking about what we were reading and what books our students were enjoying. We talked about everything from ideas for putting together book fairs to what we were doing in the classroom to celebrate World Read-Aloud Day. We were interacting daily asking questions like, “I’m reading this book - is anybody else? What do you think about it?” or “Does anyone have an idea for a picture book that I can use to teach my fifth graders about turning points?” Somebody was always there to answer or to offer a suggestion.

That became the vehicle for collaboration. It was then through that group that we started a Mock Caldecott Unit of Study. We had a shared drive on Google that everybody in the group was contributing to by adding to a list of books we were using and by adding any graphic organizers or note-taking strategies we created for the kids. There was a Google Slides presentation that we created to share with our students where the goals and the outcome of the unit was shared. We were all able to take part in that.

Last year was the first year we did that and it has turned into my favorite unit of the year, probably the kids favorite too. The kids take away so much that we transfer to their reading, to their writing, into the content areas, to just observations of the world around them. If I wasn't a part of that group, I would never even have thought about doing this unit yet alone adding to it and making it better the next year.

Administrator C described how this and other experiences with her PLN have validated Teacher C and empowered her to bring forth other positive changes within their school. He shared how her connections with authors and her willingness to reach out to them led to a One-Community, One-Book Initiative which is in its second year. He shared how Teacher C introduced him to Lynda Mullaly Hunt's book *Fish In a Tree* and presented the book to the Parent Teacher Association. Collaboratively, the school and the PTA purchased the book for every classroom and Teacher C was able to have the author come to the school for a visit where she spoke to the kids which made them love the book that much more. He

also described the impact that the Mock-Caldecott Unit of Study had on students: He stated:

I went to her classroom and she was Skyping with another fifth grade class from Massachusetts. Their students were talking about their top ten favorite books and why. Her class was talking about their top tens. I saw one of the students I was really familiar with, not because of his academics, but because of other things, and he ran to his paper and wrote down the name of a book that one of the students from Massachusetts was talking about. He looked at me and said, “I can’t wait to read this book. I have to get it.” This was a kid who was struggling and that we could not motivate just the year before.

During her second interview, Teacher E spoke about the impact that “Sharing” with her PLN had on her and how it helped her find a new and important area of focus within her own school. She revisited her earlier comments about asking for help and assistance when she was just starting out in her VCOP stating, “I just felt like I could never give back what I’d been given so I made that my purpose. I went from using my PLN as a place to ask for help to trying to provide help to others. People would say, ‘I’m trying to make a Makerspace,’ and I’d say, ‘I have a resource for that,’ or ‘I know someone,’ or ‘I’ll send you a PDF,’ or ‘Here, make a copy of this Google Doc and use it.’” She noted the impact that that had with regard to new connections she made with educators and authors like Mark Barnes who featured some of her students’ work in his books in the Hack Learning series from Times 10 Publications.

Like Teacher C, Teacher E was someone who initially struggled with Twitter and she explained how her PLN evolved once she began using Voxer as a means to collaborate. She discussed how her weekly participation in #PTCHAT, an online Twitter Chat that meets weekly to discuss how to improve parent involvement in schools, developed into a virtual book discussion centered on *Beyond the Bakesale: The Essential Guide to Family/School Partnerships* by Anne T. Henderson. As the district's former Literacy Coordinator, she was someone steeped in curriculum and she shared how she had not often looked at her school through the lens of parental involvement. Her interactions around this text incited a new passion which she described as she provided a context for one of the artifacts that she chose to highlight during our second interview to highlight her learning in VCOP. She described how her school was comprised of students and families from the two extremes of the socio-economic scale which she speculated had an impact on the level of parental involvement in her students' education. In speaking with her and Administrator E, it was evident that Teacher E became extremely active in coordinating both fun and academically based Parent Nights with the purpose of empowering families and helping them feel like more of a part of the school community. When walking through the building, both Administrator E and Teacher E pointed out her artifact and the fruits of Teacher E's efforts with the parent community as we passed a beautiful outdoor classroom in the courtyard. They noted how materials for this project were completely donated by the parents and how this is a favorite place for both students and teachers that is used quite often during the nicer months. Her second artifact, a bobble-head figurine of Chad Caddell - an individual in her PLN, was also referenced during this interview. Teacher E explained how this unique and powerful artifact reminded her of the meaningful and inspiring

relationships that can be cultivated in a virtual place which can inspire action. She describes Chad as someone she has never met in person but with whom she speaks frequently on Voxer. Their recent conversations around being a champion of everyone in the school community inspired Teacher E to take action which resulted in the construction of the outdoor classroom.

In her interview, Teacher A talked at length about how her participation in her PLN was a gateway to a number of “Joint Work” that extended far beyond the walls of her school or even her district. An avid writer, she shared how her frequent interactions with Stacey Shubitz and Beth Moore, the founders of the Two Writing Teachers blog led her to apply to be considered for their co-author team. She shared how being selected for this was a “professional highlight” allowing her to blog about a part of her teaching that she is incredibly passionate about. She cited one of her most widely circulated posts was one about the importance of teachers and principals being writers and modeling the process for their students. She noted, “From that post, we created a Voxer group and it has grown - there are teachers, literacy coaches and principals nationally and internationally who are involved and it has almost become an advocacy type group where we are sharing ways we can encourage reticent teachers to share their writing publicly.” She shared how famed children’s author, Ralph Fletcher, and an editor from Stenhouse publishing had become part of her network. This brought forward another interesting opportunity for “Joint Work” which she described, “Ralph is writing a book on low stakes writing and the idea that kids need more opportunities to just write about things they are passionate about. A couple of my students, I sent their work to him, and he sent permission forms, and we are hoping that their work makes it to the final cut of his book.” She also shared how her participation in

the Two Writing Teachers blog led to connections with two professors at Molloy College who were writing a book about using picture books to teach children about Carol Dweck's Growth Mindset. Similarly, Teacher A shared how she contributed her students' work to the project which had a profound impact on how the students approached their work. In our conversation, we talked at length about the Rushton Hurley quote, "If students are sharing their work with the world, they want it to be good. If they're just sharing it with you, they want it to be good enough." She shared how this experience gave her students a real audience which encouraged her to bring student blogging to the forefront of the work she is doing with her students. The final and perhaps most rewarding experience that was an outgrowth of Teacher A's participation in her PLN came in the form of an invitation to serve as an instructional consultant by a principal who had expressed value in Teacher A's posts on the Two Writing Teachers blog. Teacher A shared, "It was really scary because the other presenters were very well known and I felt out of my league. I also wasn't in front of kids so I was out of my comfort zone. But I went for it and it was one of the most rewarding days I've had and I never would have been a part of that if I wasn't connected through Twitter."

Administrator A shared that Teacher A's confidence has continued to grow and her voice has amplified and started to resonate with other teachers, specifically around the importance of teachers making their writing public and not having students identify themselves as readers by text level. She noted, "She had become even more of a positive person than she used to be and has assumed leadership roles on the School Leadership Team and our Parents As Reading Partners Committee." Administrator A noted how she infused her newfound passion for technology into this work which has added tremendously

to the students' experience and level of engagement. Her work with Google Apps for Education, KidBlog and Padlet have also been shared in various venues including voluntary morning professional development meetings called "Tech Tuesdays" and during afterschool professional development meetings which have changed in structure over the course of the last few years in the district. Administrator A explained how teachers have been given more autonomy with regard to what they want to study and with whom they want to work which has allowed Teacher A to share her learning in self-organized groups of her colleagues interested in literacy and technology.

The rich descriptions of the expert teacher practitioners in their VCOPs and in their schools provided in this section were developed to answer the second research question - *How and to what degree do these expert teacher practitioners perceive their new learning obtained in Virtual Communities of Practice have been shared within their schools and/or districts?* The researcher was careful to include insights provided by the expert teacher practitioner's administrators in order to address the fourth research question *To what extent do the administrators of these teacher practitioners believe that the teacher's learning obtained in VCOPs has been shared within their schools and/or districts?* The perceptions of the teachers and their administrators were presented together as a means to answer the final research question - *How do their perceptions compare?* The descriptions provided of the teachers and their schools prior to participation in VCOPs, of the teachers' experiences with members of their PLNs, and of their experiences after this phenomenon, evidence the powerful and lasting impact this has had on the teachers and their school communities.

How, To What Extent Is and At What Rate Is New Learning Being Shared? Innovators, Early Adopters and the Impact of an Engaged Administration

In the final section of Chapter IV, the researcher will focus on how the expert teacher practitioners' learning in a virtual space was first initiated and how and to what extent it has been received and replicated by other teachers within their school and districts. To do so, the researcher will utilize the lens of Everett Roger's Diffusion of Innovation Model first shared in 1962 and concepts from Malcolm Gladwell's influential book *The Tipping Point*.

Rogers (2003) Diffusion of Innovation Model focuses on how innovations, or ideas or practices that are perceived as new and/or better, are promulgated throughout an organization. Diffusion is the process through which an innovation spreads via communication channels over time among the members of a social system. Rogers argues that four factors influence if and how rapidly an innovation spreads and these factors include the innovation itself, communication, time, and the social system through which the innovation is spreading. The graphic below outlines his proposed rate of adoption and illustrates the "adopter categorizations" he outlines in his research:

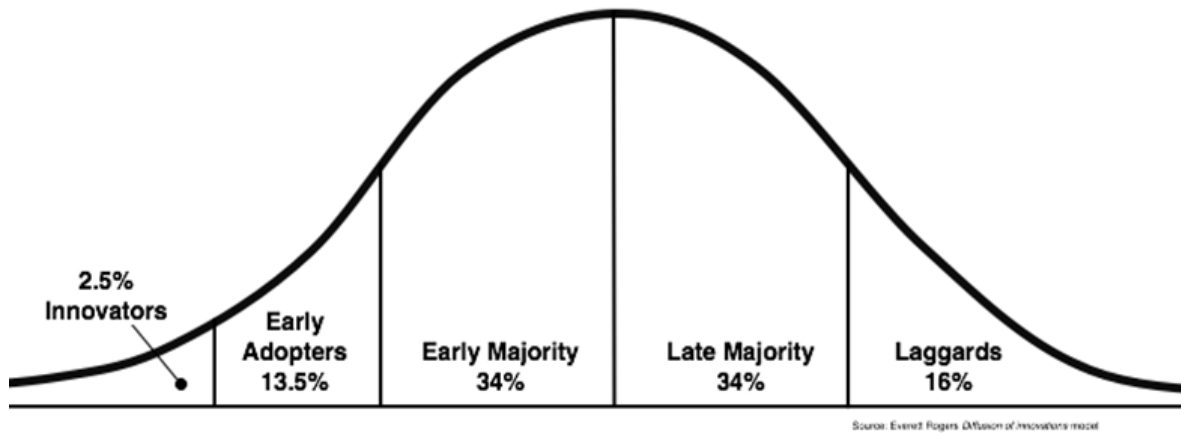


Figure 6. Diffusion of Innovation Model - E.M. Rogers.

Innovator (2.5%) - Individuals who are unafraid to try a new innovation. They are interested in new ideas and are more willing to take risks than others

Early Adopter (13.5%) - Individuals who act as opinion leaders as they are comfortable in taking on a new idea as they are aware of a need to change

Early Majority (34%) - Individuals who adopt new ideas before an average person but require some kind of evidence before they are ready to adopt the innovation

Late Majority (34%) - Individuals who are skeptical of an innovation and would not adopt it unless it was tried and tested by a majority

Laggards (16%) - Conservative individuals bound by tradition and skeptical to any change who would not adopt an innovation without a plethora of data supporting its benefits

Malcolm Gladwell (2000) made use of this model in the framework of his book *The Tipping Point* where he outlines three rules for social epidemics to spread; The Law of a Few, The “Stickiness Factor,” and “The Power of Context.” In order to “cross the chasm” between the Early Adopters and the Early Majority, he stressed the importance of “The Law of a Few,” or the power of a few specific individuals whose impact within a social system is transformational. He outlined three types of people who are powerful change agents. The first group of individuals he names as “Connectors” who can be described as central nodes in a social network with a high number of ties to other nodes both within and outside of an existing network. The second group he calls “Mavens” or trusted individuals

relied on in a network for new and important information. The last group he refers to as “Salespersons” or charismatic individuals who can persuade others in a network to think or behave in a certain way.

When describing the expert teacher practitioners involved in this study, three of the five participants could be considered Early Adopters within their respective organizations. Teacher D credits Administrator D, the district’s Executive Assistant for Technology Integration of Curriculum Support and Development, for encouraging her and other educators to begin using Twitter for branding and communication purposes. The development of a school hashtag which Teacher D and others are incorporating into their posts has made it easier for parents and other educators to see the strong practices happening within the school. With over 1,500 followers and a following of over 800 educators, Administrator D’s network is nearly triple the size of Teacher D’s and she referred to him and what he is sharing via his PLN as “phenomenal” and “inspiring.” Her development of a PLN as a means of growing professionally was a by-product of the district’s embracing of social media as a means to “tell their story.” Within their district, Teacher D is functioning as both a “Maven” and a “Salesperson” as what she is sharing through demonstration lessons and afterschool professional development meetings is highlighting the benefits of learning in a virtual space. Based on their interviews, it is evident that Teacher D is an “opinion leader” and her relationships with teachers within her organization are among the strongest in the participants studied.

In a similar fashion, Teacher A and Teacher B could be considered Early Adopters as administrators within their district brought forward and continually model the idea of learning in virtual space. They referenced talks given at a Superintendent’s Conference

Day (Teacher A) and at a district sponsored Technology Playground (Teacher B) given by the district's technology director and/or an outside keynote speaker for sparking their interest in developing a PLN. Teacher A and Teacher B are similar to Teacher C in that their technology director has a tremendous network via Twitter and Voxer where he is following nearly 2,000 people and is followed by almost 4,000. Like Administrator C, Administrator A and Administrator B espouse the benefits of using social media for communication, branding and professional development purposes. They have their own professional accounts which they use to participate in Twitter chats and to share strong practices they come across through "Scanning and Storytelling" and asking for "Help and Assistance." Both administrators describe how they use this account for "Sharing" information with Teacher A and Teacher B and other teachers in their schools who could be considered Early Adopters or part of the Early Majority. Where they are unique is that both administrators also maintain school Twitter accounts which they use for the purposes of branding and communication. During building walkthroughs and classroom visits, Administrator A and Administrator B take pictures of student work and attempt to capture strong instructional practices on Twitter. Teacher A and Teacher B have replicated this practice and maintain both their professional Twitter accounts and separate classroom accounts. This has resulted in Teacher A and Teacher B developing two separate networks and has increased the possibility of them being exposed to new learning. In some instances, the "followers" and "following" might overlap, but both teachers shared how maintaining dual accounts has expanded their networks and made them more apt to engage in "storytelling" and "sharing" the strong practices happening in their classrooms.

With the support of their administrators who “walk the talk,” Teacher A and Teacher B are spreading the idea of learning in a virtual space within their schools and district. Administrator B’s observations about Teacher B’s increased knowledge with regard to technology, hands-on learning and center design might categorize her as a “Maven.” However, as Administrator B shared, what she knows and how it is being implemented in the classroom has increased her “Connector” and “Salesperson” status as teachers are seeking her out for help and assistance within the building and the district. Administrator B explained, “It’s spreading more and more to other teachers and classrooms. Many of the teachers now have Twitter accounts and they are reaching out to other people virtually. However, they are looking to Teacher B to see what she is doing and how she is using devices to support the content. It has engaged kids, it has increased communication with parents. It has been transformational.”

In a similar fashion, Administrator A’s description of Teacher A within their school community is that of a “Maven” stating, “Her knowledge base around technology and the newest children’s literature is well respected and she would more than happily share with anyone everything that she knows.” Administrator A explained how she is working to “center” Teacher A and to find ways that her new learning can live inside of the district’s Units of Study. Together, they are finding these bridges which are helping Teacher A “maintain a course” while still allowing her excitement to manifest itself in her classroom. Administrator A also noted how the learning curve with regard to the use of technology to support instruction was something that made it difficult for Teacher A to function as a “Salesperson” within their school. She explained that her high level of knowledge and enthusiasm was commensurate with other teachers’ levels of discomfort. Administrator A

explained that what Teacher A wanted to share and how she was going about it via emails or leaving blog-posts in other teachers' mailboxes heightened anxiety. Administrator A noted how Teacher A's collaborative efforts with the Library Media Specialist and the Talented and Gifted Teacher has been a more effective means to spread Teacher A's new learning. Here, new apps are shared and students are getting opportunities to explore with teachers who are more comfortable with technology than their classroom teachers. Consequently, the classroom teachers are seeing a high level of joy and excitement in their students which is making them more curious and willing to take risks. Administrator A noted that once teachers are at this point, they begin seeking out Teacher A and she is more than willing and able to support them.

Teacher C's and Teacher E's introduction to VCOPs was much different from Teacher A's, Teacher B's and Teacher D's as they were not encouraged to engage in this work by members of their district who happened to be "above" them in the organizational hierarchy. Currently, Administrator C and Administrator E are only maintaining a school Twitter account and using it sparingly for the purposes of branding and communication. Teacher C explained that she began her journey with her PLN following a professional development conference she attended with JoEllen McCarthy who she referred to as a "kindred spirit" who she needed to remain in contact with. She shared how JoEllen invited her to another conference where a principal from another school district spoke about the benefits of a PLN. As evidenced above, she grew tremendously from this experience and she was the "Innovator" who brought the idea of learning in a virtual space to her school and her district. Teacher E detailed how she began participating in her PLN at the request

of her Co-Literacy Coordinator who wanted to take part in a summer weekly Twitter Chat facilitated by Dave Burgess around the book *Teach Like a Pirate*.

As evident in their experiences detailed above, both teachers have individually benefited from working in their VCOPs but their learning has not spread as readily through their respective schools. Proactive and inspired, both teachers explained how they are bringing forward their learning in one-on-one conversations with trusted colleagues and they have brought new and innovative ideas forward to their principals. Administrator C described this stating, “She’s brought a lot to me. A lot of her ideas... she goes to those great conferences or chats and I learn from her. As a principal you need that. You need those go to people. She’s that person. I didn’t know how to use Twitter. I was against social media because I was afraid of it.” Administrator C, who does not have an assistant principal or other administrative support in his building, very candidly described a longing to have more time to learn and to share that learning explaining, “It’s hard for me. Unfortunately as an instructional leader I’ve fallen behind because you get caught up in the management of the building. I’m dealing with students, I’m dealing with supervision. I don’t have enough time to get out there to read and to learn as much as I would like.”

As briefly touched upon above, Administrator C will take information that Teacher C shares and, if he finds value in it, he will send it out to staff members in the form of an email or a memo. Both Teacher C and Administrator C expressed that other teachers in the building are aware of this dependent relationship which might cause them to question where the information is coming from and why it is being shared. Administrator C stated, “I do think that people look at her as one of my favorites. They’ve made jokes about that. They’re all my favorites but she is the one that I rely on.” Without question, Teacher C is

someone that the staff views as a “Maven” but her status as “a favorite” and the teachers’ perception of Administrator C as a learner might be inhibiting Teacher C from sharing her knowledge as well as her being a “Connector” or a “Salesperson.” Administrator C commented on this stating, “I think all of her colleagues respect her for her knowledge but there are different personalities in the building. Some will take her information and run with it and some people will think twice about it. To try something, to get out of their little comfort zone is difficult for them. So something new, they struggle with that. But it is getting there, slowly.”

Teacher E also described a sharing practice similar to Teacher A and Teacher C. She expressed, “I’ll see a blog post or a tweet that I think is something that someone would be really interested in, so I’ll just send them an email or print off a page of it and put in their mailbox and say, “I saw this and thought of you. Sometimes people want to talk about it and sometimes they don’t.” When asked to say more about this, we discussed the culture of the building, how teachers do not like “the spotlight” to be placed on them, and the hesitancy to look outside of the expertise in the building when looking for ways to improve.

We also discussed the teachers’ perception of the principal through the lens of the Beginner’s Mindset. The Beginner’s Mindset is a concept in Zen Buddhism that describes an attitude of openness and eagerness as well as a lack of preconception when studying a new or familiar subject. A popular quote by Shunryu Suzuki about this mindset came forward as Teacher E spoke about Administrator E which reads, “In the beginner’s mind, there are only possibilities, but in the expert’s mind, there are few.” Teacher E shared how she has and will continue to cautiously share her learning with her colleagues and she and

Administrator E describe how Teacher E will schedule meetings with the principal to share her perceptions of needs within the building and how her new learning might be applicable. To her credit, Administrator E welcomes these opportunities to talk and positive actions have resulted in these meetings, such as a curriculum planning team and more opportunities for vertical articulation to occur between grade levels in the building.

In summary, when considering how, to the degree which, and at what rate new learning done in a virtual space has been shared within an organization, the experiences of the expert teacher practitioners who were Early Adopters v. those who were Innovators provide an interesting comparison. The administrators in this study who “jumped first” and who were seen by their faculty as actively learning with their own PLNs alongside of their staff members were better able to leverage the new learning of their “Connectors,” “Mavens,” and “Salespersons.” The administrators who let their teachers take the lead and who did not model or express a belief in virtual learning left their Innovators on the fringe and their organizations did not benefit to the same degree the others did. This critical observation of the data gathered will support an important observation that will be outlined in Chapter V.

Summary of the Research Findings

When considering the expert teacher practitioners' descriptions of self prior to participation in a PLN and afterwards, it is clear that these teachers continue to be intrinsically motivated individuals with both a desire to learn and to share what they know with others. All five teachers and their respective administrators confirmed that their experiences within a VCOP by way of developing a PLN on Twitter has further developed their Professional Capital as they have made significant gains in their learning. The extent

to which the new learning of the expert teacher practitioners via their PLNs has been shared within their respective organizations varies which can be attributed to the degree with which their administrators have been “fully present” and actively participating in this work. Significantly, all five expert teacher practitioners noted varying levels of frustration, angst and what some call “burn-out” prior to their involvement in their PLNs which they attributed to the pressures of APPR, changes to the standards, and to structural and/or relational barriers to learning that existed within their buildings. If we consider changes in morale, mindset, and attitudes towards teaching an affective component to Human Capital, the positive impact of these teachers’ participation in their PLNs multiplies exponentially. As the teachers developed more virtual relationships and moved along the Continuum of Collaboration from “Scanning and Storytelling” to “Help and Assistance,” to “Sharing” and in most cases to “Joint Work,” it is evident that they became more energized and positive. Further, what they valued about their profession crystallized, and the way they looked at their colleagues (both virtual and school-based) and at their students could be described as with eyes of possibility, abundance and gratitude. Sinanis (2016) describes this phenomenon of a PLN being “a self-sustaining energy source” powerfully as he explains a compelling theme that came forward in his study. He notes, “Taking this abstract concept of energy one step further, we see that the PLN almost becomes a form of insulation protecting its members from negativity and isolation, while at the same time giving them access to emotional sustenance and ideas that positively impact their work as educators.”

CHAPTER 5: DISCUSSION

Implications of Findings

The purpose of this study was to evaluate the perceptions of expert teacher practitioners on the impact that their participation in VCOPs has had on the Professional Capital of their respective organizations. As discussed in Chapter III, the perceptions of these expert teacher practitioners would be compared with their administrators' perceptions as a way to ensure validity and reliability as well as to provide a more comprehensive understanding of each organization, specifically the organization's culture and the quantity and quality of interactions of teachers within the organization that focus on student learning and better pedagogical practice. The following research questions drove the study and were carefully considered when developing the interview protocol detailed in Chapter IV:

1. To what extent has the participation of expert teacher practitioners in Virtual Communities of Practice impacted their levels of their Human Capital, Decisional Capital and Social Capital?
2. How and to what degree do these expert teacher practitioners perceive that their new learning obtained in Virtual Communities of Practice has been shared within their schools and/or districts?
3. To what extent do the administrators of these expert teacher practitioners who participate in Virtual Communities of Practice believe that this phenomenon has impacted the teachers' Human Capital, Decisional Capital and Social Capital?

4. How and to what degree do the administrators of these expert teacher practitioners perceive that the teacher's new learning obtained in Virtual Communities of Practice has been shared within their schools and/or districts?
5. How do they compare?

When considering research questions one and four, the themes and rich narrative descriptions of the participants' lived experiences in a VCOP developed in Chapter IV confirm that the expert teacher practitioners' participation in Professional Learning Networks via Twitter had a profound impact on the development of their Human Capital, Social Capital, and Decision Capital. As their work in this virtual space progressed along Little's (1990) Continuum of Collaboration, what the teachers came to know had a direct impact on what they came to know, which resulted in a burning desire to bring that new learning to life in their classrooms. Clearly, Tapscott's (2012) Four Principles for the Open World (Openness as Collaboration, Openness as Transparency, Openness as Sharing, Openness as Empowerment) were lived by these teachers who first "lurked" and became what Parisi, Whelan and Todd (2015) call "Idea Scouts" as they engaged in Little's first stage in her continuum, "Scanning and Storytelling." As they became more comfortable with Twitter, the expert teacher practitioners embraced the platform and their "loose ties" with those they followed became stronger as they started interacting more within their networks.

The Principles of Transparency and Sharing that Tapscott refers to were experienced as the participants advanced along Little's (1990) continuum when they asked, or were asked, for help and assistance after they either asked a question or shared a resource. The participants explained that their ability to be transparent and vulnerable

within their PLNs was liberating and it resulted in the acquisition of new knowledge across a wide range of topics including, but not limited to, student engagement, high interest pieces of quality children's literature, and the meaningful incorporation of technology in their daily practice. The expert teacher practitioners and their administrators confirmed that this new learning had important and lasting effects on their teaching practices and what they were able to offer their students.

The final principle, Openness as Empowerment, was experienced in varying degrees as the expert teacher practitioners engaged in "Joint Work" both with colleagues from within their schools and with those from their external networks. The teachers' experiences within their PLNs in the other levels of the collaboration continuum fostered new relationships, instilled confidence and brought forward feelings of validation while simultaneously stimulating curiosity and what Pink (2009) describes as the "alluring frustration" that comes about when one is filled with purpose and is actively pursuing mastery.

The implications of these findings are of critical importance especially when considering the themes detailed in Chapter IV which describe the expert teacher practitioners' experiences prior to their involvement in VCOPs. Here, feelings of angst, isolation and "burn out" created by cultural, structural and relational barriers to learning within their organizations were exacerbated by external factors like the APPR process and the implementation of the Common Core State Standards. The participants' experiences learning in a PLN were a powerful foil to these destructive influences and were directly responsible for the feelings of rejuvenation, joy and hope which permeated the teachers' experiences post participation in VCOPs. The sharing of ideas and resources, as well as the

respectful giving and taking of feedback within the open and participatory culture of the PLN, renewed the purpose motivator in these five intrinsically motivated educators and brought them to new heights in their professional journeys. This experience needs to be replicated for all teachers.

When considering the second and the fourth research questions and the extent to which the participants were able to act as what Parisi, Whelan and Todd (2015) refer to as “idea connectors,” the experiences of the expert teacher practitioners were inconsistent. Within their own classrooms, the expert teacher practitioners were able to marry new ideas and practices nurtured in their PLNs with the existing curricular goals and philosophical beliefs of their schools and/or districts. In many instances, the autonomy the participants’ administrators gave them allowed the teachers to experiment with new pedagogical practices, methodologies and tools. This resulted in meaningful conversations about “next practices” between the administrator and the expert teacher practitioner. However, when examining if and how the participants' new learning was spread on a larger scale, there were two important variables identified by the researcher. These variables include the organization's “absorptive capacity,” and the impact of an engaged and supportive administrator.

Cohen and Levinthal (1990) describe “absorptive capacity,” as an organization’s ability to integrate or replicate new knowledge gained from external resources. It is predicated on the prior knowledge of the individuals within the organization and their readiness for change. In short, when the new learning being shared by the expert teacher practitioners was familiar, it was more readily accepted. For example, Teacher C’s ability to develop a One School, One Book initiative around Lynda Mullaly Hunt’s *Fish In a Tree*

was welcomed. The teachers had ample experiences reading aloud to their students. They were comfortable leading conversations about character and were skilled at helping students infer lessons and themes. The connections between the book to other beloved texts like R.J. Palaccio's *Wonder* and Patricia Polacco's *Thank You Mr. Falker* caused the teachers within Teacher C's school to rally around this initiative.

However, when considering Teacher A's experience in attempting to bring new technology tools to her colleagues, it was evident that the staff's "perceived usefulness" and "perceived ease of use" of the tools directly impacted the extent to which Teacher A could share her learning. It was challenging for her to take on the "gatekeeper" or "boundary-spanner" role as the level of expertise of those within her organization was far different from the external actors with whom she was gathering this new knowledge. To their credit, Teacher A and Administrator A have utilized their students' enthusiasm and innate curiosity with regard to technology as a driver to further this work. The "perceived usefulness" of this change is now evident in the level of student engagement observed which is helping the teachers overcome their fears over the "perceived ease of use" of these tools.

The other variable that has had a significant impact on the expert teacher practitioners' ability to share new learning across their respective organizations was the impact of an engaged and supportive administrator. As described in Chapter IV, Administrator A, Administrator B, and Administrator D have taken a "learner's stance" in their respective schools and they were the "Innovators" who first demonstrated what it means to be a "connected educator." They made public "the why" they became involved

in PLNs and their words and actions convey a deep-rooted belief in the importance of continuous professional learning.

In addition, they have worked diligently to develop the Social Capital in their buildings by acting as what Leandro Herrero (2016) calls a “Social Architect,” or one who thoughtfully shapes relationships and informal conversations between members of the school community. He refers to these interactions as “the oxygen” of the organization to denote the importance of these casual exchanges where knowledge sharing occurs.

Administrator B spoke thoughtfully about this as he explained how he has brought different teachers together with Teacher B. He described a typical scenario where a well-meaning administrator who is trying to spread innovative practice might say, “You need to go see the great things happening in Teacher B’s classroom. She is doing this and that and it is having a tremendous impact on students and raising the level of expectations for our primary teachers.” The administrator might even offer to provide coverage for the teacher so she could watch or co-teach with Teacher B and debrief afterwards.

Administrator B expressed how this practice more often than not makes the teacher perceive himself or herself as “lesser” or “not as valued” as Teacher B who is already coming to the conversation from “a place of strength” based on validation she has already gotten from her administrator and her PLN. Administrator B detailed how he does the exact opposite and works to identify strong practices in the teacher’s classroom that need to be shared with Teacher B. By building this teacher up, the teacher is coming to the conversation from a place of “equal” or “greater” which has led to more frequent conversations and better relationships.

In addition to this careful sculpting of relationships, Administrator A, Administrator B and Administrator D have created unique venues for Teacher A, Teacher B and Teacher D to share the strong practices they have developed including voluntary morning “Tech Tuesday” gatherings, after-school technology clubs to excite students where teachers “pop-in to see what’s up,” to EdCamp-like after-school meetings, and more formal professional development opportunities where these teachers serve as instructors and their colleagues earn salary and/or professional development credits for attending. The behaviors of these administrators mirror what Fullam (2014) describes when he writes about principals being a *learning leader*, or one who models learning, but also shapes the conditions for all to learn on a continuous basis.

Relationship to Prior Research

As evidenced in the themes extrapolated from the data collected, the experiences of the five expert teacher practitioners involved in this study align with much of the research detailed in Chapter II. First, the structural, cultural, and relational barriers that make school based professional learning communities difficult to establish and nurture which are described by Hargreaves and Fullan (2012), Woods (2007) DuFour and Eaker (1998), and Hord and Summers (2008) were very much a part of the experiences of the expert teacher practitioners experiences prior to getting involved in VCOPs. In the section of Chapter IV titled “In Pursuit of Mastery, Holding Tight to Purpose, and Craving Autonomy,” the research of Couros (2006) resonates, specifically when he identifies administrative and bureaucratic factors, the constraints of time, and current attitudes of teachers towards collaboration and sharing, as major obstacles to establishing cultures of learning in current contexts. The “rays of hope” he describes as “varied learning spaces” in a “distributed,

decentralized infrastructure” are very much the PLNs the expert teacher practitioners described in their interviews.

When considering what made the expert teacher practitioners get involved in VCOPs, their experiences within their PLNs, and the impact that these experiences had on their Human Capital, Social Capital and Decision Capital, the research of Ardichvili (2008), Hillier (2009), Ramsden (2009), Veletsianos (2011), Wright (2010) and Fortes, Humphrey and Park (2012) rang true. First, whether they were “Early Adopters” or “Innovators,” the motivations for knowledge sharing that Ardichvili describes were evident when examining the data from the second interviews with the expert teacher practitioners. The participants’ descriptions of the new learning that resulted from their interactions in their PLNs reflected the intellectual benefits Ardichvili describes when he writes about “gaining new expertise and developing and refining perspectives.” Also, the emotional benefits outlined in Chapter IV where the participants speak about vulnerability, validation and empowerment reflect what Ardichvili outlines as “enhancing one’s self-esteem through belonging and being useful to the group.” When considering the breadth of new information gathered by the participants when “Scanning and Storytelling” and the depth of knowledge furthered by asking for help and assistance, sharing, and participating in “Joint Work,” it is evident that the participants in the study became what Fortes, Humphrey and Park’s (2012) characterize as “network bridges whose connections to broader professional networks give them access to resources and positions them to act as information brokers.” Though the extent to which their new knowledge has been spread throughout their organizations is inconsistent, the expert teacher practitioners in this study

have an unlimited potential with regard to being what Fortes, Humphries and Park describe as being “powerful fomenters and enactors of reform in educational communities.”

As noted in Chapter IV, the experiences of the expert teacher practitioners in their PLNs challenge the work of Cho (2016) when he asserts that professional development via Twitter rarely results in changes to practice and that interactions in Professional Learning Networks comprised of “like-minded individuals” are nearly void of dissenting opinions. As described in the experiences of the expert teacher practitioners involved in this study, the more they progressed along Little’s (1990) Continuum of Collaboration, the better their relationships with members of their PLN became. As these “loose ties” became stronger, clarifying questions became more common and a respectful sharing of different opinions followed. These typically took place during regular Twitter Chats or in response to blog posts. The experiences of Teacher B detailed in the section of Chapter IV titled “Openness as Transparency and Openness as Sharing - Help and Assistance” evidence that PLNs are not “echo chambers” and that the panoptic effect proposed by Cho where users censor themselves due to the public nature of Twitter is atypical.

The themes detailed in Chapter IV of this study capture the relationships between this study and previous research. This study adds to this body of research as it provides rich, narrative descriptions of expert teacher practitioners and their experiences in the PLNs using Little’s (1990) Continuum of Collaboration which includes Scanning and Storytelling, Help and Assistance, Sharing and Joint Work. The researcher uses an interview protocol that delves more deeply into what educators are sharing in their PLNs and if, to what extent, and how it is being shared in the expert teacher practitioners’ home schools. The perspectives of the administrators of the expert teacher practitioners are

gathered using a similar protocol and compared with the perspectives of the teacher participants to provide a more detailed and robust picture of the knowledge sharing that takes place in their respective organizations.

Limitations of Study

The studies of Brennan (2010), Gustafson (2014) and Sinanis (2016) evidence the positive impact that participation in VCOPs has had on principals working in “isolation” or “silos.” Frequent interactions by the participants in these studies with other educators in virtual spaces have accelerated their learning and brought about meaningful changes within their own organizations. Hillier (2009), Ramsden (2009), Veletsianos (2011) Wright (2010) and Fortes, Humphrey and Park ((2012) have contributed to this body of research from the perspective of teacher participation in VCOPs and the use of Twitter as a means to ask questions, to share, and to learn with other educators from across the globe. The researcher in this study intended to fill the void in the research that explores how new knowledge obtained by a teacher in a virtual space is received and disseminated through their respective organizations. To do so, the researcher utilized a phenomenological, qualitative research design where expert teacher practitioners and their administrators were interviewed. As with all studies, there were limitations to this study that need to be outlined as reference points for possible further research.

First, the sample size for this regional study included only five expert teacher practitioners and it examined their perspectives of their Human Capital, Social Capital and Decisional Capital within their home schools prior to their participation in VCOPs and afterwards. Though the data and the themes extrapolated from the interviews evidence that the researcher achieved saturation, the fact remains that only five teachers were studied.

Second, in order to participate in this study, the expert teacher practitioners needed to be comfortable with their principals being interviewed by the researcher. As detailed in Chapter III, the purpose of this was to confirm the teachers' assertions about enhancements in their Professional Capital that resulted from their participation in a VCOP and to get another perspective on how and to what degree their new learning has been disseminated throughout their schools. In order for the expert teacher practitioners to agree to this, one might suppose that the relationships between the expert teacher practitioners and their administrators were positive. This may or may not have had an impact on the perspectives they shared. Further, the administrator's point of view on how and to what extent the expert teacher practitioner's learning has been shared within their organization may or may not require the administrator to take a hard look at the culture they have nurtured and the structures they have established. While the interviews conducted by the researcher in this study with the administrators reflect both positives and negatives, their level of transparency and subsequent candor are variables that are predicated on their self-awareness and level of comfort with the researcher at the time of the interview.

Recommendations for Future Research

In this comparative study, the data collected included the perspectives of teachers actively involved in a VCOP as well the perspectives of their respective administrators. This was done to confirm the impact that the "connected" expert teacher practitioner has had on the Professional Capital of his/her organization. To get a more robust picture of the "connected educator" within their home schools, future researchers interested in how knowledge acquired in a virtual space is spread through an organization might consider the point of view of the "connected" educator's colleagues. This work might shed more light

on how their “unconnected” colleagues view the connected educator and provide insights into how school leaders might better support the “connected educator” as they try to leverage their new learning.

As school leaders become more accepting of educators learning in VCOPs, future researchers might consider identifying schools and districts that have embraced this practice and focusing their studies on the teachers who have been reticent to participate in this form of professional development. The TAM, or the Technology Acceptance Model, first proposed by Davis (1986) and enhanced upon by Gong, Xu and Yu (2004) and Chein, Kao, Yeh and Lin (2012) might provide strong frameworks. Here, “perceived ease of use” and “perceived usefulness” of learning using technology as a platform could be more thoroughly examined. The latter two studies add self-efficacy and motivation to the initial framework and might help future researchers better understand the reluctance of teachers who have not yet taken advantage of VCOPs. A case study approach of teachers who Rogers (2003) might consider the “Late Majority” or “Laggards” might be illuminating if they are interviewed prior to “taking the plunge” and then over time at various stages of their “connectedness.” This might provide important information for school leaders who want to make learning in VCOPs a more common practice in their schools and allow researchers to expand on the recommendations of Chein, Kao, Yeh and Lin (2012) who posit, “In order to facilitate teacher’s acceptance, it is critical to increase their perceived usefulness and perceived ease of use simultaneously.”

Recommendations for Future Practice

Using a comparative design and a semi-structured, open-ended response interview protocol, the researcher in this study was able to capture the lived experiences of expert

teacher practitioners before and after their participation in VCOPs. The results of the interviews allowed the researcher to describe the essence of these experiences both in the virtual space and back in their home schools. For validity and reliability purposes, the researcher also interviewed the administrators of the expert teacher practitioners. The data collected confirmed the teachers' perspectives on their learning and the degree to which it has been shared within their respective organizations. It also highlighted the critical role of the principal and it pinpointed the importance of teachers' understanding of their school's culture if they are going to be able to spread their new learning to other members of their organization. The following recommendations will be made by the researcher after considering both the perceptions of the expert teacher practitioners and their respective administrators. They include (a) recommendations for teachers as they actively participate in their PLNs (b) recommendations for teachers hoping to share knowledge within their home schools (c) recommendations for principals who want to harness the power of teachers learning in a virtual space and (d) recommendations for school districts as to how they might redefine professional development and their future hiring practices to reflect a belief in the importance of connected learning.

Recommendations for Teachers Actively Involved in VCOPS and PLNs

When considering their Human and Decisional Capital, all five expert teacher practitioners involved in this study confirmed that their experiences within their PLNs were powerful catalysts for learning. They also shared that these experiences provided them with tremendous emotional support and that their "connectedness" perpetuated a renewed zeal for their profession. When considering all of the participants' statements describing their experiences in a virtual space, Teacher A's interactions with multiple

members of her PLN where dissenting opinions resulted in a change in Teacher A's practice was especially poignant. It is in this experience that this first recommendation is rooted and it will be presented through the lens of a similar experience had by the researcher.

When participating in a popular weekly Twitter Chat and answering a question about the ability of leader being able to influence the climate and culture of an organization, the researcher responded, "**A1 - Leaders can have an immediate impact on climate and over time w/ consistency, shape culture #satchat.**" Brian Rozinsky, a member of the researcher's PLN who the researcher never met and had minimal interactions with, responded, "**@Researcher I see interesting tensions between consistent and dynamic (vs. static) leadership. #satchat**" At first, the researcher was taken back by this perceived challenge and perplexed as to how the researcher's stated belief in calm and consistency might equate to static leadership or an acceptance of the status quo. Upon reflection, Brian's response caused the researcher to clarify ideas about how consistency in the kindness and authenticity in how administrators approach their teachers creates relational trust. This consistency then allows leaders to begin to reshape or refine culture.

When considering this experience, the expert teacher practitioner actively involved in a PLN should be Brian. Be this person! Be the person brave enough to ask a thought provoking question! Be the person to respectfully offer a different opinion! By doing so, as in the researcher's experience, you will force others to "dig deeper" and/or "to say more" which helps them crystallize their ideas and encourages them to take further action.

Recommendations for Teachers: How to Share New Learning Acquired In VCOPs in Their Home Schools

When examining the experiences of the expert teacher practitioners and how their new knowledge was shared within their respective organizations, it is clear that teachers need to take into account where their colleagues are in their own learning before they choose what to share. In addition to what is shared, the frequency with and the manner in which it is shared needs to be carefully considered. Administrator A's reflection on Teacher A's attempts at sharing some of the new technology tools she became familiar with as a result of her interactions on Twitter are part of the basis of this recommendation. As noted in Chapter IV, the teachers in Teacher A's school had a tremendous amount of anxiety when it came to integrating technology into their lessons. The perceived complexity in the tools that Teacher A wanted to share and her passion for those tools had an adverse effect on her colleagues who did not take advantage of her expertise because they were not ready. The voluntary meetings she hosted and the well-intentioned emails or notes in mailboxes she left did not have the intended impact. Teacher E shared the same experience and she attributed this to the fact that the teachers did not want to learn about technology as it was not an interest or it was not a need as it was in Teacher D's school that just implemented a 1:1 initiative.

With these experiences in mind, teachers, with the support of their administrators, need to find creative ways to generate a "buzz" about the practices, resources and tools they learn about in virtual spaces and they need their students and their excitement to be the ambassadors of this new information. Teacher D and Administrator D noted the school's Twitter hashtag was the venue that allowed Teacher D to "get the word out" about

how she is using tools like Actively Learn and PearDeck to increase student engagement. They shared how teachers in her building would see her work and then seek her out for information. This resulted in Teacher D pushing into other teachers' classrooms and doing demonstration lessons which then led to Teacher D spearheading a series of after-school professional development meetings.

Administrator A shared how their school's annual Parents and Reading Partners (PARP) Week created a venue for students who are not in Teacher A's class to become excited about one of the technology tools that have had a strong impact on student engagement. Here, students earned badges if they accessed the school's PARP Padlet and added a picture of themselves holding the book they are reading at home with their parents. Along with the picture, the students needed to add a brief blurb about the book. Administrator A and Teacher A noted how the students' liked earning badges for sharing the books they love in this manner and they expressed excitement about the new titles their classmates were sharing. Administrator A noted how the students' joy created curiosity on the part of the teachers who in turn sought out Teacher A to learn about how they could use this tool in their classrooms.

In a similar fashion, Teacher B and Administrator B explained how their weekly Tech Titans club has been a powerful stimulus for teacher learning. Students are so motivated to share their new learning and their writing using tools like iMovie and Book Creator and they are expressing this to their classroom teachers. To their credit, their classroom teachers are seeking out Teacher B and they are willing to learn along with their students as they find fun ways to bring these apps into their daily practice.

The similarities that exist in how Teacher A, Teacher B and Teacher D successfully shared their learning can be found in the fact that their colleagues came to them to learn, not the other way around. Whether they used social media or students to generate interest, with the support of their administrators, they found ways to bring the learning acquired in their PLNs to the teachers within their home schools.

Recommendations for Principals

When developing recommendations for principals based on the results of this study, the researcher was intrigued by the two converging perspectives on instructional leadership that Leithwood and Louis (2012) describe in their book *Linking Leadership to Student Learning*. They write:

But there are still some controversies about what instructional leadership might entail. Some scholars emphasize the importance of principals' coaching and modeling that demonstrates deep understanding of curricular content and instructional materials. Others pay more attention to principals' support for improved instruction through the development of improved learning and innovation contexts for teachers, focusing on the ability of principals to stimulate teachers' innovative behaviors.

Based on the findings of this study, the researcher is recommending that principals should carefully consider the latter description of instructional leadership as it represents the work of three of the successful administrators who participated in this study. This recommendation is rooted in the work of Robinson (2011) who asserts that the principal who makes the biggest impact on learning is the one who "participates as a learner" and

Bryk et al. (2010) who emphasize the development of “non-judgmental” and “transparent” climate.

First, these leaders actively participated in their own VCOPs, developed extensive PLNs, and they espoused this to be a strong practice. They “walked the talk” by publicly taking the stance of a learner and sharing how their virtual connections influenced their thinking and practice. They actively maintain both school-based and professional Twitter accounts where they share the great things happening in their schools and participate in virtual communities by sharing, asking questions, openly reflecting, and engaging in joint work. They have encouraged their teachers to create class Twitter accounts and to share strong practices and student work with school and/or district hashtags so that parents and teachers in different schools can observe and ask questions. This has resulted in the development of new relationships between teachers from different buildings within the district and beyond and has translated to new learning opportunities for the teachers and their students.

Secondly, these administrators did everything they could to remove barriers that stood in the way of their expert teachers practitioners trying new things. Over time, and with the support of their district leadership, they developed environments where it was okay for teachers to fail. Administrator B beautifully described the climate he has nurtured where failure is seen as a “first attempt in learning” when he stated, “People would see Teacher B try things and everything she touched didn't turn to gold. There were things that she tried that failed. She got back up and tried again and that's really what learning is all about - trying it and if it doesn't work, try again. Why didn't it work? What can I do better next time?” Principals who want teachers to prototype the learning they are doing in virtual

spaces within their schools must develop and continuously nurture this kind of relational trust. Only then will the process of risk-taking, reflection and reiteration be a reality.

The final recommendation for principals is grounded in the work of Rogers (2003) and his model for the Diffusion of Innovations. To better support their “Innovators,” principals need to identify potential “Early Adopters” and develop formal or informal structures for them to interact with the “Innovators” so that they can spread new or better ideas to others who might eventually become the “Early Majority.” Principals need to become more skilled at looking at the social system that is their organization so that they are able to leverage these “early adopters” who Rogers calls “opinion leaders.” In his research, Rogers describes personality variables and communication behaviors that are typical of these key individuals which might make this identification process easier. These variables and behaviors include but are not limited to:

- Earlier adopters have greater empathy than later adopters.
- Earlier adopters may be less dogmatic than later adopters.
- Earlier adopters have a greater ability to deal with abstractions than later adopters
- Earlier adopters have more social participation than later adopters.
- Earlier adopters are more highly interconnected in the social system than later adopters.

If we believe as Couros (2015) does that “Innovation is about relationships, relationships, relationships,” then these characteristics might prove useful for administrators in their work as “Social Architects” who are building systems to support the spread of innovation across their schools.

Recommendations for School Districts

It is imperative that school districts redefine professional development for teachers and administrators. In order to accelerate learning and encourage innovation, school-district leaders must carefully consider the ideas about intrinsic motivation that Pink (2009) outlines in his book *Drive*. Passions-based, self-directed learning opportunities where educators are free to explore topics that resonate with them are the best ways to move organizations forward. In addition to this freedom, teachers need autonomy with regard to team, time, and technique when it comes to how and when they go about improving their practice. The following scenario will be utilized to describe how districts might go about changing their current practices to create situations where teachers learning in VCOPs can become a powerful alternative and a driver for change.

In District A, teachers are contractually required to engage in sixteen hours of professional development that occurs outside the confines of the regular work day. In the past, these meetings took place after school and the topics being studied were decided upon by the principal, typically in consultation with the Assistant Superintendent for Curriculum and Instruction. Whole faculty meetings or grade level groups would meet to examine these topics which, to varying degrees, furthered pedagogical/content knowledge and instructional goals. However, they did not necessarily inspire teachers or promote the development of new and better practices.

Improvements were made in District A as leaders moved towards a more self-directed learning professional development model where teachers' choices were linked to district-wide goals. Teachers began submitting proposals to their administrators about what they wanted to study and they had choice with regard to whom they worked. This has

resulted in groups of teachers from different grade levels and even different schools working together on a host of different topics. The leaders in District A realized that further improvement could be made if teachers were able to use current technologies like Skype, Google Hangouts, and/or Google Drive to work together remotely. By capitalizing on current technology and removing the constraints of time and technique, leaders in District A were credited for “treating teachers as professionals” as they encouraged their teachers to communicate, collaborate and create using the same tools available to their students.

In light of these successes, leaders in District A began to consider how they might encourage teachers to begin looking outside of the district for collaboration and growth opportunities by taking part in VCOPs. When developing criteria for professional development proposals, they started to encourage teachers to work with educators from outside of the district and the acceptable “techniques” expanded to include the use of social media. Utilizing the recommendations of Chein, Kao, Yeh and Lin (2012), leaders planned to peak curiosity and cultivate teachers’ acceptance of learning in this manner by sharing powerful stories that answered questions about the “perceived usefulness” of a PLN and learning on Twitter. Simultaneously, they offered a host of voluntary Twitter 101 workshops to make teachers comfortable with the basics of this platform and to quell any concerns about the “perceived ease of use” of this tool.

With this groundwork in place, professional development proposals continued to evolve and the “team” with whom teachers could work expanded to include members of their PLNs and the “time” or “place” would be undefined and could include weekly Twitter Chats, Google Hangouts or participation in Voxer Groups. When presenting this idea to the

Board of Education, questions about accountability were posed. Board members and district leaders began thinking about how they would quantify or qualify the “value-added” of this practice and how this learning might be shared within the organization. During the conversation, the Superintendent cited the work of Guskey (2000) and discussed the importance of engaging in reflective practice. He brought this forward as an expectation for educators within the district and suggested the creation of a district blogging platform for teachers to use to memorialize their learning and share it with others.

The researcher cautiously presents this as a “best-case” scenario and purposely does not include a timeline with this recommendation to take into account that district leaders and Boards of Education are at various stages in their own learning and level of comfort with these practices. However, the scenario does outline an evolution where the gradual release of responsibility for professional learning is placed firmly in the hands of teachers - where it needs to be if it is going to be meaningful and sustainable. It illustrates a path that leaders could take if they want to harness the power of progressive educators who are developing next practices and sharing their expertise in digital spaces.

Final recommendations for school district leaders with regard to encouraging participation in VCOPs will also be presented in the form of a scenario. After an exhaustive search for a high school principal, the Superintendent of District A identified two exemplary, equally qualified candidates. In the final interview, when asked why the Superintendent should hire Administrator Y instead of Administrator Z, Administrator Y, an experienced assistant principal and a connected educator with an expansive PLN provided the following answer which gave him the edge - “You’re not just hiring me, you’re hiring my network.” In their hiring practices, district leaders need to carefully

consider the research of Cross and Parker (2004) when they state, “The people least likely to be learning from those outside of the network are the people on whom the whole network is relying.” If we believe that what we know and what we will come to know is based on who we know, it is imperative that school district leaders bring open-minded, intrinsically motivated, and well-networked individuals into leadership roles within their organizations.

Conclusion

The lived experiences of the participants in this study evidence the profound impact that teacher participation in Virtual Communities of Practice can have on the development of their Human Capital, Social Capital and Decisional Capital. Their experiences within the open and participatory cultures they became a part of were powerful as they were able to personalize their learning and connect with like-minded individuals who pushed their thinking and renewed their love for their profession. It is clear that these interactions raised self-awareness and caused the participants to question existing beliefs and instructional practices. “Scanning and Storytelling,” asking for “Help and Assistance,” “Sharing,” and participating in “Joint Work,” accelerated their learning and brought about the use of new and innovative tools and strategies that enhanced their teaching. When evaluating the impact that these “connected educators” had on the Professional Capital of respective organizations, their colleagues' readiness for change, and the support and active engagement of their principals were key variables. As administrators become more adept at thoughtfully considering culture when managing the Social Capital within their buildings, the more and more these connected educators will be able to act as change agents and their impact will be transformational.

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