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SCHOOL INNOVATION: A PHENOMENOLOGICAL STUDY OF LEADERSHIP

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ABSTRACT

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Kevin H. Storch

The purpose of this phenomenological study is to gain an understanding of what school innovation looks like as well as how school and district leaders address the concept. Technology has forever changed society. We must be careful not to confuse school innovation as the implementation of technology in the classroom. Educational leaders face the challenge of engaging students in meaningful learning opportunities that go beyond rote memorization and performance on standardized assessments following NCLB and Common Core. This study identifies characteristics of school culture that are necessary for innovation to take place. Principal and district leaders have to be knowledgeable as well as be willing to provide teachers with autonomy to make decisions and take informed educational risks in their instruction. Qualitative data from a school district on Long Island New York identified for innovative instructional practices provides insight into the phenomenon of innovation. Interviews conducted of teachers as well as school and district leaders provided the data. Interpretive themes evolved from the interviews as well as collected artifacts. Self Determination Theory provided a theoretical framework for the study in order understand teacher motivation to engage in innovative practices. Findings from the study indicate that a relationship exists between innovation and teacher autonomy, relatedness, and competency. Leadership style and the establishment of trust within the organization are also essential to innovation.

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CHAPTER 1: INTRODUCTION

What is school innovation? The term "innovation" describes something that is new, novel, sophisticated, complex, or cutting edge. What does innovation look like in the classroom of the real world and how are educational leaders adapting to technological innovations within society? Many of the studies that this researcher has investigated focus on variables such as innovative atmosphere, support from administration, and obstacles that may impede innovation. For this study, the literature review directly relates to school leadership and Self Determination Theory of motivation. The researcher strives to understand the leader's behavior to motivate others and to develop an innovative culture within the organization. The researcher explored the areas of relatedness, teacher autonomy, and competence needed to innovate as important factors of intrinsic motivation. The researcher sought to understand the behaviors of school leaders and teacher motivation as related to innovation. The relationship between leadership and innovation is the central focus of this phenomenological study. School leaders encourage innovative thinking and instructional practices within their organizations, but little research addresses this directly.

Public education continues to evolve over time and is reflective of shifts in society. In recent years, school leaders have worked towards standardization of instruction in a one size fits all modality. Creativity and the willingness within schools to engage in innovative instructional practices have suffered. Over the past twenty years, legislation passed with the goal of improving student achievement through standardized curriculum and assessments. Recent legislation passed in 2015, ESSA (Every Student Succeeds Act), replaced NCLB (No Child Left Behind) through significant revisions to

student assessment, learning, professional development, and instruction. ESSA provides current best practices through local research and improvement policies, whereas NCLB fell short by requiring school districts to implement universal one size fits all approaches regardless of local needs (Dynarski, 2015; Haller et al., 2016). NCLB applied a business model to public education that required teachers to be compliant and follow the curriculum exactly and simultaneously with peers. Educators expected Learning and achievement to improve through consistency, drill, and frequent assessments. Even though NCLB has been replaced by Common Core Standards and subsequently, ESSA, many educators have not changed their instructional practices, persist in doing things the way that they have always done them, and continue to struggle to close the achievement gap between demographic and income level groups (Christensen, 2015). Educators have not lost focus on the goals of student achievement, improvement in instruction, teacher development, and the elimination of the achievement gap; however, the world is changing so quickly around the public school system. The current system struggles to maintain the ability to adequately provide students with the skills necessary to compete in a globally competitive work force (World Economic Forum, 2016).

As we look to the future, Couros (2015) asks, "If you had to choose between compliant, engaged, or empowered, which word would you want to define your students?" (p. 97). Researchers have not fully addressed the development of school leaders as innovators as technology and how educators and students learn have evolved. School leadership is crucial in creating a trusting learning environment conducive to learning, teaching, and the attraction and retention of high-quality teachers. The

importance of strong school leadership in relation to student learning is second only to teaching itself (Merriam-Webster, n.d.).

Purpose Statement

The purpose of this study is to examine the phenomena of school innovation and the role of the school district and building level administrators in motivating teachers to change the way they engage teachers and students in the learning process. The goal of this study is to understand the phenomenon of innovation and to share with others in the hope that they may benefit. Within the research, innovation has been defined as "the successful implementation of creative ideas within an organization." (p. 1, Aslan et al., 2018). Synonyms of innovation also include change, transformation, metamorphosis, and breakthrough. Innovation is defined by Merriam-Webster (Merriam-Webster, n.d.); "the introduction of something new: a novel idea, method, or device." According to Wikipedia ("Innovation", 2021), innovation "is a new idea, creative thoughts, new imaginations in form of device or method." The IGI Global Publisher of Knowledge website considers innovation as "the process of creating and introducing something new and it requires the invention of something new and its implementation in the organization or in the market" (IGI Global, 2021). Couros (2015) describes innovation as taking something that is new and making it better.

Innovation in the classroom is not just technology alone. Innovation may include a variety of instructional practices that focus on teacher and student learning and is commensurate with change. If we want the learning process for students to change, then we must also change the way teachers learn (Martin, 2018). The implementation of

innovative instructional practices in the classroom begins with teachers and supportive leadership.

Technology in a variety of forms is the most obvious when considering innovation in K-12 public education. Technology significantly affects how we live our lives. Cell phones, ipads, laptops, tablets, television, and the internet have all played a role in the transformation of society in a relatively short amount of time. Information is readily available to anyone who has access to a device and the internet. Schools have been slow to accept this societal shift. It appears that learning in the classroom has not kept pace with the world outside. Technological devices have slowly made their way into classrooms with resistance and a variety of obstacles, and have not transformed public education to the extent that one might expect (Lim et al., 2013). One might ask, what are we preparing students for? Juliani (2018) says, "Our job as teachers, leaders, and parents is not to prepare kids for something; our job is to help kids prepare themselves for anything."

This qualitative study examines innovation in schools with a focus on building level leadership. Analysis of additional variables such as relatedness, teacher autonomy, and necessary leadership reveal characteristics of the phenomenon. An interview instrument developed by the researcher based upon information found in a literature review of the topic. Data collected by means of interviews and the collection of artifacts from a suburban school system on Long Island, New York. The design of this phenomenological study was to gain a deeper understanding of the factors that impact innovation within the participating school district. Discussions with teachers and cultural expectations as well as personal insights shared by administrators and teachers may help

to understand the phenomenon of school innovation and assist other leaders who wish to act as change agents to transform their schools into learning organizations for both students and teachers.

Theoretical/Conceptual Framework

Teachers must first be motivated to make change in their instruction in order for innovation to occur. Teachers may be motivated to engage in innovative practices with the support of their building level administrators. Teacher motivation to engage in innovative practices are explained by considering intrinsic motivation theory and what personal needs and circumstances are necessary. Self Determination Theory (SDT), developed by psychologists Edward Deci and Richard Ryan (1985). The theory was developed to understand the individuals' willingness to complete a desired task based upon intrinsic motivation. SDT includes two sub-theories: Cognitive Evaluation Theory and Organismic Integration Theory. The Cognitive Evaluation portion of SDT is based upon the idea that humans have three basic needs: autonomy, competence, and relatedness (Deci & Ryan, 1985). The Organismic Integration side of SDT makes distinctions among different types of motivation.

Deci and Ryan (2000) describe autonomy, competence, and relatedness as basic human needs that are inherent regardless of culture or country. Deci and Ryan define autonomy as our ability to make choices and have control over our actions. Competence is our ability to be good at something. Relatedness is our need to connect with others through positive relationships. The Cognitive Evaluation Theory portion of SDT requires all three components for intrinsic motivation to occur. How intrinsic motivation relates to learning is important in an educational setting. Teacher motivation is determined either

intrinsically or extrinsically by the individual. The principal is responsible for establishing the climate and culture of the school which is either supportive of teachers engaging in innovation or is controlling of instructional practices and decision-making.

Self Determination Theory forms the theoretical framework of the study. The three concepts of autonomy, relatedness, and competency provide a lens to understand what principals do to establish a culture that supports and promotes innovation. A basis for motivation of instructional change is meeting these basic needs. Building and district leadership has an impact on teacher motivation to engage in innovative instructional practices. The researcher developed a greater understanding of the phenomena of school innovation by gathering qualitative data through interviews of district and building leadership, teachers, and the collection of artifacts that bring clarity to understanding the phenomena. The researcher compared interpretive themes that emerged from the data among each participating group as well as collected artifacts. The following figure describes how SDT and leadership work together to develop school innovation.

Figure 1

Self Determination Theory and Leadership Conceptual Framework

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                        │        Leadership        │
                        ├──────────────────────────┤
                        │ Self Determination Theory │
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   │  Competency  │      │  Relatedness │      │   Autonomy   │
   └──────────────┘      └──────────────┘      └──────────────┘
            \                   │                   /
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                ┌──────────────────────────┐
                │     School Innovation     │
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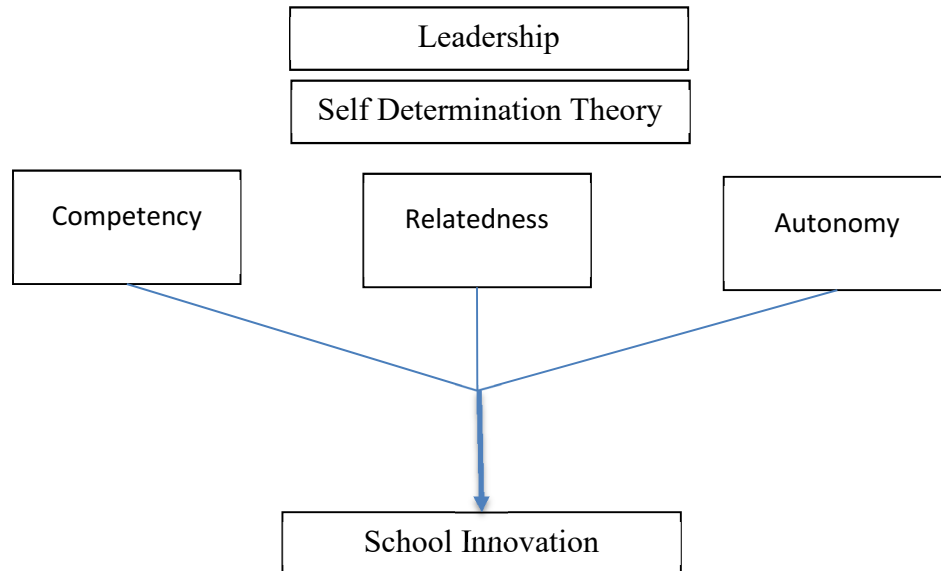
Significance/Importance of the Study

This study is important because of societal pressures that require the continuous evolution of public education. Innovation within classrooms is necessary if our students are to develop as independent learners. Students who attend public schools in the United States enter the system in kindergarten having already experienced a significant amount of technology in their personal lives (Zhao, 2017). If educators adequately prepare students, then public schools must keep pace with a rapidly changing technological world and be open to change. Fullan (1995) states that teachers and educational systems should be experts in the change process, but instead they are known for their resistance to change. School systems have yet to fully accept technology as a change agent. According to Lim et al. (2013), technology innovations have been considered invaders from the outside (Sawyer, 2006). The traditional model of public education has been that the

teacher lectures and the students regurgitate the same information back in the form of an assessment. Some students have learned how to "play school" by giving back to teachers only what is expected and therefore not challenging themselves or their thinking. To these students, knowledge is static and only necessary to reach a positive letter grade. As a result, students have learned how to consume and recite knowledge instead of producing it through effort, collaboration, and creativity (Sawyer, 2006). Often, educators have made the mistake of looking to standardized testing as a means of measuring the success of student learning. Results from research suggest the contrary. Long lasting success depends upon a cultural change (Fullan, 1995). Martin (2018) points out that public education's best chances for staying current are to be open to trends such as social media and to allow students the opportunity to teach us in order to make learning meaningful. Martin cautions educators by saying "We can no longer dig our heels into the ground because we have always done it this way." (p. 53, Martin, 2018)

The role of the principal is complex but must include skills in the development of an innovative organization. State policy makers do not understand the contributions made by principals. Manna (2015) outlines a path for policy makers to address the need for revisions or omissions of policies to include standards, recruiting, evaluation, licensing, and professional development. Responsibilities of the principal include maintaining a safe learning environment, ensuring student learning and success, hiring and maintaining the most effective teachers, and providing meaningful professional development so that teachers remain current. At the state level, there is a significant amount of written policy regarding teachers and teacher effectiveness. Principals, however, are often low on the state agenda. Research does recognize that strong principal leadership can powerfully

affect teaching and leadership within schools. Nationwide, principal standards and expectations are obscure. There is little state policy written regarding principal professional development and assessment other than tying it to teacher systems. Manna (2015) makes convincing recommendations to state officials to change policy regarding professional development for principals. Manna's recommendations include principal standards, recruiting, preparation, licensing, support of professional growth, and the evaluation process.

In a world that is changing quickly in terms of technology and the sharing of information, what does learning for students look like in the future if traditional methodology is no longer effective? Schools of the future will require collaboration, goal setting, and creativity (Fullan, 2002; Sawyer, 2006). Children currently enrolled in school will enter a job market that is widely unknown, but many schools are preparing students to be good test takers rather than life-long learners. Today's students who will be the employees of tomorrow will be required to be life-long learners and thinkers. Thomas Friedman (2017) states that "the notion that we can go to college for four years and then spend that knowledge for the next thirty is over. If you want to be a lifelong employee anywhere today, you have to be a lifelong learner. And that means: more is now on you. And that means self-motivation to learn and keep learning becomes the most important life skill." (p. 2).

A likely solution to this problem is for schools to increase the use of technology within the school day. This creates a variety of cultural, financial, and instructional challenges for schools (Zhao, 2017). Simply adding machines to a classroom is not enough. In order for long lasting change to occur, a cultural shift must take place within

each classroom and school (Lim et al., 2013). For various reasons, educators are reluctant to alter their instruction to a model that requires students to engage differently in learning. In the book, Disrupting Class, How Disruptive Innovation Will Change the Way the World Learns, Christensen (2017) discusses how technology in the classroom has had little impact on student learning when he says, "Schools have crammed the computers into the existing teaching and classroom models. Teachers have implemented computers in the most common-sense way to sustain their existing practice and pedagogies rather than to displace them" (p. 84). Innovative instructional models such as blended learning and flipped classrooms are quickly dismissed by traditional teachers for reasons such as cost, equipment, too much work, or student ability levels (Hilliard, 2015). Andy Hargreaves makes the argument that there is a difference between Christensen's "disruption" and improvement (Hargreaves, 2018). He cautions educators not to abandon all forms of traditional instruction as bad simply to replace it with the role of the teacher being solely that of the facilitator of information. Innovative instructional methods must be analyzed and vetted by educators over time, and not simply adopted as the latest fad. Educators must find a balance between the two schools of thought. Educational leaders worldwide will have to decide to remain in a pedagogy and methodology of teaching and high stakes assessment or adopt innovative instructional practices. It remains to be seen whether school administrators are prepared for this shift and how they will create school cultures that are supportive of innovation.

Connection with Social Justice and/or Vincentian Mission in Education

Teachers are reluctant to change and at times serve as barriers to the advancement of innovative instructional practices. The leadership provided by building level

administrators is important for change to occur. There are circumstances that have an impact on a teacher's willingness to engage in change regardless of a mandate from their building principal. One factor may be the desire to make a difference in their students' learning and wish to engage students differently in the learning process. Another may be the sense of belonging and connection to colleagues in a positive learning environment. Teacher competence or understanding of new and innovative practices may hold them back from taking professional risks. These barriers to teacher intrinsic motivation suppress the desire to want to do things differently. The goal of this study is to learn what building level administrators do to eliminate these barriers and to create the opportunity and culture for innovation to take place.

Research Questions

- What does innovation look like in a school environment?

- What characteristics of school culture are important in order for innovation to take place?

- What are administrators willing to do in order for teachers to innovate in the classroom?

- What knowledge and skills does the principal apply to encourage innovation for teacher learning?

Design and Methods

This qualitative study used a phenomenological methodology. The goal of the researcher was to gain a deeper understanding of the nature of school innovation as it relates to building leadership. To uncover the meaning of school innovation, the researcher interviewed building and district level administrators. The interviews revealed the lived experiences within a school district that has instituted significant innovative

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instructional practices provided valuable insight. Teacher interviews as well as the collection of artifacts from the school district described additional evidence and experiences that explained the phenomenon. The positive or negative influence of district and building leadership on school innovation is the primary focus of the study. The first cycle coding of the qualitative data collected from district, teachers, and building leaders utilized the in vivo coding method. The researcher completed eclectic coding in the first to second coding cycles in order to refine the topics. In the final cycle of coding, the researcher identified consistencies within the data through pattern coding (Saldana, 2016). The researcher asked the following questions during the coding process:

- What are the administrators doing?

- How exactly are they doing this?

- How are observations similar from one leader to the next?

Through the coding process, the researcher made a comparison between the research questions and patterns and themes. Dedoose software was used for organization and analysis of data. The researcher calculated the frequency of each of the identified themes for each of the data sources. The study used data collected from interviews and artifacts or documents. In order to identify consistent themes and characteristics of the phenomenon, data from each source were compared and analyzed. By triangulating the data, the researcher was able to identify consistencies and form sound conclusions regarding the phenomena.

Rationale and Significance

There is little research connecting the behavior of school leaders and innovation. Recent research indicates a need for schools to shift from traditional instructional

practices and shift how students are engaged in the learning process. A catalyst for these shifts is the ubiquitous presence of technology in society. We live in a world where information is readily available to anyone with a device. The instructional practices used within the classroom must address this issue if schools are to prepare students for life beyond graduation. There is a call from businesses and universities for students to possess skills such as problem solving, creative thinking, and working as a part of a collaborative team. An additional challenge is a move away from Common Core Standards and the adoption of the Next Generation Standards for learning. Simultaneously, state expectations for principal effectiveness have also been modified (Reston, 2015) to capture these changes in standards for leadership. New York State has provided qualifying districts with additional funding to improve hardware, security, and the infrastructure that support technology and innovation through the State School Bond Act. The study is significant in that the findings may benefit current and future leaders who find themselves as change agents in time of transition for public education.

Role of the Researcher

The role of the researcher in this study was to collect qualitative data from a group of school district and building leaders and teachers through an interview process. The researcher served in the role of interviewer in order to gather data in an unbiased manner. Through analysis of the collected data, the researcher synthesized and drew conclusions based upon the evidence. The researcher has no prior affiliation with the sample group or the school district in general.

Researcher Assumptions

Assumptions made by the researcher relate to the participants themselves. The researcher assumed that all participants regardless of the level within the organization believe in change and school innovation. The researcher assumed that all stakeholders shared a common shared vision for innovation. Principals and teachers may have less buy-in to the concept of innovation them without their input. The researcher assumes that each participant is sharing personal experiences and ideas regarding innovation willingly and without consequence.

Organization of the Dissertation

This dissertation is organized around three central concepts of SDT that affect school innovation. Those concepts include relatedness, autonomy, and competency to innovate. The literature review in chapter two focuses on each concept individually as it relates to school innovation. The qualitative methodology used for this phenomenological study includes interviews and collection of artifacts. The Dedoose software provided a system for data organization and analysis. Conclusions made from the triangulation of data illustrate and define the phenomenon of innovation. Self Determination Theory was used as a theoretical framework in order to understand principal motivation to engage in innovative activities for teacher, student, and personal learning. Chapter four of the study provides the reader with a detailed analysis of the data.

Participants

The target population of this phenomenological study consists of educators at the school and district levels including administrators and teachers. The participating district is a suburban school district located on Long Island, New York. The study focuses on innovative instructional practices in elementary and high school levels. Data collection

for the study was done through in-depth interviews of participating educators. Through a review of the literature, the researcher developed the interview questions. The identified district recently received $2.9 million from the state of New York in Smart School Bond Act funding. The district also has an established department titled "Innovation and Learning." Additionally, the district created an "Innovation Lab" for student use at the secondary level. The identified school district has adopted several innovative instructional practices and models. The district is a unique site for data collection in comparison to other school districts in the region.

Instruments

The researcher developed an interview guide for the purpose of data collection. Interview questions were generated from information gained through the literature review process. Each question was intentionally open ended in order to provide participants the opportunity to share their own lived experiences, thoughts, and ideas of school innovation.

The researcher conducted interviews of teachers responsible for instruction within classrooms and labs. Interviews were audio and video recorded using Zoom virtual conferencing technology. Zoom technology provided the researcher with a transcription of each interview. Transcripts were uploaded into Dedoose software for analysis. Participants were identified based upon their level within the school district such as teacher, building administrator, or district level leadership. The researcher conducted an initial in vivo coding of data found within the responses from each participant. Themes began to emerge through the coding process. Artifacts collected from the district level staff were analyzed in the same manner using Dedoose. The researcher triangulated the

data by comparing each of the three groups of participants and the artifacts. Results of the comparison of data will be provided and discussed in chapter four.

Procedures

1. The researcher conducted remote interviews individually with each teacher, and district and building level administrator using Zoom software. Zoom provided a transcript of each interview. Interview questions were open ended and based upon literature review (Seidman, 2006).

2. Classroom teachers participated voluntarily. A letter of introduction to the study was sent to all teachers and leaders within the school district seeking participants.

3. In the participating school district, innovation is a district-wide initiative and overseen by an Assistant Superintendent for Innovation. Artifacts were collected from district level administration that were used to define a common goal and mission for innovation throughout the district.

4. In vivo methodology was used for analysis of All qualitative data. CAQDAS software, Dedoose software was used for further analysis and identification of major themes within the data.

5. The researcher drew conclusions based upon the data. As each research question was answered, a greater understanding of the phenomenon of school innovation and leadership was established.

Definition of Key Terminology

Innovation:

- Innovation is the successful implementation of creative ideas within an organization (p. 1, Aslan et al., 2018).

- George Couros describes innovation as taking something that is *new* and making it *better* (Couros, 2015).

- Merriam-Webster defines innovation as the introduction of something new: a novel idea, method, or device (Merriam-Webster, n.d.).

- Wikipedia defines innovation as a "a new idea, creative thoughts, new imaginations in form of device or method" ("Innovation," 2021).

- The Business Dictionary defines innovation as "a process of translating an idea or invention into a good or service that creates value or for which customers will pay."

Disruption:

- Disruption describes a process whereby a smaller company with fewer resources is able to successfully challenge established incumbent businesses. Specifically, as incumbents focus on improving their products and services for their most demanding (and usually most profitable) customers, they exceed the needs of some segments and ignore the needs of others. Entrants that prove disruptive begin by successfully targeting those overlooked segments, gaining a foothold by delivering more-suitable functionality. (p.45, Christensen et al., 2015)

Self-determination theory:

- "The theory has proposed that all humans need to feel competent, autonomous, and related to others. Social contexts that facilitate satisfaction of these three basic psychological needs will support people's inherent activity, promote

more optimal motivation, and yield the most positive psychological,

developmental, and behavioral outcomes" (p. 1, Ryan & Deci, 2000).

Competency:

- Competency is described by Deci and Ryan (1985) as positive feedback that enhances intrinsic motivation, and that negative feedback decreases intrinsic motivation.

Relatedness:

- A person's identity as connected to others (Deci & Ryan, 1985).

Autonomy:

- Deci and Ryan (2008) define autonomy as actions for which people feel a full sense of choice and endorsement of an activity.

ISTE Standards:

- International Society for Technology in Education (*ISTE Standards for Administrators*, 2009).

ESSA:

- Every Student Succeeds Act (*Every Student Succeeds Act (ESSA), U.S. Department of Education*, n.d.).

Smart Schools Bond Act:

- State funds provided to a qualifying school district to improve technology or infrastructure to improve student learning and opportunities (*Smart Schools Bond Act: Educational Management : P-12 : NYSED*, n.d.).

CHAPTER 2: LITERATURE REVIEW

Innovation is synonymous with change as well as creativity. Several different factors effect school innovation. Within this chapter, the researcher examines some theses factors based upon a review of the literature. The researcher provides a glimpse of schools within the United States that are currently engaged in innovative instructional practices. Additionally, the researcher examines the social and political factors that have forced public education to innovate through history. The literature review provides further discussion regarding the components of Self Determination Theory such as teacher autonomy, relatedness, and competency. Within this chapter, the researcher also examines leadership style as a contributing motivational factor in innovation as well as organizational culture.

School innovation is not simply technology in the classroom. Technology plays a part in innovation but is not all inclusive of the phenomenon. As evidence, private schools are implementing significant innovative changes in the learning process for students while public schools appear to lag behind. In order to provide examples, the "how" and "what" innovation looks like in a school setting, the researcher used information obtained from websites of schools known for innovative practices within the United States. These schools may serve as models for both public and private educational institutions and perhaps provide a glimpse into the future of education.

Model Innovative School Programs

Avenues World School is a private kindergarten through twelfth grade school located in the Chelsea area of New York City, New York. The website for the school provides a variety of information regarding curriculum and staff. The school boasts a

unique modular curriculum system that engages students in real-world problems through an interdisciplinary approach. Students develop essential thinking skills through practice designed to develop empathy, mental agility, and problem solving. Technology is integrated throughout the curriculum and students participate in project-based learning. Foreign language instruction is a K-12 program. The staff and administrative team participate in on-going professional learning. (Avenues World School, 2021)

The New York City Department of Education in 2008 established iSchool as an experiment in innovation. Co-principals Mary Moss Brown and Alisa Berger (Moss Brown & Berger, 2014) developed the school around the idea of personalization of student interests and learning needs. iSchool provides a challenge-based curriculum organized into modules that include interdisciplinary courses that focus on real work and real-world problems. Real world experiences help students to understand the content and develop important skills. The modules create opportunities for students to work with real-world experts to solve a problem. Online learning is a reality of the world and important in developing 21st century skills and learners. Core experiences include the coursework that all high school students are required to complete in order to meet the requirements for graduation as well as college acceptance and success. Work habits and "habits of mind" are developed. Individualized courses of study are created by offering students choice in courses. For example, mathematics is required for all four years. Assessment of student skills are conducted regularly in order to determine readiness to move on to the next level. Advancement to the next curricular level is not based upon age or grade level. Additional math course work and electives provide student the opportunity to enter into advanced levels of math. As an elective, an integrated arts program is provided. Each

student who attends iSchool must identify an "Area of Focus." This focus provides them with practical experience in order to learn independently and develop expertise in a topic of their choice. Teachers and administrators believe that, given the opportunity, students are motivated and more likely to explore areas of interest to them in the learning process. The Area of Focus process includes a proposal, literature review, and final project and presentation (Moss Brown & Berger, 2014).

Unlike iSchool and Avenues World School, Rocketship Schools cater to students in disadvantaged and low-income areas. Rocketship schools are located in the San Francisco Bay area, Nashville Tennessee, Milwaukee Wisconsin, and Washington D.C. The foundation of Rocketship is built upon three tiers: personalized learning, talent development, and parent power and involvement. The school day for Rocketship students includes the rotation through four content blocks of time that include STEM, the humanities, learning lab, and enrichment. Instructional staff is specialized to specific content areas such as reading and math. Both whole and small group methodologies of instruction are utilized in order to meet students at their specific academic level. Students are engaged in adaptive online learning programs for two hours each day. These programs are designed to augment teacher instruction. The use of technology provides students with practice and repetition to master skills. Teachers strive to develop the whole child by providing a variety of enrichment courses. Professional development for teachers is vital in maintaining a highly skilled faculty. (Rocketship Public Schools, 2021)

Blue School is a private pre-kindergarten through eighth grade school located in New York City, New York. The school is associated with the entertainment organization the Blue Man Group. It is an expectation of students who attend the Blue School to

accept personal responsibility for their learning as well as to have a relationship with the real world and real-world applications. Creative and innovative student responses to problems are encouraged by teachers. A highlight of the program is student self-discovery and questioning of the world. A culture of trust exists in which students openly share ideas with others. Students participate in weekly Art, Music, Drama, STEAM, and Spanish language classes. Project-based learning is embedded in the curriculum and an after school enrichment program is offered. (Blue School, 2021)

Similarities of these highly innovative schools include connections to the world outside of the school building as well as creative problem solving. Each of the schools engage students in the learning process differently through project-based learning experiences. Technology is integrated throughout the curriculum and is often used to personalize instruction. Foreign language as well as instruction in the humanities are also important elements of each school curriculum. Teachers in each school are engaged in on-going professional development in order to maintain their effectiveness within the classroom. Teachers in these schools are motivated learners just like the students. Schools like these are reshaping what learning looks like for students and teachers. These schools demonstrate the next step of evolution of learning. But, how did this evolution occur, and when did it begin?

Historical Timeline of Innovation in Education

The public education system in the United States has evolved from one year to the next since the beginning of compulsory education in 1852. This evolution has occurred with political and societal shifts as well as innovative instruction that challenged the

status quo. Throughout the history of public education in the United States, innovation has been sparked by a significant societal or economic disruption.

Prior to the year 1957, public education served the public by preparing students for the industrial work force. Compliance and rote memorization of information was the basis of learning. The Soviet Union successfully launched Sputnik that dramatically challenged the U.S. attitude towards education. The satellite orbited the earth two times and crossed over the United States creating tremendous fear that the Russians were winning the race to space. The Soviet Union's success challenged both national security and pride. Emboldened educators across the country adopted a new focus on science and math in order to compete with the Russians. Educators realized that there was a need for innovation. As a result, students were provided with additional practice beyond the school day called homework. In addition, math and science educational funding was increased through the National Defense Education Act in 1958 (United States Senate, n.d.). The House recommendations for passage of the bill included language such as "It is no exaggeration to say that America's progress in many fields of endeavor in the years ahead—in fact, the very survival of our free country—may depend in large part upon the education we provide for our young people now." (Committee on Education and Labor, 1958)

Innovation in public education took another significant leap when Lev Vygotsky's (1962) book *Thought and Language* was translated into English. Vygotsky's book challenged traditional thinking and examined the social nature of learning. His concept of Zone of Proximal Development described what a learner can do independently and what

they need help with from someone with knowledge and expertise. Vygotsky's book became the foundation for social constructivist ideology that looks at how students learn.

Innovation exists in the public education system in the form of multiculturalism. In 1965, President Lyndon Johnson signed the Hart-Celler Immigration Act that brought equality and opportunity for immigration from all countries. As a result, immigration into the United States increased which had a dramatic effect on the public education system. Since 1965, State and Federal officials have responded by enacting legislation that provides support for students entering from other countries with limited education and are non-English speakers. Today, we refer to these students as ENL (English as New Learners). In 1968, Congress passed the Bilingual Education Act that defined terms such as English proficiency and "limited English proficiency" or LEP. Upon arrival into the U.S. education system, LEP students received the same curriculum as native English-speaking students. Lau v. Nichols (1974) stated that "there is no equality of treatment merely by providing students with the same facilities, textbooks, teachers, and curriculum; for students who do not understand English are effectively foreclosed from any meaningful education" (Lau v. Nichols, 1974). Educators innovated through differentiation in order to meet the needs of a changed and much more diverse student population. Delivery models of instruction such as dual language, basic mainstream, sheltered, and bilingual attempted to improve the language arts and mathematics skills of non-English speaking students. California passed Proposition 227 in 1998 requiring that instruction be conducted in English (California Proposition 227, the English in Public Schools Initiative, 1998). The proposition limits the amount of time students can receive

special services, establishes a tutoring program, and provides $50 million per year from the state. The proposition essentially ended bilingual education in the state of California.

In New York state, the Department of Education has outlined expectations for school districts within revisions to CR Part 154 (English Language Learner/Multilingual Learner Regulations & Compliance, 2014). This document includes addressing the needs of ELLs in early childhood education, providing resources and technical assistance to school districts to prepare bilingual and English as a New Language teachers to raise standards and achievement levels for ELLs, identifying instructional strategies for ELLs with interrupted/inconsistent formal education, developing resource documents to support literacy development for ELLs.

In the 1970's, public schools were racially divided and unequal. Civil unrest forced schools to innovate once again. The Civil Rights act signed by President Johnson in 1964, ended segregation and banned discrimination on the basis of color, race, sex, or national origin. Schools were required to provide equal learning opportunities for all students regardless of race. The Coleman Act concluded that African American children would benefit from attending white schools. As a result, school districts began the busing of minority students to predominantly white schools and white students to black schools in order to create balance and comply with the Civil Rights Law. This in turn created more controversy such as parents refusing to send their students to school as well as violent public demonstrations. Educators had to find an innovative way to achieve racial balance, maintain student achievement, and provide social emotional support for students. (Kanter & Lowe, 2017)

Public Law 94-142, also known as the Individuals with Disabilities Education Act (IDEA), was ratified in 1975. School districts were no longer permitted to exclude students due to a physical or cognitive disability. The law ensured the right to a free and appropriate public education for all students. As a result, educators could no longer exclude students who did not match the norm. Innovation in the form of the Individualized Education Plan (IEP) was established. The major tenets of PL94-142 assure that all children with disabilities have access to a free, appropriate public education which emphasizes special education and related services designed to meet their unique needs. The law also ensures that the rights of children with disabilities and their parents are protected, to assist states and localities to provide for the education of all children with disabilities, and to assess and assure the effectiveness of efforts to educate all children with disabilities (*Public Law 94-142*, 1975).

Classroom instruction and the delivery of information was beginning to change in the 1970s and 1980s. Technological devices emerged as an educational tool. Texas Instruments produced the first hand-held calculator in 1972, the TI 2500. The development of this innovative technology established Texas Instruments as the world leader in electronics. From this simple machine, others would develop devices that would ultimately change how we work, play, communicate, and teach. The Apple Corporation was the first to enter the education realm in 1977 with the personal computer the Apple II and Apple IIe. For the first time, students used computers to learn. In 1981, IBM launched their first personal computer. The PC model 5150 was the smallest and most powerful computer on the market and used the MS DOS operating system. The PC became the standard for businesses. Technology evolved quickly, and by 1985, Microsoft

had released the first version of the Windows system that revolutionized the industry. By 1991, the first smart board was developed by the Smart Corporation. The Smart Board provided an interface between the PC computer and a large display board. Projected images enabled notes written by the instructor in an overlay to view by the whole class electronically. The Netscape Corporation released in 1994 the first free for non-profit organizations internet browser. With Netscape, students had access to information from around the world. The teacher and a textbook were no longer the sole source of information and learning. The first online school, Compuhigh Whitmore, began in 1994. As the internet continued to evolve and technology advanced, other browser systems developed. Many other online schools would cause educators to rethink how to deliver instruction. Yet, online schools were not the norm. The vast majority of students continued to attend public school with their classmates and teachers as technology gradually became more a part of daily instruction.

The controversial document, A Nation at Risk (National Commission on Excellence in Education, 1983), called for sweeping reforms to the public education system from the National Commission on Excellence in Education. The 1983 report described the failures of the U.S. educational system at that time. Countries from around the world had surpassed U.S. students in academic achievement. The once great U.S. system of education that developed after Sputnik was now at best mediocre. The findings of A Nation at Risk describe the decline of the American system of education as a lowering of expectations for student achievement, a lack of time being spent on core subjects, watered down content, and poor teacher quality and development. High school graduates were not prepared with the necessary skills for work or college.

The findings of the commission led to significant recommendations that included innovative approaches for future success of students and society. The first recommendation was to expand the expectations for high school graduation to include rigorous coursework that included four years of English and three years of math, science, and social studies. Expectations also required that students take two years of a foreign language and a half of a year of computer science. By today's standards, computers were simplistic and just emerging as an educational tool. Clearly, the commission recognized the importance of technology and computer science and the need for highly skilled workers in this area. Standards and stricter college admission requirement were proposed. Additional recommendations included extending and restructuring the school day in order to provide time for a more rigorous course of study. The commission recommended that students with specific learning needs such as gifted and exceptional education students should have an expanded or restructured day. The report suggested that administrative intrusions into classrooms should be limited in order to allow teachers the opportunity to teach. Teacher preparation programs should be held to rigorous and high expectations. In order to attract talented students to the profession, the commission recommended incentives in the form of grant programs. The commission also recommended that local school boards increase teacher salaries and expand the contract year to eleven months. Professionals outside of the profession in the areas of math and science should be considered for employment due to a shortage in these subject areas. The commission held school administrators responsible for implementing the reforms and providing financial stability to their school districts.

The report *A Nation at Risk* caused a disruption in the status quo of public education in the United States. The findings of the report as well as the recommendations pushed educators to innovate. Once again, educators had to think differently about what and how they were preparing students for college or the work force. The fact that other countries were still out-performing American students emboldens the public to demand change and reform. The National Commission for Excellence in Education (1983) defines the term *excellence* as the individual learner performing at the boundary of their capability; high expectations from the school or college, which aids in reaching goals; and a society that has adopted these measures of learning in a rapidly changing world.

The next step in the evolution of public education took the form of intense focus on standards and student performance. In 2001, President George Bush signed the school reform legislation named No Child Left Behind (NCLB) into law (No Child Left Behind, 2001). NCLB offered little in terms of innovation of instruction, rather, educators moved towards standardization and accountability. The result was high stakes testing for students and accountability for educators through a business model. The goal of NCLB was to regain the nation's competitiveness in the world as well as address the growing proficiency gap among minority and non-minority communities. Performance goals created stringent expectations for each school in English language arts and math. The expectation was that schools demonstrate adequate yearly progress towards meeting these performance goals. Ultimately, schools were unable to meet the unrealistic expectations of all students performing at or above grade level. Educators were working from a place of compliance and standardization, or one size fits all instruction. NCLB was a disruption to public education in that it was prohibitive of creativity and in many ways undermined

the relationship between teacher and principal. In 2011, President Barrack Obama allowed states to request flexibility in the requirements to NCLB from the United States Department of Education. By 2012, thirty-three states received waivers from some of the requirements of NCLB. Changes to NCLB legislation came in the form of Common Core Standards and ESSA.

The Common Core State Standards initiative began in 2009 by state governors and commissioners of education. The objective of the standards was to establish a timeline for students to be career and college ready by the time they graduated from high school (Common Core State Standards, 2009). Many states had different definitions of proficiency. The Common Core standards reflected many of the existing standards and rewriting them so that they were consistent across states. Teachers played a significant role in the development of the standards. Along with the new standards came new assessments to monitor student progress towards college and career readiness. The shift in the assessment of the new standards was significant and many students did not perform as well on the more difficult Common Core assessment as they had previously. Parents and community members expressed outrage due to a perceived classroom focus on test prep, rather than on a rich curriculum (Ramaswamy, 2015). In 2015, 155,000 students in New York refused to take the state assessments for English language arts and math in grades three through eight. Additionally, student test scores and teacher evaluations were connected. As a result, New York and other states began pulling away from the Common Core or rewriting them under a new name. The Common Core disruption has led school districts, states, and governors to rewrite the standards into what referred to as the Next Generation State Standards.

The most recent disruption to public education has been the impact of the COVID-19 pandemic. Overnight, schools closed their doors and student learning and teaching took on a new modality. Educators scrambled to reinvent instruction in a remote or flipped format due to the pandemic. The virus forced educators to change the way that they deliver instruction and how students learn. Synchronous and asynchronous learning became the norm from the spring of 2020 through most of the 2021 school year. Student use of technology was essential to continue their learning through a remote or hybrid model (Olneck-Brown, 2021). Web based platforms such Google Classroom, Google Meets, Zoom, and other online video conferencing tools were instrumental. Teachers from Kindergarten through high school had to reinvent how they deliver instruction, assess students, and engage students in authentic and meaningful learning activities while students stayed at home. Educators do not understand the full effect of the pandemic on public education and student learning. Educators suspect that the transition to online learning has created gaps in student learning as well as the social and emotional well-being of students. The pandemic has provided few options for schools when it comes to technological innovations. When in-person instruction in the classroom is no longer possible, the use of technology to maintain student learning is the only option. This shift happened quickly, and many educators were not prepared. The pandemic raises additional questions regarding a teachers' willingness to engage in innovative instructional practices as well as skills required for a principal to lead in a remote or hybrid world.

Self-Determination Theory

In order for learning to take place for either student or teacher, adequate motivation to learn must first exist. Seth Godin (Godin, 2020) points out that "Learning can't be done to you. It is a choice, and it requires active participation, not simple adherence to metrics" (August 24, 2020). The researcher has used the Self Determination Theory as a theoretical framework in order to understand teachers' motivation to engage in innovative practices.

Psychologists Edward Deci and Richard Ryan (1985) developed Self Determination Theory (SDT) in order to understand the individuals' willingness to complete a desired task based upon intrinsic motivation. SDT is comprised of two sub-theories, Cognitive Evaluation Theory and Organismic Integration Theory. The Cognitive Evaluation portion of SDT is based upon the idea that humans have three basic needs; autonomy, competence, and relatedness (Deci & Ryan, 1985) The Organismic Integration side of SDT makes distinctions among different types of motivation.

Autonomy, competence, and relatedness are described by Deci and Ryan (Ryan & Deci, 2000) as basic human needs that are inherent regardless of culture or country. Deci and Ryan defined autonomy as our ability to make choices and have control over our actions. Competence is our ability to be good at something. Relatedness is our need to make connections with others through positive relationships. For an individual to be intrinsically motivated, all three basic needs within the Cognitive Evaluation Theory portion of SDT are required. Intrinsic motivation in an educational setting is important in how it relates to learning. Motivation of teachers to engage in innovative instructional practices is determined by the individual either intrinsically or extrinsically. As previously stated, the principal is responsible for establishing the climate and culture of

the school, which is either supportive of teachers engaging in innovation or is controlling of instructional practices and decision-making.

Self Determination Theory states that there are different types of motivation. Distinctions between the types of motivation described within the Organismic Integration portion of SDT are relevant to the study. Distinctions are determined through the amount of autonomy felt by the individual. Deci and Ryan (2008) define intrinsic motivation as "doing a behavior because the activity itself in interesting and spontaneously satisfying" (p. 14). Deci and Ryan define extrinsic motivation defined in contrast as "engaging in an activity because it leads to some separate consequence" (p. 15, Deci & Ryan, 2008). Deci and Ryan found that interpersonal climates such as homes, work, and classrooms have an effect on a persons' intrinsic motivation. Social climates that are supportive and informational enhance intrinsic motivation. In addition, Deci and Ryan found that the effects of positive feedback and extrinsic rewards are dependent upon the context of the social climate. If feedback provided in a supportive and knowledgeable manner, then enables autonomy and intrinsic motivation. Feedback provided in a controlling context decreases intrinsic motivation. In chapter four, the researcher will examine collected evidence in order to answer the question the following question: What behaviors do principals engage in that is supportive of teacher autonomy?

Competency

Within SDT, competency is defined by Deci and Ryan (1985) as one's ability to be good at something. In the educational setting, this translates into professional learning for teachers and administrators. Expectations for principals regarding the integration of technology within schools has been outlined within the International Standards for

Technology in Education (*ISTE Standards for Administrators*, 2009) When considering innovation and technology within a school, the ISTE standards are internationally accepted for teachers as well as educational leaders. The standards for an educational leader include visionary planner, equity and citizenship advocate, empowering leader, systems designer, and connected learner. These broad headings are broken down into specific items of principal practice. Within the ISTE, standards describe leadership characteristics that include the assurance that a skilled teacher uses technology to meet student learning needs and that they have access to engaging, meaningful activities. Principals model digital citizenship and cultivate responsible on-line behaviors. As a visionary planner, leaders engage others by developing a shared vision and plan for learning through the use of technology. This includes the involvement of key stakeholders in the development and adoption of a school technology plan. Leaders work collaboratively to create an action plan for student learning. Action plans undergo an evaluation and revision process in order to ensure a positive impact on student learning. The leader engages in a continuous improvement cycle and regularly communicates with stakeholders. The principal also works to create a culture for all learners including students and teachers. Teachers are empowered to pursue personalized professional learning. The leader inspires innovation through collaboration and allowing teachers to have time and space to explore technology to enhance their learning. Assessments of students' personalized learning paths create opportunity to measure progress over time. Leaders also create teams to continuously improve technology and develop infrastructure.

In 2017, the United States Department of Education revised the national technology plan in a document titled *Reimagining the Role of Technology in Education*.

The United States national technology plan outlines similar goals specific to leadership as the ISTE document. Goals include collaborative leadership, personalized student learning, robust infrastructure, and personalized professional learning (Reimagining the Role of Technology in Education, 2017). Chapter 3 of this document, subtitled *Creating a Culture and Conditions for Innovation and Change,* addresses the importance of leadership. Stated in the opening paragraph, the author explains the importance of strong leadership.

> Taking full advantage of technology to transform learning requires strong leadership capable of creating a shared vision of which all members of the community feel a part. Moving to learning enabled by technology can mean a shift in the specific skills and competencies required of leaders. Education leaders need personal experience with learning technologies, an understanding of how to deploy these resources effectively, and a community wide vision for how technology can improve learning. (p. 1)

Recommendations for leadership include the establishment of a clear and strategic vision for the use of technology locally by working collaboratively with all stakeholders such as educators, technology professionals, community members, and cultural institutions.

New York State has adopted new performance standards for school principals and assistant principals. The standards developed by the National Policy Board of Educational Administration (2015) describe the principal as a change leader. The Professional Standards for Educational Leaders (PSEL) focus upon and emphasize students and learning. This focus includes the academic success and the well-being of

each student. There is a connection between student success and each PSEL domain. PSEL identifies ten leadership practices:

1. Ensuing an orderly and supportive environment

2. Planning, coordinating, and evaluating teaching and the curriculum

3. Strategic resourcing

4. Promoting and participating in teacher learning and development

5. Change agent

6. Communicates ideals and beliefs

7. Intellectual stimulation

8. Situational awareness

9. Knowledge of curriculum, instruction, and assessment

10. Establishing goals and expectations

Based upon these leadership practices, the principal serving as a change agent is dependent upon their knowledge of curriculum, instruction, and assessment. Planning and promoting teacher development as well as establishing goals and expectations are all important practices related to innovation.

Each document, the ISTE Standards, the National Technology Plan, and the PSEL Standards, emphasize and focus on the influence of the principal on student and teacher learning. Other similarities include the establishment of a shared vision, collaboration, meaningful professional development, and the creation of a positive school culture.

Michael Fullan (2014) makes an important point that principals are under bureaucratic pressure to perform in the way of test scores. Currently, principals are in the middle between accountability of high stakes assessments and an excessively complex

teacher evaluation system. Within the Annual Professional Performance Review (APPR), it is the expectation that principals improve student learning through one teacher assessment at a time. Fullan considers change through teacher assessments an ineffective strategy. However, leaving principals with complete control is ineffective as well. When principals provide teachers with autonomy in exchange for results and accountability, they fail (p. 42, Fullan, 2014). Fullan outlines three problems with the argument that complete principal autonomy is effective. First, schools have not built capacity within the teachers. Without the principal, teachers would not be able to sustain the effort to improve instruction alone. Second, those teachers who are the most advantaged will respond positively. Those teachers who lack resources, skill, and advantages will continue to struggle. The haves get stronger and the have-nots get weaker. Fullan points out that such an arrangement puts individuals on guard and makes long-term organizational success impossible. Fullan states that long-term success lies in developing the capacity of all teachers through positive relationships among all members of the organization.

Autonomy

Teacher autonomy refers to a teacher's ability to make decisions regarding what and when they will teach to students. A quantitative study of teacher opinions of school innovation conducted in Turkey included a quantitative survey of teachers in elementary, middle, and high school which provides insight into teacher perceptions (Aslan et al., 2018). Administrative support was significant, and years of experience was an important factor in a teachers' willingness to embrace innovative practices. In a qualitative study, teacher motivation and the role of professional development in teacher support and

learning was examined (Emo, 2015). Similarly, Gkorezis (2016) found that principals who empowered teachers in decision making and professional development led to innovative work behavior. Each of these studies delves deeply into the concept of innovation as an attempt to answer similar research questions regarding teacher learning and motivation.

In a qualitative study conducted in the mid-western United States, Emo (2015) asked teachers in interviews what their reasons were for taking on innovative practices and/or including technology in their instruction. A consistent response was that teachers innovated due to an intense desire to improve student performance. A secondary reason was that teachers were experiencing professional boredom. Textbooks and traditional resources were not motivating, so teachers sought out alternative approaches to their instruction. Teachers valued time and autonomy in order to alter curriculum and instruction. Emo's study also examined Control-value theory and teacher motivation. Teacher personal control interacts with values to form perceptions. These perceptions influence teacher motivation and emotions positively or negatively (Emo, 2015). In chapter four, the current study will highlight the importance of teacher autonomy and how it is related to school culture within the participating school district.

Relatedness

Relatedness is an essential ingredient for innovation to occur within a school culture. Deci and Ryan (1985) define relatedness as our need to connect with others through positive relationships. The structure of the organization must be organized as an institution of learning (Fullan, 2016). If such a structure is to exist, positive relationships among the stakeholders are required. A culture of learning by students as well as teachers

and administrators must be valued and encouraged. A conducive school climate is dependent upon the relationships of those within the organization (Daly, 2009). Trust between teachers and administration is an essential part of innovation. When trust is high, educators are more willing to accept innovative practices and instructional methodology (Holland & Piper, 2016). Trust enables teachers to communicate openly and collaborate with others. An innovative climate may be defined as the members of an organization sharing perceptions of procedures and practices that promote the generation of knowledge (Moolenaar et al., 2010). Communication and the establishment of networks among individuals are essential in a school culture that is open to new knowledge and practices. In many ways, educators must completely reinvent the instructional organization of school and the classroom. Fullan (1995) encouraged educators to consider eight recommendations for reform which have not been widely accepted 23 years later. Fullan's recommendations include reinventing schools around learning instead of time, investment in technology, the development of local action plans, and the sharing of responsibility. The responsibility for such a transformation lies with the school principal and district leadership.

Innovation within the school climate will only be successful if it is connected to a larger system. The implementation of innovative new knowledge, practice, or technology will not be successful without simultaneously making changes to curriculum, professional development, assessment, and how the school is organized (Lim et al., 2013). In a study by Aslan (2018), researchers examined teacher opinions of school innovation based upon subject matter taught. Teachers classified as branch or class. This refers to if a teacher teaches a specific subject or teaches all subjects such as the current

elementary model in the United States. The researchers found that branch teachers have a higher opinion of the innovative climate of their schools than class teachers. In other words, teachers who teach a single subject have a higher opinion of the innovative climate of their schools than those teachers who teach all subjects. Secondary teachers expressed a more positive attitude towards innovation climate than teachers who taught primary grades.

Climate and Culture

Innovation requires that school administrators create and enable the right climate and cultural conditions. Principals must be committed to change and be willing to take risks that challenge traditional forms of instruction. Sawyer (2006) says, "Education should be structured around disciplined improvisations and advocate the use of situated, collaborative knowledge-building activities" (p. 42). Sawyer also stated that creative collaboration in classrooms aligns with the social nature of innovation in today's economy. For such a climate to exist in a school, trust must be firmly established (Hoy & Tschannen-Moran, 1999). School principals are accustomed to being the primary decision makers in their buildings. A model of shared decision-making, collaboration, and creativity is required for innovation. A de-centralized system within an organizational structure is conducive to the implementation of innovative practices (Aslan et al., 2018). Low centralized organizations were flexible and encouraged participant decision making. Strong centralized organizations were found to contain a few people who dominated the decision-making process. Trust within an organization is related to the level of centralization.

Organizational culture and leadership are essential to innovation. Edgar Schein's (2017) work regarding culture provides insight into the requirements of leadership within a school district that attempts to innovate. Schein divides culture into three interconnected levels: artifacts, assumptions and beliefs, and espoused values. Schein states that leadership behavior of the principal can provide the opportunity for participants to learn something new, or to stop something that is inappropriate. Regardless of the type of organization, all contain the three levels of Schein's theory. Whether one is discussing an organization from the business world or a school district, all organizations have a culture comprised of these elements. By looking closely at an organizations' basic assumptions, one may gain an understanding of the "essence" of what really happens on the inside (p. 57, Schein, 2017). Schein refers to this essence as a paradigm. One must closely analyze the functions and interconnectivity of the artifacts, beliefs, and behaviors within an organization in order to understand the paradigm. Schein defines artifacts as visible and tactile processes of an organization. An organization's beliefs and values include shared ideas, goals, and aspirations. Basic assumptions are defined as unconscious beliefs that are taken for granted by members.

Schein (2017) further explains six basic assumptions that shed light upon leadership and innovation (p.66-73). These basic assumptions include teamwork, cosmopolitan technocracy, modulated openness, non-hierarchic hierarchy, extended trust relationships, and commitment to learning and innovation. Several of these themes have shown up in other sources of research (Argyris, 1964;Hoy & Tschannen-Moran, n.d.). Trust, teamwork, and the importance of learning within an organization being the most prevalent. Argyris (1964) closely examined the talents and contributions of the individual

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within an organization and developed the ideas that organizations can learn. Argyris'

research reveals that the individual, or "self," has a need for challenge and engagement in

work that provides self-confirmation as a motivating factor. In other words, the individual

has a need to be challenged and have a sense of confirmation to be motivated within the

organization. Therefore, the culture of the organization is an essential component of

motivation and, by extension, innovation.

Innovation is dependent upon culture. Schein (2017) points out that culture

evolves, and that leadership plays an important role in that evolution. Groups of people

undergo stages of development in creation of a culture. Schein describes these as

forming, storming, norming, and performing. The founder of a group is essential in

determining the type of culture. Schein uses organizations such as Apple, Google,

Microsoft, and Facebook as examples of how leaders established a new organization that

focused on a central idea that involved doing things differently. Schein states: "Another

way to say this is that leadership creates changes; if those changes produce success for a

group and the leader's vision and values are adopted, a culture evolves and survives" (p.

131). In chapter four, the researcher applies Schein's work to the participating school

district.

Similarly, sociologist Simon Sinek (2009) addressed the core values and beliefs of

an organization through what he described as the Golden Circle in a 2009 TEDex video.

Sinek emphasizes the importance of "why" an organization behaves the way it does. He

states that all organizations can explain what they create and how they do it but cannot

always explain why they exist or what their core beliefs are. Understanding these core

beliefs are essential in developing motivation, trust, and loyalty among stakeholders.

Sinek tells us that "those who lead, inspire us" (Sinek, 2009). This inspiration is based upon the principle that "people don't buy what you do, they buy why you do it." Sinek discusses the law Diffusion of Innovation (DOI) in order to illustrate how a product moves from a few consumers to widespread acceptance. The DOI theory was first developed by E.M. Rogers in 1962 (Rogers, 1995). The theory uses a bell curve to illustrate the distribution of the population in relation to innovation. The smallest percentage, 2.5%, are innovators. The next largest group of 13.5% and are referred to as the early adopters. The following two largest groups are the largest that make up the early and late majority at 34% each. A small group named the laggards, are resistant to the innovation. The challenge as described by Sinek is to inspire the early adopter group to the point that their influence effects the larger early majority. He points out that the early majority will not try something until someone else has tried it first. A tipping point is achieved that causes the product or idea to then become mainstream. In order to inspire, leaders should share the core beliefs of the organization in order to sell a product, hire the best staff, or reach market success.

Both the business world and public education can apply Sinek's golden circle and Rogers DOI. In applying these ideas to public education, it is easy to see historical resistance to change and innovation as previously discussed. A significant disruption is required to force ideas and methodology into the early majority, such as the necessary use of virtual software for remote instruction during the pandemic. The researcher will examine teacher motivation and the "why" of the participating school district on smaller scale in chapter 4.

Creativity

Innovation and creativity are in many ways synonymous. Creativity is defined as the production of a novel and appropriate response, product, or solution to an open ended task (Amabile, 2012). Creativity within the classroom by students or teachers is encouraged in order to engage students and to advance learning. What do principals do to facilitate creativity among teachers as they plan instruction? In addition, what are administrators willing to do in order for teachers to innovate in the classroom? According to Amabile (1983), creativity consists of components she outlines with in the Componential Theory of creativity. These components are domain relevant skills, creativity relevant processes, and task motivation. School building leadership and these components are related. Domain relevant skills refer to a person's expertise in a specific area. Creativity relevant processes connect cognitive and personality processes to novel thinking. Motivation to complete a task is intrinsic and done out of interest of challenge by the individual.

Certainly, principals must possess a vast knowledge base in a variety of areas to engage in the creative process. Domain relevant skills (Amabile, 1983) are essential for principals themselves and subsequently their teachers to engage in creative instruction and professional development. In chapter four, the researcher will discuss the importance of leadership style, and interpersonal skills of district and building leadership and how they effect a culture that stimulates teacher creativity.

Organizational Impediments

Innovation faces many obstacles in public education. Most frequently mentioned impediments include leadership, bureaucracy, prohibitive costs, teacher isolation, and

school climate.(Aslan et al., 2018) When leadership fails to see the importance of innovation in the form of technology or instructional practices, it is certain not to get off the ground. Without the help of principals in the creation of a learning culture for teachers and students, innovative practices will fail, and traditional forms of instruction continue.

Bureaucracy can be limiting to teachers and principals who wish to expand their knowledge and skills in order to innovate. The cost and process of purchasing equipment for the classroom can be daunting. Once school districts have made the decision to purchase technology, they then must maintain it, which may include additional cost in personnel and upgrading building infrastructure. This can be frustrating for teachers who then succumb to teaching in the same old way.

Teachers who teach on different levels may experience obstacles specific to elementary, middle, or high school. Elementary teachers generally have greater opportunity to collaborate with other teachers on their grade level. Middle and high school teachers who function within departments have limited access to teachers outside of their content area. This limits their ability creatively develop lessons or learning experiences beyond the traditional form of instruction (Aslan et al., 2018).

Leadership Styles and Innovation

Leadership styles are likely to influence employee involvement and commitment, which in turn effects the climate for innovation (Bel, 2010). The management of innovation by district or building leadership is best described as the successful implementation of creative ideas within an organization (p. 4, Amabile, 2012) Leadership plays a decisive role in enhancing organizational creativity and learning (Amabile et al.,

2004; Mumford et al., 2002). Principal leadership style and skills have an impact on teacher characteristics such as job satisfaction, efficacy, engagement levels, and academic emphasis (Cohen et al., 2009). The literature presents several different leadership styles that may have an influence on school innovation and teacher motivation to engage in innovative practices. For this study, leadership styles that have shown a significant relationship to school innovation are considered. These include leadership styles such as transformational, transactional, and lead learner.

Leadership behavior dictates whether innovation is facilitated or restricted (Aslan et al., 2018). Research suggests that the deployment of leadership styles is contingent at different stages in the innovative process. In the initial stages of implementing change or a new innovative practice, teachers may require a greater level of support and encouragement than later in the process. A transformational leadership style may assist in the creation of a climate and culture that is conducive to innovation and organizational learning. In addition, a transactional leadership style may be beneficial in furthering existing knowledge. Fullan (2002) suggests that the principal's role of instructional leader is not enough. According to Fullan, fundamental change is necessary for sustained reform to occur. Principals have to change the culture of schools. Fullan refers to the "Cultural Change Principal" who must possess characteristics such as moral purpose, an understanding of the change process, the ability to improve relationships, knowledge creation, and coherence making. Fullan states that the common factor to successful school change has been relationships. The improvement of relationships (Fullan, 2002) between teachers and principals leads to better schools. School leaders who create a clear

and shared vision and goals for innovation within their school community are more likely to experience success (Moolenaar et al., 2010).

According to Gkorezis (2016), the survival of organizations depends upon critical factors such as creativity and innovation. In Gkorezis' study, the researcher examined teacher work behavior and the relationship with principal empowering leadership. The author defines work behavior as consisting of three stages: idea generation, idea promotion, and idea application. From these stages, the author forms the first hypothesis of the study; that is, empowering leadership positively relates to innovative work behavior. The author examines the process of exploration and discovery of ideas. Principal empowerment of teachers equates to the combination of time, effort, and exploration. Gkorezis' second hypothesis is that exploration mediates the relationship between empowering leadership and innovative work behavior. Role conflict requires that competition against one another. The role of the principal is much different than the classroom teacher which may result in conflict. Gkorezis examined conflict between groups and its' effects on teacher behavior. Elementary and secondary teachers were asked to complete a survey based upon a five-point Likert scale. The study included variables such as gender, age, employment level, tenure, empowering leadership, exploration, innovative work behavior, and role conflict. The statistical results indicated that empowering leadership has a positive correlation to exploration. Principal empowering leadership was significant with role conflict as well as exploration. The higher the level of conflict, the less significant the relationship was with principal empowering leadership and innovative behavior. The opposite was also true; results

indicated that the lower the conflict level, the higher the principal empowerment leadership and innovative work behaviors by teachers.

Transformational Leadership Style

Of leadership styles, the one to have the greatest impact on innovation is transformational. As defined by Burns (1978), transformational is a leadership style that relies on a person's ability to engage others for the purpose of building motivation. Transformational leaders typically focus on the product, uniting staff in the pursuit of goals that match the leader's vision while finding ways to excite even the most uninterested employee. Sergiovanni (2007); (Moolenaar et al., 2010) defines transformational leadership as practices providing clear and concise goals that serve to focus and unite the organization and encouraging commitment towards goals. An important attribute of a transformational leader is that staff members are committed to a shared goal or vision and are more satisfied in their positions. Transformational leaders have the ability to recognize the potential skills of an employee and engage the complete person and not just particular traits (Moolenaar et al., 2010). Increased motivation comes when the leader recognizes the need to empower teachers (Leithwood & Jantzi, 2005; Marks & Printy, 2003; Sergiovanni 2007). Allen et al. (2015), suggest that a principal's ability to develop respect, exhibit power, and focus on what is best for the group influences teacher perceptions of the overall school climate. A principal's ability to solve problems and think creatively influences teacher perceptions of school climate. Additionally, principal mentoring skills and ability to recognize strengths in others influence teacher perceptions of the overall climate.

Transformational leaders inspire their staff to be innovative and to be creative, while refraining from being critical of their mistakes (Bass & Riggio, 2006). Principals who develop teacher strengths can motivate teachers to try new instructional strategies. When teachers believe that the principal will support new initiatives and to work through problems, they are more willing to try something new.

Transactional Leadership Style

Transactional leadership style fails to focus on change as discussed within the transformational style. Transactional leadership's basic approach is to lead by clear definition and communication of work tasks, rewards, and punishments (Howell & Avolio, 1993). Transactional leadership focuses on the basic needs of the followers to complete assigned tasks (Daft, 2001), but has no long term vision or impact. Once the leader runs out of rewards for completion of assigned tasks, motivation drops. Transactional leadership can be attributed to keeping projects on track during implementation and less suitable for generating new ideas among employees (Howell & Avolio, 1993).

Lead Learner

A lead learner exists when "the principal's role is to lead the school's teachers in a process of learning to improve their teaching, while learning alongside them about what works and what doesn't" (p. 55, Fullan, 2014). Lead learners are very good managers who establish routines as vital for improvement goals to succeed. Lead learners avoid the allure of taking on too many innovations. They avoid more money and high-profile initiatives. These leaders rely upon professional capital to promote growth and achievement of organizational goals. Leading teacher learning makes the biggest impact

on helping schools to move forward especially when the principal participates as a learner. Principals focus on instruction. Lead learners have leadership capabilities that include the application of relevant knowledge, solving complex problems, and building relational trust (Robinson, 2011). Lead learners have a positive impact on school innovation when principals are involved in learning new concepts, technology, modalities along with teachers in order to enrich and advance student learning. Fullan makes this point when he writes:

As this collaborative learning culture becomes embedded, it becomes less and less dependent on the actions of the principal and more a function of how staff carry on their day-to-day work, and how everyone learns from each other. The end result is that the principal and the teachers, as a group, are in this together. (p. 70)

Teachers and principals working together to solve complex problems over time ultimately leads towards innovation.

Chapter Summary

In sum, existing research indicates that innovation is a complex phenomenon. Innovation includes creativity, culture, motivation, inspiration, technology, and leadership styles. In a variety of forms, innovation has historically been a part of the evolution of public education from inception. Leadership plays an important role in the development of a climate and culture for innovation to take place and to motivate teachers in thinking creatively. Technology in schools is an innovation; however, innovation is not solely the use of technology. As indicated by previous research, this

study will discuss in chapter four, how innovation is rooted in culture, relationships, autonomy, and professional learning.

CHAPTER 3: METHODOLOGY

The purpose of this phenomenological study is to develop an understanding of school innovation by focusing on school building leadership in a kindergarten through twelfth grade suburban school district. The researcher chose the qualitative phenomenological approach because of an interest in learning directly from those school leaders and classroom teachers in the field who are experiencing a technological, cultural, and instructional shift in public education. The phenomenological approach is an attempt to collect and understand empirical data provided from the perspective of those in the field.

Research Questions

The researcher asks the following questions in order to understand the phenomenon of school innovation.

- What does innovation look like in a school environment?
- What characteristics of school culture are important in order for innovation to take place?
- What are administrators willing to do in order for teachers to innovate in the classroom?
- What knowledge and skills does the principal apply to encourage innovation for teacher learning?

An analysis of supportive data collected from the interviews as well as artifacts was conducted which resulted in the identification of recurring themes. The researcher reached conclusions of the phenomenon of innovation based upon the analysis of these

themes. Discussion of teacher motivation as well as school culture and leadership styles naturally developed through the interview process and examination of artifacts.

Rationale for Research

The idea of innovation is abstract and open to interpretation. Innovation is rooted in the change process and an ideal of what schools will look like in the future. School innovation represents the unknown and therefore is worthy of exploration and analysis. In order to gain an understanding of innovation within schools, the researcher conducted a phenomenological study by engaging participants in one-on-one interviews of school district and building leaders as well as classroom teachers. The phenomenological approach allowed the researcher the opportunity to understand school innovation from the perspective of teachers, school administrators, and district officials. The researcher chose a qualitative methodology for the purposes of identifying administrative skills and competence, established school culture, teacher autonomy, and relatedness as related to innovation. The desired depth of understanding could not be achieved through a quantitative data collection methodology. The researcher sought to understand the human experience of innovation through a recorded interpersonal experience of data collection. Mixed method or quantitative methodologies would fail to capture this personal experience. By conducting a qualitative study, the researcher was able to focus on the "what", "how", and "why" (Creswell, 2006; Newman & Clare, 2016) of school leaders empowering teachers to engage in innovative instructional practices.

Research Setting/Context

The participating school district is located in a suburban area of Long Island, New York. The district consists of six schools: 1 high school, 1 middle school, and 4

elementary schools. The total population of the district is 5,610 students. For the two school years prior to this study, the graduation rate of students was 90%. Forty seven percent of students graduated with a Regent's with Advanced Designation degree and 36% with a Regent's Diploma. The drop-out rate of high school students was 2%. The district is primarily white (62%) and Hispanic (23%). Other groups include Black/African American at 7% and Asian at 5%. The instructional staff is mostly qualified and experienced with 14% of teachers being inexperienced. One principal is inexperienced. During the 2018 fiscal year, the district's total expenditures for general education were $87,155,358. Per pupil expenditures were above the state average at $15,136. District level administration includes 1 Superintendent and 5 Assistant Superintendents. One of these 5 positions is titled Assistant Superintendent for Innovation and Organizational Development. The identified district has successfully embraced the concept of school innovation in their cultural and instructional practices. Therefore, the district is an ideal setting from which to collect and analyze qualitative data.

Research Sample and Data Sources

The participating district consists of six schools in total. The administrative staff in the four elementary schools consists of 1 Principal and 1 Assistant Principal in each building. The middle and high schools each have 1 Principal and 2 Assistant Principals. In total, the building level administrative staff consists of 14 individuals; of these, seven are men and seven are women.

A letter of introduction to the study was shared with all district and building level administration as well as teachers. Nine individuals agreed to participate in the study; there is an illustration of their characteristics Table 1. Three of the participants were

district level Assistant Superintendents. Three were classroom teachers at the elementary level. One participant was a high school principal and two were elementary Assistant Principals. Six of the participants were female and three were male.

Table 1

Participants

Participant Position	Participant Gender	Participant Level
3 teachers	3 female	3 Elementary
Building Assistant Principal	1 male, 1 female	2 Elementary
High School Principal	1 male	1 High School
Assistant Superintendent	1 male, 2 female	District

Data Collection Methods

Collected data were obtained through a series of interviews of district and building level administrators as well as classroom teachers at each instructional level. Each identified participant responded directly to the researcher from the introductory letter of the study. Interviews occurred via remote video conferencing software called Zoom. The semi-structured interview process provided participants with the opportunity to respond to the same ten questions. Based upon the participants' response, the researcher asked follow-up, probing questions. Seidman's (2006) interview methodology provided guidance for the interview process. In the interview, the goal of the researcher was to gather information regarding the participants' experiences in context of school innovation and Self Determination Theory. The interview provided participants with the opportunity to reflect upon the meaning of their experiences with school innovation and their goals for the future. Each interview lasted no longer than 60 minutes.

Interview data was downloaded into Dedoose software from both administrators and teachers. Collected artifacts relating to school innovation at the district and building levels were analyzed and compared to the research questions of the study as well as each interview group.

Data Analysis Methods

The researcher analyzed the collected data using the CAQDAS software program Dedoose. First impressions of the data collected from the open-ended interview questions were examined through an eclectic method. Descriptive coding was used initially in the analysis of artifact data. The researcher organized data by using a conceptual framework based upon components of the Self Determination Theory including autonomy, relatedness, and connectedness. Additional themes were identified through analysis of each participant's response.

As each participant shared their experiences, certain themes or consistencies began to emerge. These themes added to the overall analysis due to their repetitive nature and apparent importance from the participants. As the researcher engaged in the coding process through Dedoose, descriptive notes on each identified theme were taken. As a result, a picture of innovation began to emerge. Additionally, Dedoose software provided the researcher with the ability to organize data from interviews and artifacts in order to understand the phenomenon. Table 2 provides the reader with an idea of identified themes and their characteristics.

Table 2

Characteristics and Themes

Characteristic	Theme
Self-Determination Theory	Autonomy, Relatedness, Competency
Empirical Data	Leadership, Creativity, Culture, Definition, Effects of the Pandemic, Expectations for learning, Problem Solving, Reflective, Student Engagement, Technology, Vision

Issues of Trustworthiness

The researcher considered both internal and external threats to validity while conducting the study. Procedures followed by the researcher strove to ensure the qualitative validity of the collected data. All teachers and administrators received an initial introduction to the study via email. Participation in the study was voluntary, and the researcher had no prior knowledge or relationship with the participants. The participants' willingness to participate determined their selection in the study. The researcher did not consider any other characteristics of the participants as a factor. The study did not include compensation of any kind.

The researcher took steps in order to ensure the qualitative reliability of the study by maintaining a consistent approach to data collection and analysis. The researcher ensured that each participant had the same experience in the interview process. The interviewer asked all participants the same questions. Level within the organization determined the participant groups. A review of the transcripts identified any mistakes in the transcription. The coding process revealed themes and patterns within the data. The researcher worked to maintain consistency in the coding process by note taking and defining each theme. Patterns emerged through data analysis and triangulation among

groups and artifacts. Dedoose software was used as a tool in order to ensure consistently throughout the process.

The researcher cannot generalize the findings of the study to those individuals outside of the characteristics of the participants. Characteristics include district level assistant superintendents, elementary assistant principals, high school principals, and elementary teachers. A lack of participation from middle school teachers and administration caused concern for the reliability of the findings. Additionally, the researcher was unable to spend a considerable amount of the time with each participant or within the school buildings themselves due to restrictions from COVID-19.

Methodology Limitations and Delimitations

This study provided a small look at school innovation through a series of remote interviews and collected artifacts. There are several limitations to the study. The researcher was unable to conduct on-site observations for data collection due to health and safety restrictions put into place because of the COVID-19 pandemic. These restrictions limited the researcher's ability to gather data regarding school culture, climate, and facilities. The Assistant Superintendent for Innovation provided district level artifacts. The district website provided additional artifacts. This study included interviews of district and building level administration as well as three elementary school teachers. Participation in the study was voluntary. The study did not include teacher representation from the secondary level. Middle school administration and teachers were also absent from the study. The participating group provided representation in groups of three. Participants included three district level administrators, three building level administrators, and three teachers. Because of the lack of participation at all levels,

comparison of the data between district and school administrators and teachers should be considered cautiously and may not generalize to all educational settings. Artifacts collected such as the district Professional Development Plan, and presentations to the Board of Education such as "Communication Plan" and "6th Grade Update: Maximizing Opportunities for Students and Teachers" provide some evidence of innovation within the middle grades but lack the depth of understanding of the phenomenon gained from interviews.

Chapter Summary

Participants shared their opinions, insight, and personal experiences regarding school innovation. The researcher asked each participant identical questions. Follow-up questions to the participant in order to gain clarity or greater understanding of the concept based upon the response. Interview questions were open ended in order elicit a response from the interviewee. The literature review discussed in chapter two served as the foundation for the interview questions. Interview questions connected directly to one of the research questions. Table 3 provides the list of interview questions asked, connected to the corresponding research question.

Table 3

Interview Questions with Corresponding Research Questions

Interview Question	Research Question
What is innovation and what does it look like in your school?	What does innovation look like in a school environment?
What innovative instructional practices are you currently using in your classroom?	What does innovation look like in a school environment?

Interview Question	Research Question
How does your principal support innovation within your school?	What are administrators willing to do in order for teachers to innovate in the classroom?
What do teachers need in order to engage in innovative instruction?	What are administrators willing to do in order for teachers to innovate in the classroom?
How does your school promote the growth and development of all learners?	What are administrators willing to do in order for teachers to innovate in the classroom?
Think about the evolving role of the teacher within your team. What are some of their areas of strength? What are their next steps?	What characteristics of school culture are important in order for innovation to take place?
Are teachers expected to comply or are they empowered to problem solve and innovate?	What characteristics of school culture are important in order for innovation to take place?
What type of learners do you want to develop? What steps are you taking to achieve this?	What knowledge and skills does the principal apply to encourage innovation for teacher learning?
What is the role of technology?	What knowledge and skills does the principal apply to encourage innovation for teacher learning?
Many great organizations can tell you what they do, but they can't tell you why. Can you explain why your school does what it does?	What characteristics of school culture are important in order for innovation to take place?
What motivates you to innovate? (autonomy, relatedness, mastery)	What are administrators willing to do in order for teachers to innovate in the classroom?
Reflect upon those whom you serve as well as colleagues. How do you build upon the strengths of others?	What characteristics of school culture are important in order for innovation to take place?
How would others describe the culture of your school?	What characteristics of school culture are important in order for innovation to take place?

Interview Question	Research Question
What does the culture of your school value?	What characteristics of school culture are important in order for innovation to take place?

CHAPTER 4: RESULTS AND FINDINGS

The purpose of the study is to develop an understanding of the phenomenon of school innovation. In previous chapters, the researcher explored in the literature aspects of innovation from a cultural, leadership, historical, and motivational point of view. Research questions were developed through a review of current literature on the topic. Qualitative data were collected through remote individual interviews and artifacts. Additionally, interview questions were directly related to research found in the literature. Findings from the both the literature and the interviews demonstrate consistency in elements of Deci and Ryan's (1985) Self Determination Theory such as autonomy, relatedness, and competency. School culture, trust, and leadership also emerge as important themes.

The collected data were organized by grouping the participants into three different categories based upon their level within the school district. Each group had three participants. The first group consisted of district level leaders, the second group represented building level leadership, and the third group were teachers. Additionally, artifacts regarding innovation and professional development were collected, analyzed, and compared to the groups. This comparison allowed for triangulation of the data and the identification of areas of commonality and difference in identified themes. The researcher was able to identify and compare themes and common language presented within each group and compare it to the others.

Many similarities emerged as participants discussed the phenomenon of innovation. However, there was a difference among the groups based upon the organizational level of the participant and conceptual understanding of innovation. Each

group looked at innovation in a slightly different way dependent upon their position within the organization. District level leadership looked at innovation as an integral part of the overall vision for student and teacher growth and learning. The building leadership saw innovation as a means of empowering teachers. Teachers viewed innovation as something based in relationships with others, trust, and opportunity take risks. All groups spoke about the use of technology but did not consider it the primary source or defining factor of the phenomenon. This division was observed in the initial stages of the interviews when participants were asked to define innovation and to provide examples of current practices that they consider innovative. Subsequent interview questions developed an understanding of the motivation behind each participants' willingness to engage in innovative practices. The culture and leadership styles of the leadership within the organization emerged as vital for innovation to occur.

The following sections provide the reader with the research question, related interview questions, and sample evidence from each participant group. Each section is followed by a summary in which the research draws conclusions based upon the evidence presented. Table 4 illustrates themes that the researcher identified through data analysis and the data sources from which they were drawn.

Table 4

Interpretive Themes

Theme	Data Source
Autonomy	Interviews, Self Determination Theory
Relatedness	Interviews, Self Determination Theory
Competency	Interviews, Self Determination Theory
Creativity	Interviews,
Culture	Interviews
Definition of Innovation	Interviews
Effects of the Pandemic	Interviews
Expectations for Learning	Interviews, artifacts
Leadership	Interviews, artifacts
Problem Solving	Interviews, artifacts
Reflective	Interviews, artifacts
Student Expectations	Interviews, artifacts
Technology	Interviews, artifacts
Vision	Interviews, artifacts

Research Question 1: What does innovation look like in a school environment?

The definition of innovation, and what it looks like in schools was a fundamental question to ask each participant. The meaning of the term innovation is relative to the individual. As previously defined in chapter two, innovation is the creation of something new or an improvement upon an existing practice or product. The first questions of each interview required the participant to define innovation in their own terms. Responses by the participants were consistent with those found within the research such as Couros (2015) who defined innovation as something new and better. The first interview questions were:

1. What is innovation and what does it look like in your school/district?

2. What innovative instructional practices are you currently using in your classroom/schools?

Participants described a variety of innovative instructional practices such as Learning Walks, Launch Labs, Learning Labs, and the use of technology in various forms. All groups spoke of many of the same initiatives, but from their own perspectives.

District administrators defined innovation as more about change and the evolution of ideas than technology. One Assistant Superintendent said:

> Most people would say, innovation is about technology, but I don't agree with that. I think innovation is taking some ideas that are either, you know, combined from other industries or new to the educational landscape and then creating something from there that you don't see in very many places.

Other district level administrators saw technology as a relevant tool used to meet the needs of students as well as teachers in an ever changing and evolving world. These district level administrators did not consider technology to be innovation itself. Instead, innovation was seen as a way of thinking about a current problem or practice or taking a better approach to an existing practice. As an Assistant Superintendent stated, "Innovation is simply about looking at a current practice that may be no longer relevant or meeting the needs of our students, our teachers, our school system and iterating in a way that creates a new approach."

According to a district administrator, school innovation takes on a reflective quality in all stakeholders of the organization. The administrator spoke of how all members of the school district have to be aware that there are things that they do not

know or have not yet discovered. This openness to learning new concepts is the genesis of school innovation. As an assistant superintendent for elementary education stated:

> That's where innovation lives. That's where you know you don't know what you don't know yet, right. So that's where I think the heart of innovation lives and in a lot of the work that we do with teachers, you know, from my lens.

From the district level perspective, there was a direct connection between innovation and learning for both teachers and students. The participating school district created a culture of learning that encourages risk taking and challenging current practices. Thus, relationships between administration, teacher, and student are essential for innovation to occur. A district level administrator said, "Innovation is when everyone is learning, everybody is on their own learning journey and they're all helping each other to get to the next spot. I truly believe that innovation starts with inspiring people."

When asked to speak about some innovative instructional practices currently taking place within the district, the district administrators, building leaders, and teachers were all able to describe initiatives of the past and present that they considered innovative. Technology was not always a part of these initiatives.

District level leaders described the historical process as well as product that leaders and teachers went through to change the culture and pave the way for innovation by teachers. Leadership considered the process itself to be innovative. For example, the high school was experiencing a problem within the special education department. Specifically, students did not want to go to a resource lab for additional support. The class was located in an undesirable and inconvenient location of the building. District leaders described the situation as poor and that the teachers did not want to be there either

to provide students with much needed support. As a result, stakeholders such as district and building level administration, teachers and students were encouraged to work together and brainstorm ideas with the goal of reinventing the lab. The result was a learning lab that was accessible to all students throughout the school day, not just special education students. Adjustments to teachers' schedules orchestrated by building level leadership provided an on-going level of support for students throughout the school day. The learning lab space was relocated and furnished with desirable furniture and updated technology. The transformation of the learning lab was successful because of the collaboration of all stakeholders and the sharing of ideas. The transformation was organic in that it came from the teachers and students themselves. The idea of learning labs then shared and spread to other schools within the district.

It is important to note that the leadership and instructional personnel within the district openly share successful ideas and practices among all schools. From the high school, the learning lab concept spread to the elementary schools within the district in the form of math labs. The primary goal of these learning spaces at the elementary and middle school levels were to create an area where students could engage in hands-on, inquiry and problem-based learning activities. Students had the opportunity to collaborate with peers in learning experiences designed to inspire and invoke thinking and creativity. These activities may or may not connect to the regular curriculum. At the elementary level, math labs were created for all students when teachers and administrators realized that the pull-out model of instruction was not successful. The math lab became a part of the scheduled rotation of classes such as art, music, or physical education. The entire class would visit the lab, not just struggling students. Math concepts were taught to all

students; however, the levels of complexity of the assigned task were differentiated for those students who need additional support and for those in need of academic challenge. The same math concept was differentiated for above, at, and below grade level students. Each lesson was planned and facilitated by both the classroom teacher and the math lab specialist teacher. A considerable amount of planning and coordination takes place between the classroom and lab teachers. An assistant superintendent said about the lab:

> Instead of pulling kids out for support, we brought everybody in and what we do is we do a differentiated task. It's the same exact task but is differentiated. It's the math inquiry lab where teachers came in with their kids and they work with them. We took a lab and flipped it on its head.

Building level administrators viewed school innovation similarly. The perspective of the building administrator is not as removed as those at the district office. The building leader has direct first-hand experience with the phenomenon of innovation. Creative thinking was a significant component of innovation. Amabile et al. (2004) refer to creativity as how individuals approach problems and solutions. Describing innovation, a participating elementary school assistant principal said, "I think innovation is a platform for teachers and students to think outside of the box and to think creatively, but not only to think creatively to have the ability to make those ideas come to fruition. To the building administrator, creative thinking from both teachers and students was an important attribute of school innovation. How teachers and students approach a problem and access their prior knowledge and expertise is an essential part of creativity as well as innovation. Here, an assistant principal discusses the use of technology as a tool to expand learning experiences for students:

Thinking outside the box and doing really just expanding possibilities as it applies to schools and what it means for schools is applying that thinking to teaching and learning applying that thinking as to what is possible in a classroom and especially, I mean, we can't separate innovation from technology. Nowadays, nor should we, and in lot of cases, technology is one of those things where we're going well beyond the four walls of the school to really open up. When I say what's possible in teaching and learning? Technology, I think really expands what is considered possible.

A high school principal described innovation as, "A conundrum maybe or a difficult process that is made easier through some creative or new thought process." Similarly, Couros (2015) described innovation as a something that is new, either an invention or iteration, and made better. Innovation is not about stuff, rather, it's a way of thinking. Describing a "conundrum" that leads to innovation is supported by Christensen (2017) theory of disruption. Christensen describes "disruption" as a process where an organization or company with fewer resources is able to challenge an established business. The challenger successfully targets areas overlooked by incumbents. The challenger is then able to provide customers with an improved product at a lower price. School systems may not be considered big businesses per se, but they are complex organizations that are vulnerable to similar disruptions. The principal's "conundrum" provides for the opportunity of a disruption that leads towards innovation.

One principal defined innovation as a way to improve efficiency: "I would define it as creative adjustments to improve how things run or operate so some level of creativity critical thinking that lead to solve, you know, some sort of efficiency." This

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was an interesting point because many other participants looked at innovation as directly related to student learning, not a managerial perspective.

The teachers provided a different perspective than either the district or building level administrators. The participating teachers provided an insight as to how their administrators support innovation within their schools and classrooms. According to the teachers, relationships with administrators and colleagues were essential. How students are engaged in learning was included in teachers' description of school innovation as well. Teachers described innovation and the connection to administration in the following ways:

- "How do we come together and how do we reimagine school while integrating these technologies and integrating the needs of our students and the world we all live in, the world they'll be coming up in?"

- "It's outside of the box thinking through hands-on problem-solving activities that we can work subject areas into."

- "School innovation is I think the process of a school, which involves teachers, administrators, students, etc."

- "We started where we created a maker space or an innovation lab and (our Assistant Superintendent) had a really great idea to create the space. And he thought, you know, we create the space and things will happen."

From the teacher perspective, innovation is collaborative, hands on, and a process of problem solving. Teachers generally defined innovation as a means of engaging students in a new and challenging learning experience that is different from traditional instruction.

In comparison of responses made by each of the three groups of participants, the phenomenon of innovation was defined in similar terms. The district level administration considered innovation to be a cultural phenomenon requiring the establishment of teacher autonomy, professional learning, and risk taking. The building level leaders understood the importance of relationships and the individual needs of teachers within their organizations. The teachers spoke about technology as innovation, but also described innovation as a process that involves collaboration, creativity, risk taking, and trust. Each group provides examples of what they considered innovative practices. District and building level leadership spoke of their support of risk taking for such ventures as math labs, maker space, and student support labs. Teachers shared the same examples but added how they work among teammates and share ideas and methodology to positively impact student learning. The cultural establishment of the school district as a learning organization is in itself the innovation. For this reason, it is difficult to separate culture from the following sections that address leadership and motivation. Table 5 provides a list of key terms used by the participants to define innovation.

Table 5

Key Terms Used in the Definition of Innovation

District Leadership	Building Leadership	Teachers	Artifacts
Cultural, teacher autonomy, professional learning	Based upon relationships, and individual needs. Risk taking and autonomy	Collaboration with colleagues, culture, technology, engaging for students, problem solving	(none)

Research Question 2: What characteristics of school culture are important in order for innovation to take place?

In chapter two, the researcher examined the work of Edgar Schein as it related to an organizational culture that is supportive of innovation. Schein (2017) states that the culture of an organization is made up of artifacts, beliefs and values, and underlying basic assumptions. In this study, the researcher found, imbedded within the interviews and artifacts, a sense of what was truly of value to the district as an organization. That is, throughout each level of the participating school district, the central belief and value lies in the development of the individual student as a responsible and independent learner who will graduate from high school and continue to grow and learn to the best of their ability. At the district level, hiring decisions were made where only teachers with a growth mindset and dedication to the development of the whole child would be considered for employment. Building leadership takes steps to plant and germinate innovative ideas that will take root and spread throughout the buildings. Teachers share a common focus of the students' social as well as academic progress and development. This belief permeates the collected artifacts. Stakeholders developed a well-defined vision and goals with the community. Individual teacher talents and the development of the school as a learning organization (Argyris, 1964) are encouraged, celebrated, and shared with the purpose of improving the individual as well as the team. In the coming pages, the researcher demonstrates evidence that describes the importance of culture. Participants discuss their experiences with the phenomenon of innovation as it relates to culture.

The culture of the participating district is collaborative in that all levels of the organization generate and share ideas with the goal of improving student performance. Teachers are willing to take instructional and professional risks in order to meet this goal. Building and district leadership encourages and supports risk taking and creative thought. Through a series of questions, the researcher attempted to understand what motivated teachers to engage in innovative behavior. Specifically, the researcher's questions were directly related to Deci and Ryan's (1985) work on Self Determination Theory. Questions related to autonomy, relatedness, and competency were a primary focus in order to understand what and how teachers were motivated to innovate.

Each participant responded to the same questions from the researcher. Interview questions were written from a review of the literature related to innovation and culture.

1. Think about the evolving role of the teacher within your team. What are some of their areas of strength? What are their next steps?

2. Are teachers expected to comply or are they empowered to problem solve and innovate?

3. Many great organizations can tell you what they do, but they can't tell you why. Can you explain why your school does what it does?

4. Reflect upon those whom you serve as well as colleagues. How do you build upon the strengths of others?

5. How would people describe the culture of your school/district?

6. What does the culture of your school value?

Responses to the first questions from district level participants described how teachers are motivated by a belief system that comes from within the organization. The

belief that leadership values the strength and expertise of the teachers emboldens them to share ideas with colleagues. This is reminiscent of the work of Edgar Schein (2017) in how basic beliefs within an organization effect the motivation of members. One assistant superintendent described the culture in this way:

> So, once you invest in [teachers] and have them realize that you see something very powerful in them. It kind of inspires them back. And, they're like, wait, wait, wait. They believe in me. They believe in the strength. Strength that they have. They see my expertise. They see where I can share my knowledge with my other colleagues and it kind of brings everybody along, you know, you always have your outsiders that go, wait a second. I don't know if I want to do it. But even in the middle school where the culture isn't really there yet. The majority of the people are like, no, this is the way to go.

District administration established an organizational goal to empower teachers. This assistant superintendent referred to the district as a learning organization that included students, teachers, and building level leaders. Here we can see evidence that is supported by the work of Argylis (1964) and organizations that learn. Argyris discusses the congruency or in-congruency between the individual and the demands of the organization:

> If you look at the organization and you consider the mass of the organization, I characterize that as the carrying capacity of our organization. To learn and unlearn and I looked at it, like, what is the capacity today for our teachers and administrators to truly learn and unlearn practices.

Another district level administrator stated that teachers new to the profession are willing to have other teachers visit their classrooms in order to share instructional ideas or seek feedback on an idea of their own. The administrator pointed out that teaching style is irrelevant for some students who are highly motivated and will perform well regardless. District administration collected student performance data on teachers who taught in traditional methodology and compared that to students who learned in innovative classrooms. According to the assistant superintendent, the results were in favor of innovative instructional practices. Building and district administration then had private conversations with teachers regarding the data in order to move those teachers towards innovation.

District administrators recognized that the building level principal and assistant principal play an essential role in the development of school culture. Building leadership must cultivate trust and risk taking within their buildings by developing positive relationships with teachers. An assistant superintendent referred to this when he said: "When you have a transformative, you know, influential leader who's able to get people to try new things create that culture of risk taking and model it. That's where you build the fertile soil for that stuff to happen." As discussed in chapter two, transformational leadership style is considered to be most conducive for the development of innovation because it establishes a clear vision and inspires and empowers others to act (Moolenaar et al., 2010). Additionally, transformational leaders inspire staff to be innovative and creative, while refraining from being critical of their mistakes (Bass & Riggio, 2006). The participants at the district level spoke of hiring and developing building leaders who

developed culture and "fertile soil" of each school as an organization. There was no evidence of transactional or autocratic leadership styles within the district.

Participants in each group briefly or completely omitted mention of leadership styles. The building leaders understood the importance of developing school culture through the development of relationships with teachers and students. From the teacher perspective, the principals, assistant principals, and instructional coaches were all colleagues with whom they could share ideas, successes, and failures. The teachers viewed building administration as partners in learning. Fullan (2014) describes the principal in this role as the lead learner. Evidence suggests that building leadership began the journey towards innovation as lead learners in an effort to empower teachers and encourage autonomy. Building leadership had conducted monthly professional development on topics related to technology. This evolved into bi-monthly, grade-level team meetings where teachers engaged in in-depth planning discussions. The primary focus involved meeting student needs within each lesson. How to meet those needs with or without the use of technology was also of interest.

Building level leadership participants were proud and enthusiastic about the progress that teachers had made in moving away from traditional instruction. Fullan (1995) believes long term success lies in developing the capacity of all teachers through positive relationships among all members of the organization. Evidence suggests that the leadership of the participating district continues to make efforts to do just that. The participating leaders emphasized the importance of promoting and celebrating teacher efforts as well as providing them the freedom to share with colleagues. A building leader answered the question regarding the evolution of teachers by stating, "We really take

pride in promoting teachers that are excelling or are thinking of innovative things and we do it in different ways." Similarly, an assistant principal described the evolution of teachers' willingness to engage in innovative practices. Following the monthly principal led trainings, teachers slowly began to demonstrate their willingness to try new practices and to share them with colleagues; as this assistant principal explained:

> We found that teachers would go back. Try the things that we were doing and we planted like a field of seeds because then they would come back and they would say, Well, I tried this and then I saw something else. And, I went on and joined a Facebook group on whatever it might be and then they started sharing. So we started asking teachers to share with other colleagues and that worked really, really well.

In chapter two, the researcher discussed principal standards regarding technology. Findings from the ISTE, United States National Technology Plan, and the New York State PSEL standards all indicate that the school principal must have a positive influence on student learning. Student achievement and finding new methods to reach individual students was a recurring theme throughout the data collection process. An elementary assistant principal answered an interview question regarding the development of all learners by focusing on the struggling student. His response reminds educators of their responsibility to meet the student at their level and to address their independent needs. This differentiation requires effort, creative thinking and problem solving, as he explained:

> And if that was my child. I wouldn't want them to be working with teachers that my child doesn't fall within the mold of what works for most I want what works

for my kid. So that way, everyone's needs are being met and so traditional is

working. Okay, I'm not going to say you need to completely turn all your

methodology on its head, but I feel like that's where innovation happens is where

we're problem solving with Johnny. We've got a responsibility to outline what the

next step could be. And so, for that traditional teacher, if it was going to work, it

would have worked by now, especially at the secondary level. So, that's where

innovative practices are even more important. So, we need to be dynamic enough

in our thinking and in our practice.

ISTE Standards (*ISTE Standards for Administrators*, 2009) state that school

leaders are responsible for inspiring a culture of innovation and collaboration that allows

the time and space to explore and experiment with digital tools as well as support

educators in using technology to advance learning that meets the diverse learning,

cultural, and social-emotional needs of individual students. The teachers provided

evidence that the building leadership focused on achieving these standards. Responses

within the interviews highlighted the relationship among team members as well as

confidence in their teaching and learning abilities. Teachers emphasized that the culture

lacked competition among teachers and strove to develop a mindset of supporting one

another as colleagues. A young elementary teacher with less than five years of experience

responded by saying:

I never was like very good with technology, but I've been pushed to learn and

that's great. And, I think, again, to get everyone on that level, there has to be, just

like that team mentality. Our union reminds us of this to, like, it's not a

competition, you shouldn't be trying to outdo one another because there are

teachers who are, you know, not as comfortable with this sort of thing and I've had teachers reach out to me from other grade levels being like hey would you meet with our grade, just to explain.

The same teacher also said that collaboration among teachers on a grade level was essential for innovation to occur:

I think it really goes back to the culture. If you have a really unified grade, then everyone can get on board and help each other out. But if, teachers are isolated from one another, and each are running their own little worlds, which is, you know, that's fine, but if there's no collaboration. It's hard to bring everyone up to speed. There has to be collaboration.

Teachers were encouraged to participate in exploration and problem solving. Administration expects teachers to teach the grade level state standards and prepare students for the state assessments. Teacher and building leaders conduct meetings twice per month during a common planning grade level time. The participants demonstrated an understanding of the importance of the state assessments. However, intensive drilling of skills for students was not the expectation or requirement from administration. Teachers were provided the latitude to find creative solutions to problems that were specific to individual students. Some teachers were resistant to innovation even though administration is not seeking compliance or uniformity. An elementary lab teacher said:

I'll tell you that what they're struggling to cover is math and English, social studies and science gets thrown to the wayside. There are some teachers that never get to it. There are some teachers that get to it a little bit because they're struggling to get through the math and the and the ELA part of their day, and then

it becomes a large part of their day and some of them are really good about

thinking about what's an innovative way to do this what's a creative way to do

this, how can I do this differently, and then there are still people who are you

know, doing the same old thing and are afraid to turn their smart board on.

The student is the central focus of both teachers and administration. The participants

described a culture within the classrooms, schools, and the district that exemplified this

focus. The 'why' of the school district was student learning. More specifically, the central

focus was developing students who are responsible for their own learning.

When asked a specific question based upon the work of Sinek (2009) "Many great

organizations can tell you what they do, but they can't tell you why. Can you explain why

your school does what it does?"—participants responded in a very similar fashion.

Responses described the needs of the individual students as well as the type of student

participants strive to create. Participant responses included important concepts such as

opportunity, students as learners, and skills that will help students in life. With the

student at the center of the organization as the "why," other aspects of the organization

may explain "what" or "how" they function. The consistency among all three levels of

the school district indicates reliability that developing students as independent learners is

the core belief. This belief is a motivating factor for teachers and building leaders to

engage in innovation. An Assistant Superintendent responded to the question in this way:

To give the students the best opportunities they have the most opportunities they

have to leave us to do whatever they want to pursue and I think it's, it really is to

have students that understand who they are as learners.

A second district level administrator stated:

The reason why we wake up every single day and do what we do is because we want to provide the best environment for our kids to thrive. That's it…thrive today. So if tomorrow, thrive 10 years from now. That means we've got to make sure that our kids have the knowledge, the skills, the capacities. You know to be a contributor to be able to thrive.

Another said:

I think for us is really the 'why' of everything is to have our kids feel confident and confident learners and be able to take those risks. I think for us it's the act of learning that is our, our major focus is on why in everything that we do.

Building level leaders responded to the question in a similar manner. The student remained the central focus or core of why their school does what it does each day but added the importance of community. As an assistant principal put it, "We value community. We value students meeting their potential to the greatest degree possible we value opening doors for students. Provide opportunity." The participating teachers responded similarly but added the importance of meeting students at their instructional level and not focus on assessments. One teacher stated:

I think the why is they really want to reach every student. I think they're trying to encourage every student to learn. They don't necessarily want all of them to graduate at the same level with the same skill set. They want them to feel what their skill sets are, so I feel like they meet students where they are and that is why it works.

Another teacher explained:

It's my hope that that my kids trust themselves a little more, and you know, love

to learn. And, they aren't so afraid and wrapped up in the assessments and at the

level am I. And, all think that I'm bad at math and I have nothing else to learn,

you know, so I just want them to be open to the rest of their lives because it can

be so amazing.

An interview question required participants to describe the culture of their school

or district. As stated, the school culture is essential for innovation. The researcher asked,

"How would people describe the culture of your school/district?" Participants responded

by describing the culture of the school district as collaborative and values learning at all

levels. Teachers and students are encouraged to take risks without fear of retribution, and

trust between teachers and administration enables innovation. As one teacher described

the district culture:

They really are open to your ideas and not just the ideas of the administrators, but

also the staff members, such as myself. You know, you would think that only

people at the administrative level would be you know spearheading these things,

it's not always the case, they're willing to invest in their teachers who want to

spearhead ideas. So, I think that's what makes it very unique.

An assistant principal responded by discussing the importance of risk taking and the role

that administration plays in creating a conducive environment for innovation:

I think they need a trusting environment where they're willing to take risks and

not be called to the mat, simply because they made a mistake. I think from an

administrative point of view, I think the more teachers feel comfortable knowing

that they tried something that didn't work. And, they know that they're going to go

back to the drawing board and are going to be even more thoughtful about it the second time around. When we as leaders can create that environment for teachers, I think that's where a lot of the risk taking and innovation happens.

A teacher validated the point that building leaders value, support, and encourage risk taking by saying simply, "They come from a place of yes."

Information and ideas appear to flow between district, building, and teacher groups. This is supported by evidence provided by an assistant superintendent:

One of the teachers actually emailed me and said to me, [name]. Did you see these? These would be so great. So, I was like it was a Special Ed teacher in an ICT room, third grade. And, she's like, one of our best Fundations Wilson people out there and she was like [name] I really want to try this. So, I went right to my principal Joe and I said, Joe, you know, doing research. I want to see you at the principal meeting. Let's see if we can do this as a pilot and we'll tell everybody about the pilot. We did that last year. This year it's in. It's already in three of the other buildings.

All levels of the school district valued the immediate community that they served but were driven to prepare students for a larger world community. Participants took pride in their schools and their efforts for students to achieve academically and socially. Teachers and administrators spoke of the longevity of teachers and staff within the organization. Members of the community also take pride in having gone through the school system as their children. The success of the school system leads to civic pride and continued support for the schools. The researcher asked the question, "What does the culture of your school value?" The responses spoke of community, family, and trust. One teacher explained this by saying:

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Family. It's the word that comes to mind. Everybody's like Oh, I have a great

work family, now we really do. From the administration to the teachers to the kids

to the aides to the custodians to the secretaries… if there is anything anybody

needs you call the family and the family will come running. Personal or

professional.

The teacher added the importance of trust by saying, "We value that we trust each other."

One participant described an annual summit that the school district hosts in order

to connect with other educators across Long Island and to discuss innovative instructional

practices. The summit is one where teachers and administrators demonstrate an openness

to thinking differently as well as improvement of their skills as teachers and

administrators. The building leaders place value in connecting with others and exploring

different ways of thinking about public school. As this participant explained:

It's an educator summit here on the island and we've hosted in [district name] for

three or four years because we value bringing folks together to look through some

of the more innovative topics and practices, and I've gone to that every year.

We're probably on the more forward-thinking side of innovation and looking at

ways to implement it and that's across K-12 in my opinion. Since we've been

hosting it, it allows for more connected educators is what I believe.

Prior to the pandemic and school closures and the move to hybrid instruction, the

school district was working to develop a portrait of the high school graduate. The portrait

included essential qualities that would lead to post graduation success. The idea of the

portrait was to establish and provide an image of the final product of the school district.

The portrait was designed to bring clarity to the district vision and goals for student

performance and success. According to an assistant superintendent, stakeholders from school and community were involved in the process:

> We're creating a portrait of a graduate which is something that we started to create it's up on our website. Our presentation is in a holding pattern now, but it defines what we want in every kid that graduates. And, it's a vision from the community. It's a vision from every stakeholder including students.

The participating high school principal provided additional evidence regarding the portrait of a student: "Expectations for those who exit and we value the four C's. We value creativity, collaboration, communication and critical thinking and we have pushed that all students challenge themselves at high levels and take on the most rigorous coursework." In this statement, the principal provides insight into expectations for student learning, but also illustrates how students take on responsibility for their own learning. The school district starts with the individual student and builds upon their strengths and identifies areas of growth systemically beginning in the elementary grades. Evidence suggests that teachers and leaders within the participating district have a clear goal of educating students for life, not school. The following is an excerpt from the district portrait of a student:

> Our goal is to frame a new vision for the district that articulates the community's aspirations for all students. Both a process and a product, the portrait will help us consider the overall educational experience for all students by identifying the ideal attributes we desire them to acquire by graduation. … Our Portrait of a Graduate will provide a cohesive statement of who we are and what we believe, bringing together our existing values and initiatives as both stemming from and

contributing to a central vision. It will be a living document—amended as the

needs of students evolve— incorporated into our methods of teaching, our

strategic initiatives, and our district wide professional development.

An assistant superintendent provided additional insight into the district vision for

students. In the participating district, expectations for student learning goes beyond

regurgitation of information provided by the teacher on a test; as this participant

explained:

For some students that was very uncomfortable because they were taught very

carefully. By the time they got to middle school to check the box that the teacher

told them to, and study what the teacher tells you to and then you'll be successful.

And, the students, I think that were most successful were the out of the box

thinkers that struggled with always following what the teacher wanted. They were

the ones that really were the dreamers.

Sawyer (2006) identified just such a problem in that students have learned how to

consume and recite knowledge instead of producing it through effort, collaboration, and

creativity. Results suggests that creative thinking by students is encouraged in an

innovative school district. Another district level leader added the following supportive

statement regarding this theme, saying, "Innovative practices move kids to think and

become that learner, a leader of their own learning."

The participating school district is a part of a larger community that involves

parents, business owners, civic leaders, and religious organizations. The larger

community influences the culture that exists within the school walls. As a result,

community involvement is important in the development of the school vision. The district

established a communication plan for the community that is specific in outlining how it will involve the stakeholders. The outside community is very much a part of what occurs inside. District level leadership makes a concerted effort to involve and communicate with the surrounding town. The district created a communication plan that focuses on the following goals:

- Increase engagement with the community focused on promoting the excellent educational experience that the school district offers.

- Create a consistent narrative about the district's achievement and emphasize student talents.

- Develop new ways to communicate and build a more direct, engaging relationship with the community.

- Better understand the community's perspective and the ways the school district is viewed (e.g., what people value, what storylines are important, etc).

Teachers and administration work together with all stakeholders to find a better way. They are in tune with student needs and differentiate instruction as much as possible. Teachers and administration have a vision of what skills they want a graduating high school student to have. The culture is one in which teachers are expected to engage in ongoing professional learning. This also holds true for the students. Teachers want their students to be independent, creative thinkers and problem solvers, and administrators want the same for the teachers.

In summary, the collected data between the three groups of participants describe a similar culture of innovation. District level responses focus on the broad picture while building leadership is responsible for cultivating a culture and climate where innovation

may occur. Teacher responses paint a picture of a culture of collaboration and risk taking.

Teachers rely upon one another to share ideas and learn from one another's strengths.

The perception of building level administration is non-threatening. According to teachers, principals and assistant principals were perceived as partners in learning. District level administration strives to encourage risk taking and creates a framework for this to occur.

Teachers have a strong sense of autonomy but are aware of limitations and expectations to meet learning standards. The exploration of new ideas and methodologies in order to meet the individual need of a student is a recurring theme through each group of participants. This exploration may or may not involve the use of technology. Table 6 illustrates themes that emerged through pattern data analysis of district culture and how they relate to innovation.

Table 6

Themes Regarding Innovation and Culture

District Leadership	Building Leadership	Teachers	Artifacts
A strong belief system.	Celebrate teacher accomplishments.	Student learning and growth are central focus.	The development of a portrait of a student.
The ability to learn and unlearn practices.	Focus on the student for methodology.	Open to new ideas/methodology.	The student is a collaborative, imaginative thinker.
Building leaders are relied upon to cultivate trust and risk taking.	Teachers take risks combined with professional learning.	Trusting, problem solving, and collaborative.	Methodology of communication with community.
High expectations for teacher learning and engagement in all areas of the school environment.	Create the structure for teachers to innovate. i.e., scheduling	A family-like environment.	Parental involvement is encouraged
Student as a learner and problem solver.	Share/participate in professional learning with teachers.	Community	
	Community	Supportive leadership	
	Opportunities for students beyond graduation.	Able to take risks without reprisal.	

Research Question 3: What are administrators willing to do in order for teachers to innovate in the classroom?

An essential ingredient in creating an innovative school culture is teacher autonomy. The term, autonomy, is used to describe the freedom that a teacher has to

make instructional decisions within the classroom. (Emo, 2015) Administrators must be willing to provide teachers with the ability to make these decisions regarding instruction as well as problem solving that directly relates to student achievement. Deci and Ryan (1985) defined autonomy as the ability to make choices and have control over one's actions. In this study, a teachers' level of autonomy within the classroom was related to their motivation to engage in innovative instructional practices. Teacher autonomy would not exist as it does within the participating district without the support of district and building leaders as well as the trusting relationships and meaningful professional learning experiences. The combination of all three motivating factors led toward innovative behavior. The researcher asked participants the following questions to illustrate the administrator's role in school innovation:

1. How does your principal/superintendent support innovation within your school/district?

2. What do teachers need in order to engage in innovative instruction?

3. How does your school/district promote the growth and development of all learners?

District administrators have made a conscious effort to encourage teachers to break from traditional forms of instruction. This effort required leadership to empower teachers to provide meaningful and differentiated instruction that met specific student needs. These efforts took years as trust and relationships developed over time. As discussed in chapter two, Emo (2015) suggested that teachers are motivated to engage in creative planning, instruction, problem solving inside of the classroom if it is understood that they are supported by administration. Emo's study points out teachers' motivation

comes from student success. Additionally, state and national standards (Reston, 2015) specify the importance of change within school culture in that leadership assumes the role of "change leader." The data indicates that the participating school district realized and accepted the need to change to a more innovative culture. The district accomplished this change gradually and by empowering teachers and students. One district level administrator reflected on the transformation away from traditional instruction: "So we were still in a place of compliance and I needed to shift that to one of more engagement and empowering our students and our staff or faculty." This same district level administrator expanded upon his comments by stating:

> It's the stories we share that drive the energy of the organization. So again, it's about the instruction. It's about engagement. It's about empowerment. It's about student voice. It ain't about compliance and that's the only reason that you know we try to find ways to use technology is to empower and engage kids in more meaningful experiences.

Building leadership recognized that compliance and traditional forms of instruction would not motivate teachers to engage in innovative practices. This realization is also consistent with Emo's (2015) results. The approach and leadership style of building leadership necessitates support and empowerment in order to have an impact on a teachers' motivation and to take professional risks. As one high school principal said, "The worst is probably, you know, some contractual or top-down authoritative approach that this is what we're doing and you need to do it. That's terrible, terrible way to try to motivate, it's not, it's a non-motivator." Building leaders began the process of changing the culture from compliance to innovation by assuming the role of change leader. This

cultural change included the empowerment of teachers and an intense focus on teacher professional learning. In this sense, teacher empowerment is equivalent to autonomy. Principals held voluntary morning meetings to talk about instruction, technology, and many other topics. When a teacher was successful with a new initiative, building leaders shared that success and encouraged others to learn from that teacher. From this, teacher autonomy took root and began to grow, and the culture began to shift. Building leaders established the framework necessary for teacher autonomy to develop; as one building leader explained:

> We try and just provide that platform or the ability for the teachers to think creatively and then they'll be able to help their students to start thinking outside of the box in many of our jobs in the future.

The participating teachers understand that administration must place limitations on their autonomy. These limitations mostly focus on meeting standards and student performance. Teachers as well as administrators focused on preparing students for success in the future. A teacher provided insight into this by saying:

> I never felt that someone was micromanaging how I met those goals. I felt that I did have that autonomy to meet those goals. And, that's not to say it's a free for all, it's not. Administrators are firm but they make sure that there are, you know, there are parameters in place, not just for the teachers, but for the students. There's an expectation there.

An elementary school assistant principal summarized teacher autonomy by saying: "I think autonomy is a byproduct of trust." In other words, when teachers have trust in building leadership as well as one another, autonomy is the result. According to teachers

and administrators, trust is essential in all facets of innovation. Teachers need to know that their principal trusts them and their ability to make professional decisions. The importance of trust between the leadership and teacher as well as among teachers empowers teachers to take risks knowing that they have the support of their building leadership and colleagues even if they fail. Teachers have a sense of autonomy based on trust that encourages them to take instructional risks that are innovative. As one teacher said about her building leadership:

> They don't watch over us as much, but they come join in, if you understand what I'm talking about they will literally give us an open forum and let us go with what we want. … They trust us which is really awesome. That's the thing, they trust us.

> The teachers provided evidence of Self Determination Theory when they described a need for competency and relatedness. Teachers stated that they need professional development and they worked as a professional learning community. As a result, the teachers themselves sought out professional development opportunities in order to expand innovation or to answer a question they had that will extend or enrich student learning. Collaboration with colleagues is valuable and worthwhile. Martin (2018) stated that if we want to change how students learn, we have to change how teachers learn. Exemplifying this, a first-grade teacher said:

> I think that an easy answer would be training and [district name] does provide amazing training over the summer. I think the more important thing… and I think that this is why [district name] has been so successful is that you need a community of learners. We're all so willing to learn and to help each other out,

and I work in a school that is incredibly collaborative. So we're constantly

teaching each other and pushing each other.

The district provides teachers with instructional coaches who help to provide and

facilitate professional development for teachers. Collaboration with the coaches is

significant in the sharing of ideas, problem solving, modeling of new practices, and risk

taking of teachers. The participating school district has created innovative math labs at

the elementary and middle school levels. District and building level administration

supported this by providing time within the daily schedule as well as providing the lab

teacher planning time with colleagues. The math lab was described not as a pull out for

struggling students, rather, the lab was for all students. Differentiated lessons were

organized around a central concept. Student engagement in learning activities differed

within the class period. Instruction such as this requires planning and collaboration

between the lab teachers and classroom teachers. According to the math lab teacher,

building level leaders support her in numerous ways:

>Well, first of all, the scheduling. Second of all, to give me the opportunity to
>
>begin something like this and to work in my school and then collaborate with the
>
>other math specialist who work in their respective elementary schools. We have
>
>an afternoon of two periods every Wednesday, where we get to meet and plan in
>
>order to create our lessons going forward. So we create our labs collectively.

A third lab teacher pointed out that classroom teachers need time. They need time to

collaborate and plan with others for innovative learning activities. Student performance

on state assessments is a concern of teachers in testing grades. According to this teacher,

the classroom teachers require time in the classroom with their students in order to

prepare them for the ELA and math assessments. This takes away from time spent in the innovation lab or other activities that the teachers consider more desirable.

In summary, participant responses to the role of the administrator in innovation was consistent through each of the three groups. Collected artifacts did not provide evidence on this portion of the study. Interview data demonstrate that district and building administration support innovation by providing teachers with the autonomy to make decisions within their classrooms and to take risks. Teacher autonomy requires trust. Building and district leaders have to trust that teachers will make informed and appropriate decisions regarding instruction for their students. For some, this involves letting go of control to teachers on how students will meet learning standards. Relinquishing control and providing teachers with autonomy is a risk that leaders must be willing to take if they wish for innovation to occur. Only leadership can provide teachers with the autonomy they need to innovate. The role of leadership as described in the interviews is one of facilitator for teachers to accomplish their goals. Leadership provides teachers with time to collaborate with colleagues in order to plan and problem solve what worked and what did not in attempts to innovate. Table 7 illustrates themes that emerge through the data analysis regarding the administrators' willingness to engage in innovation.

Table 7

Themes Related to Administration's Willingness to Innovate

District Leadership	Building Leadership	Teachers	Artifacts
Encourage risk taking among teachers.	Provide a framework for teacher creativity.	Partners in learning with leader.	Collaboration
Break away from traditional instruction to meet student needs.	Facilitator for teachers to accomplish goals.	Provide for autonomy and the ability take risks.	
Move away from a place of compliance.	Provide for teacher autonomy.	Supportive	
Move away from a place of compliance.	Non-authoritative approach to leadership.	Provide time for professional learning and collaboration.	
Empowerment of teachers.	Trust	Trust	
Trust			

Research Question 4: What knowledge and skills does the principal apply to encourage innovation for teacher learning?

The evidence to support this question indicates that principals do not necessarily have to possess an extensive knowledge of a particular methodology or new form of technology for innovation to occur. It appears that many of the participants in leadership roles have these skills but is not a prerequisite for innovation. In other words, principals do not have to be experts in technology themselves. However, the evidence does suggest that building leaders must have the interpersonal and leadership skills to develop a culture that is conducive to innovation. The relationships that teachers have with their

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building administration and with one another are highly motivating factors. This is consistent with Self Determination Theory. Therefore, leadership style is important in how building leaders approach innovation. It is difficult to separate teacher, administration, and student from what motivates the participants to innovate. All participants spoke of the student as primary source for their efforts and motivation.

The researcher asked the following questions to all participants in the interview process:

1. What type of learners do you want to develop? What steps are you taking to achieve this?

2. What is the role of technology within your school/district? What does the principal do to provide leadership in the use of technology?

In Deci and Ryan's (1985) Self Determination Theory, relatedness or one's ability to connect with others describes relationships among participants. Relatedness is found to have a significant impact upon a person's intrinsic motivation. A school climate is dependent upon the relationships of those within the organization (Daly, 2009). Trust between teachers and administration is an essential part of innovation. When trust is high, educators are more willing to accept innovative practices and instructional methodology (Holland & Piper, 2016).

Teachers and administrators within the participating school district spoke about their positive relationships with colleagues and superiors. Participants described relationships as respectful, based in trust, and as supportive in nature. The sharing of ideas and trying new approaches was a part of the culture. School and district leadership supported individual experimentation by teachers. However, all stakeholders held the

responsibility for improvement of the collective organization as a whole. Through the coding process, participants described relatedness as important. The researcher identified it as a significant factor for innovation at each level. All three groups, district and building administration as well as teachers, all spoke about the importance of being able to relate to others and share ideas in a nonjudgmental environment. Principals do this by providing teachers with time for professional learning and collaboration with instructional coaches and grade level peers. Teachers participate in weekly grade level meetings. Administration provided substitute teachers when necessary for collaboration time.

Relatedness and collaboration happen at each level of the organization. This relatedness creates a bond among the group members and is not exclusive to each group. Rather, the sharing of ideas, risk taking, and trust cross from one group to the other. Goals outlined in the district professional development plan describe the importance of relationships across all aspects of the district. The following district goal provides evidence of the importance placed upon relationships:

> To place emphasis on excellent instruction from teachers who possess the ability to inspire students with the desire to learn, thereby requiring the highest professional standards and performance from the professional staff. This must be based on cooperation, study, and understanding mutually undertaken by the Board of Education, the administration, and staff to encourage the development of meaningful interpersonal relationships among the students, the staff, and community.

As an assistant superintendent said, referring to the elementary school principals in the district, "We inspire each other. We know that together collectively we are so much stronger and I never do anything or make any decision without them. Even when we go to cabinet." Innovation is a collective, team activity. In a way, innovation is similar to creativity. Innovation is best with input from others. District administration appears to understand this concept and takes steps to engage those whom they serve in the process. An assistant superintendent put it simply by saying, "You know, innovation, can't move. Unless you tap into the resources that you have, which are the strengths of your people."

District level leadership works to develop teachers' strengths through meaningful professional learning activities. Support from instructional coaches provide teachers with the skill, knowledge, and experience to implement new modalities. Professional learning is based upon a collaborative leadership style as stated in the district Professional Development Plan:

> Professional development is most effective when there is collaborative leadership and shared responsibility for improving teaching and learning. Collaborative leadership for professional development recognizes that the pursuit of excellence is never ending and embraces the individual and collective goals and talents of teachers, paraprofessionals, parents, school administrators, school boards, district and state staff, institutions of higher education, unions, and other stakeholders. … Professional development is most effective when it is job embedded, directly relevant to classroom practice, provided over time, and when it provides opportunity for practice of new strategies, time to reflect on changes, and time to integrate new learning into the teaching practice. … Professional development

ensures that educators have the knowledge, skill, and opportunity to collaborate in a respectful and trusting environment.

An assistant superintendent for instruction further illustrated the importance of collaboration during professional learning in the following way:

So even when a teacher is in a PD, they have to name out what the next steps that they're going to do back in their classroom. And, do you need coach help? They'll come in and help you. What do you need coach help on? We will help and will support you to do that.

Professional learning must involve administration cannot be conducted in isolation. Building and district leaders have to be participants in the learning process along with teachers. An assistant superintendent rank ordered trust and learning by stating:

I think it's an essential number one, just gonna say that you can't do it without trust. But, number two, it means being a real partner in the learning with teachers. It means getting down into their level, it means coming into their classrooms on a daily basis.

At the building level, leaders work in practical terms to create opportunities for teachers to collaborate and engage in professional learning as well as share ideas and experiences. An assistant principal shared her insight:

We create a time for [teachers] and we created PD time for them. They wanted release time we send a sub to their room so they can plan as a grade level and then they can actually have a nice product for their kids. … They could benefit to collaborate with people that have perspectives that are different from them. I didn't. There's beauty in that and I always say like perspective isn't a bad thing,

you choose to either accept it or not, you can't control what's coming out. Yeah, but how you take it in as really being a savvy thinker.

The high school principal described creating a structure within which teachers could collaborate and discuss successes and failures, saying, "You have to give them time to work together. So you have to create a structure by which they'll interact and share stories, good and bad."

Evidence collected from teacher interviews confirmed the support provided by district and building level administration. Teachers spoke of the collaboration with others and the collegial climate of their schools. The teachers understood the importance of on-going professional development, and they enjoyed the process of learning. Relatedness was a motivating factor for teachers to engage in innovation. The teachers spoke openly about the instructional coaches and administration multiple times:

- "They make time for us to meet with our instructional coaches."

- "Having that instructional coach and having the willingness of your administration to give you the time and space to come together as a group. And, you know, figure out what you're going to do like it just, it brings everyone together and no one feels alone."

- "But the atmosphere is very positive. And, because our leadership is very positive starting with our Superintendent, and (Assistant Superintendent) and then of course my immediate supervisors principal and (assistant principal). They're so incredibly positive nurturing approachable, that I think it just sets the tone for the building."

- "But it's nice to know that if you want to take a leap of faith, you're not going to fail because someone is there helping you along the way. And even if you have a glitch, you can bring that up to them and it's not any kind of criticism. They're always the first to say, oh, that's happened to me. You will try it again."

From these comments, the teachers make it clear that support from the district and building level leadership is essential. The building leadership has created a school environment that enables teachers to take risks and seek out the help of their colleagues when engaging in innovation. The relatedness to others and knowing that failure will not be criticized, rather, looked upon as an opportunity to learn is central to the phenomenon.

Technology is an important aspect of innovation in schools. Participants spoke openly of technological initiatives currently in place within the district. All levels of participants engaged in discussion of technology. Items discussed included Chromebooks, web-based programs, and classroom presentation devices. Each of the three participant groups described challenges that new technology poses as well as how to use it to enhance and, in many ways, transform instruction. At times, participants spoke of school closures and the pandemic and how current circumstances have forced teachers to take risks in the use of technology that they might not have otherwise made. District level leadership described technology in the following ways:

- "Tech as a tool and I don't really see it as the end all be all as other people. It's just another way to get there and it can be a faster, you know, it can be for some students really the next step. I do think it's a tool that every child should know how to do."

- "They (students) needed to understand the responsibility of it, how to handle it. The dangers of it, the incredible learning that could come from it and how to create with it, how to create new knowledge with it, and none of that came from a smart board. So, until we understand how to harness that for kids through whatever device we buy them. To me, technology is just another tool for a teacher."

"What knowledge and skills do the principal apply to encourage innovation for teacher learning?" To summarize, principals must be able to establish trusting relationships with stakeholders as well as develop a culture of learning for both teachers and students. Evidence from the participating school district and building level leaders suggests that the development of such a culture is systemically valuable. A culture in which teachers work collaboratively with peers, engage in meaningful professional development of their choosing or creation, and leaders are willing to learn alongside teachers throughout the process has been described by each of the groups. Innovation comes from the work done by teachers within this environment with the purpose of student achievement and long-term success. Surprisingly, the data suggest that administrators are not the primary source of information, or serve as the resident experts on new innovative instructional strategies. Evidence suggests that building and/or district leaders must be able to create the climate and culture for innovation to happen. Table 8 illustrates themes that are similar between each of the groups regarding administrative skills necessary to innovate. In comparison of each group and the artifacts, the ability to relate and connect with others within and across the levels of the organization are consistent.

Table 8

Themes Regarding Administrative Skills

District Leadership	Building Leadership	Teachers	Artifacts
Develop the strengths of people within the organization.	Transformational style of leadership.	Relatedness in connecting with others.	Collaboration
Responsible for improvement of the overall organization.	Inspired by and to others.	Administration is positive and nurturing.	Shared responsibility for professional learning.
Inspiration by and to others.	Learn alongside the teachers in professional learning.	Administration are considered partners.	
Sharing of ideas.	Make time for collaboration.		
Technology is a tool to extend student learning.	Provide coaching.		

CHAPTER 5: SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

The culture of a school determines the level of innovation. At the surface level, innovation is easily confused with technology. The findings from this study indicate that innovation requires connectedness through trusting relationships of the stakeholders. Innovation also requires ongoing professional learning experiences for teachers and providing them the autonomy necessary to implement new practices within the classroom.

In this chapter, the researcher will discuss the phenomenon of school innovation as well as the theoretical framework of Self Determination Theory. Additionally, the researcher will make connections between the literature and findings from interviews and collected artifacts.

Implications of Findings

The behavior of school leadership as it relates to innovation is the primary focus of the study. In order to understand the phenomenon, it is important to understand what and how participants are motivated to engage in innovation. Findings from the study support the theoretical framework. All components of SDT were present within the culture of the participating school district.

The findings indicate that innovation in the school environment is primarily cultural. The participants as well as collected artifacts define innovation as something based in relationships with colleagues, collaboration, problem solving, and the willingness to take professional risks. The technological devices used for innovation are secondary to the primary mission of the participating school district. Student achievement

and success over time are strong motivating factors and are held and understood by all as the core vision of the school district.

Each of the three groups defined innovation in similar ways. Differences among the groups were subtle and a matter of perspective. District leadership defined innovation from a macro-organizational view. School building leadership looked at innovation as something more practical that would improve efficiency or an existing practice or program. Teachers' definitions of innovation included language that included problem solving, collaboration with colleagues, and finding methods to extend student learning. All three groups spoke directly about technology but did not use it as the definition of the phenomenon.

Participants in each group shared examples of what they considered innovation within their school district. These included initiatives such as learning labs for math, science, and resource rooms. Participants discussed software programs such as Schoology, Flipgrid, and many others as means of continuing instruction for students during the COVID-19 pandemic. More importantly, the teachers described professional learning experiences provided by the district as well as support of their building and district leaders. Participating teachers were not fearful of taking professional risks and described an immensely positive relationship with district and building leadership.

The culture of the participating district is what enables innovation to take place. Several themes emerged consistently from each of the groups when asked to describe the culture of the school or district. As stated previously, the student as learner was a consistent theme among each group as well as the artifacts. The genesis of this vision began at the district level and slowly permeated the organization over time. As a result, a

strong belief system emerged that placed individual student success in the center of the organization. Teachers are expected to problem solve in order to identify and find methods that may be specific to an individual student. District leadership holds teachers to high expectations for their own professional learning as well as engagement in all aspects of school life.

Building level leaders share in the responsibility of cultivating a culture that is conducive to risk taking and problem solving within their faculty as well as the students. The interviews revealed that teachers share an admiration and respect for their leadership teams. In their own way, each teacher described a positive connection and relationship with their administrator. Building leaders provided the time through scheduling and regular discussion for teachers to collaborate and plan together. Teachers taking instructional risks that correspond with professional learning is encouraged by building leadership. Successes are celebrated and failures reflected upon in a non-judgmental way. The sharing of experiences that work and those that do not are essential to the overall growth of the organization.

Certainly, not all teachers in each building are as adventurous as the ones who participated in the study. However, the participating teachers did share how other teachers evolve professionally and are willing to try something new if they have seen others try it first. Additionally, teachers viewed the role of building leadership as partners in learning as opposed to an authoritarian model. Building leadership participates in professional development along with the teachers. This shared experience strengthens the relationship between the teacher and the leader by paving the way for reflective conversations regarding the implementation of new instructional strategies. The

organization grows through a process of learning new strategies and letting go of old ones over time.

Trust emerged as an essential element of innovation. Participants spoke of trust from their vantage point within the hierarchy of the school district. One participant summarized the relationship between innovation and trust by saying that one is the byproduct of the other. The teacher participants trust in one another to share ideas, take risks, and experiment with different instructional strategies. The teachers also trust in the building leaders to share and reflect on failures. In this, teachers are truly reflective of their successes and look at failures as a learning opportunity that comes without reprisal. Building leaders intentionally cultivate trust and risk taking among faculty and staff. Building leadership trusts in both the teachers and district level administration. District level leadership has provided a vision for innovation through the empowerment of principals, teachers, and involvement of the community. In order for innovation to grow within a school or school district, leadership must first establish trusting relationships through all levels of the organization.

A principal need not have extensive technological or curricular knowledge for innovation to take place. Building and district leadership must possess strong interpersonal skills in order to develop trusting relationship with teachers. Additionally, building leaders must be able to develop a culture of learning that includes both teachers and students. Innovative principals spend time enriching this culture by creating opportunities for teachers to collaborate as well as engage in meaningful professional learning. Innovative leaders accept that they are not the source of all knowledge. However, they lead by recognizing specific needs based upon student learning deficits

and teacher recommendations. Innovative leaders provide teachers with professional learning designed to meet specific needs that will benefit the whole of the organization.

Relationship to Prior Research

As discussed in chapter two, school innovation is a phenomenon that is rooted in creativity and change. Looking back over the last seventy years of public education, there were moments in time when innovation was prevalent. These historical social and political events caused a disruption that led to innovation. As a result, public education evolved over time with the most significant changes beginning with the realization that America's students were not competitive with those of other countries. This fear still exists today. The call for innovation of public education began as a national security crisis when the Russian satellite Sputnik orbited the Earth and created panic that America would lose the race to space. Educators responded by addressing math and science curriculum as well as supportive federal funding. Change was necessary and needed. Additionally, the 1983 report, A Nation at Risk, shined a light on the mediocrity of our schools and called for an increase in academic rigor, standards, and excellence. Concurrently, technology in the form of personal computers began to disrupt the traditional sense of instruction. Technology challenged how students learn and the role of the teacher began to shift. Christensen (2017) would describe these events as disruptions that led to an innovation in education. Currently, the world is struggling to provide instruction in a variety of models due to the COVID-19 pandemic. School districts have leveraged technology as well as a plethora of online software programs just to make instruction possible. Teachers provided through teleconferencing software such as Zoom or Google Meets. Schoology and Google Classroom provided teachers and students with

the capability to post learning tasks electronically. Remote, online learning has become a necessity of instruction and learning. The pandemic has forced teachers to adapt. The disruption of the pandemic has led to innovation.

What is innovation? The research defines the phenomenon as change or taking something and making it better. Participants defined innovation differently based upon their level within the organization. In order for innovation to occur, a support culture must exist. Themes emerged from the interviews that describe the required culture as collaborative, risk taking, supportive relationships, shared vision, and willing to problem solve. Technology was considered to be innovative, but not as a singular definition of the phenomenon. Many referred to technology merely as a tool that is itself constantly changing. According to the participants, true innovation occurs when teachers focused on a central, core idea and work together with leadership and colleagues to achieve that ideal. For the participants in this study, the central focus was the development of students who possessed skills such as problem solver, learner, and thinker. The goal of the district is for all students to become leaders of their own learning as they progress through the grades towards graduation. Teachers and administration work to identify individual student strengths and weaknesses. Once found, teachers and building leaders differentiate instruction to meet student needs. The portrait of a student is a form of motivation itself. Sinek (2009) spoke of this when he spoke the Golden Circle. Sinek pointed out that organization that know why they do what they do and can communicate that to others are successful. The participants in the study defined their "why" as the development of the student and individualized methods of instruction that will lead to success.

Leadership style has a significant impact upon innovation. As stated, school culture is important for innovation to exist. Schein (2017) states that the behavior of the principal can provide the opportunity for participants to learn something new or to stop something that is inappropriate. Therefore, the style of leadership may hinder innovation or help it to flourish within the required culture. The literature suggests that the transformational leadership style is most conducive for innovation. This study is supportive of that analysis as well; however, evidence collected through the interviews lends itself more towards the lead learner style of leadership as described by Fullan (2014). Fullan reminds us of the bureaucratic pressure for students to perform well on standardized assessments. School improvement is an expectation through the APPR teacher assessment system. Fullan believes that this is unreasonable, and that the long-term success may only be achieved through strong relationships between principals and teachers. Themes that emerged in this study confirm Fullan's comments.

Relationships, or relatedness, emerged as one of the most significant themes of the study. As identified by Fullan (2002), the "Cultural Change Principal" must possess characteristics such as moral purpose, an understanding of the change process, the ability to improve relationships, knowledge creation, and coherence making. Fullan states that the common factor to successful school change has been relationships. According to Fullan, leadership must pave the way for innovation by first creating a conducive culture. One important aspect of this culture is the use of professional capital. Professional capital refers to the sharing ideas and collegial work that teachers engage in. Evidence from the study suggests that teachers draw upon the strengths and expertise of others in order to improve their effectiveness. This study is supportive of Fullan's claim that professional

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capital among teachers and leadership is used to move organizational goals forward. The organizational goal of focusing on individual needs and the development of students as leaders of their own learning was consistent among participants. Fullan explains the importance of the building administration engaging in professional learning along with teachers. All three groups of participants shared information about leadership learning alongside teachers in professional learning experiences. Monthly grade level meetings were also described where leadership participates to discuss teaching and learning practices.

The Self Determination Theory (SDT) that was developed by Deci and Ryan (1985) provided a theoretical framework for the study. SDT states that intrinsic motivation is derived from autonomy, relatedness, and competency. The results of the study confirm that teachers are motivated when all three components of SDT are in place. Evidence collected indicates that teachers have trusting relationships with peers as well as building and district level leadership. From this trust, teacher autonomy empowers professional risk taking without fear. Each participant group spoke of ongoing professional learning which provides the substance for which teachers engage in innovative instructional practices. One aspect of SDT supported the others. In other words, strong relationships and trust led to risk taking and autonomy. On-going professional learning led to an increased level of competency, or level of knowledge. Evidence suggests that the phenomenon requires that all three components of SDT are necessary in order to motivate teachers to engage in innovative practices. District and building leadership have the responsibility of creating the culture in which teachers will be motivated to innovate.

The researcher anticipated that innovation and technology would be synonymous. In the interviews, some participants did not touch on technology in their responses until directly asked by the researcher. Technology evolves quickly and may not always provide for a specific student need. The establishment of a culture that balances professional learning with autonomy and trust is innovation according to all three groups of participants. The perspective of each group was slightly different based upon their level within the organization, but all concluded that innovation is cultural. Participants stated that technology is a constantly changing tool and is a source of professional learning. Technology is not innovation itself. Additionally, the researcher was surprised at the level of importance placed upon trust.

Relationships based upon mutual respect and trust between teachers and leadership are essential ingredients. They serve as the foundation of innovation. Bryk & Schneider (2002) point out that interpersonal trust deepens among individuals as the perception that others care about them beyond their formal role. Principals can create opportunities to strengthen interpersonal bonds when they demonstrate an interest in teachers' personal lives. Similarly, teachers who express interest in their students' lives in a caring way are likely to internalize obligations. Bryk and Schneider provide insight into how leaders may create a culture of trust. Some strategies include the creation of common planning time for teachers so that they may work collaboratively towards a common vision. Providing time for teachers to work together in professional development and working with resources is also effective. Teachers begin to develop a collective ownership of the school vision and professional obligations. Evidence collected within this study is supportive of the findings of Bryk and Schneider.

The researcher took the approach of a qualitative phenomenological study in order to understand school innovation. The analysis of qualitative data provided insight into those professionals who experience the phenomenon on a daily basis. A strictly quantitative methodology would not provide empirical data that explains the phenomenon. By collecting artifacts and conducting interviews with participants and at three different levels of the participating school district, the researcher was able to develop a deeper understanding of innovation as well as the leadership and motivation required. The qualitative data collected provided valuable insight that a quantitative analysis would have missed.

Limitations of the Study

Those who volunteered to participate in the study provided an honest description of their experiences and reflections regarding school innovation. Regardless, the study holds several limitations to consider by the reader in drawing conclusions. First, the study consisted of a small number of participants. The study included three volunteers from each level of the school district including teachers, building administration, and district level assistant superintendents. Additionally, teacher participants were all from the elementary level. Therefore, the teachers were not a representative group of the entire school district. Secondary teachers may have had different opinions and insight into innovation, school culture, and trust. Similarly, the study lacked representation from the middle school level in both the leadership and teacher groups. An expansion of the study to include more participants as well as school districts would add to the reliability of conclusions made by the researcher.

As a result of restrictions from the COVID-19 pandemic, the researcher was unable to conduct on-site visits. This limited the researcher's ability to collect field notes and artifacts directly from the classrooms, labs, or front offices. This was a small study with limitations that is worthy of further study on a larger scale.

Recommendations for Future Practice

Based on the conclusions of this study, practitioners who wish to pursue innovation within their school district should consider a focus on school culture. This focus should permeate all levels of the organization and be paired with a clear vision for the district. School innovation is reliant upon culture and the willingness for the organization to evolve and learn. In order for a school district to become an innovative organization of learning, both district and building leadership styles should be transformative as well as that of lead learners as described by Fullan (2014). Trust is an essential ingredient within an innovative school culture. District and building leadership should be willing to relinquish some control and provide teachers with the autonomy necessary to make informed decisions regarding curriculum and student learning paths. The researcher recommends that practitioners pair autonomy with supportive and meaningful professional learning for teachers and leaders. Collaboration between teachers is essential. Leaders within the participating school district create time and opportunity for teachers to engage in collegial planning and learning. Teacher collaboration and trust among teachers leads to risk taking and innovation. It is important that leaders recognize that roles have changed and that it is no longer realistic to think that the building principal can serve as the sole instructional leader of a school building. School leaders should turn their focus towards establishing a culture within their

buildings in which both students and teachers are engaged in the learning process and are encouraged to take professional risks without reprisal. In the participating district, failures are opportunities to learn and improve. The participating district began this process slowly by first providing teachers with time to plan together. Administration encouraged collaboration and collegiality during these times. Building leaders then began meeting bi-monthly with grade level teams of teachers. In these meetings, teachers engaged in honest discussions about instruction and specific goals for individual students. District and building leadership aligned professional learning experiences based upon teacher and student needs. Through this process, a culture of trust, collegiality, and risk taking evolved. Innovation for this district began with a conscious decision to move away from traditional forms of instruction. A common shared vision for the district emerged and innovation thrived.

Recommendations for Future Research

In order to understand the implications of these results, future studies may address the phenomenon of innovation in a more content-specific methodology. For example, an understanding of innovation would benefit educators and practitioners by looking at how it relates directly to instructional practices within the classroom. This study focused on leadership, but innovation within the special education or the ENL population may provide greater insight and specific strategies. Teachers within these areas appear to have a propensity to take risks based upon meeting individual student needs or deficits. As stated, school innovation can only exist within a collegial and trusting school culture. A more intensive study may reveal specific strategies used by district and building

leadership to create the optimal culture for innovation. Sharing such strategies may assist leadership in a broader sense as public education continues to evolve.

Establishing an organization that learns is not an easy feat. Argyris (1964) pointed out the importance of closely examining the talents and contributions of the individual within an organization. This too is worthy of further study with a focus upon those in a leadership role. Educational leaders must come to the realization that building and district leadership has evolved to a point that it is no longer reasonable to think that one person can effectively manage all that is required. State, national, and international standards for leadership such as PSEL and ISTE indicate the importance of the creation of a collaborative school culture. According to these standards, the principal serves as a change agent for the school and provides meaningful professional learning opportunities for teachers. An area of further study would be to make a comparison between the PSEL standards and school culture within an innovative organization.

This study provides an analysis of the phenomenon of school innovation through a qualitative methodology. The results indicate the need for trust, relationships, culture, teacher autonomy, and ongoing professional learning. Each of these areas are worthy of further exploration independently. Implementation of standards in the field may provide a greater understanding of innovation. Additionally, there have been extensive studies of leadership styles such as transformational and transactional. This study concurred with the work of Michael Fullan (2014) in what he describes as the "lead learner." An area of interest may be to focus on the characteristics of a lead learner in a leadership role and collect empirical data related to innovation from teachers within that school setting.

Analysis of such data would provide insight into both innovation and the "lead learner" leadership style.

Trust emerged as a common theme from each participant group. Relational trust (Bryk & Schneider, 2002) within a school setting would be fascinating to study because it serves as a foundation for innovation and change. Learning how trust effects other areas of schools, as a learning organization, would have important implications as the public education system continues to evolve.

Conclusion

In conclusion, public education has and will continue to evolve over time. Social, political, and technological variables will continue to influence the culture, curriculum, and leadership of public education. How leaders respond to this evolution and inevitable change is essential. This study demonstrates the importance of the establishment of schools as learning organizations for both students and teachers. Organizations that embrace learning, risk taking, and collegiality are innovative. Learning and innovation are synonymous. Leadership that maintains the status quo and continues with business as usual, run the risk of stagnation and not preparing students for the future. District and building leadership must work to establish systems for innovation to take place. This study found that teachers are motivated to engage in innovative instructional practices when provided with autonomy, relatedness, and competency as outlined in the Self Determination Theory. As discovered within the interviews, organizational trust is an essential element. The participants described trust both horizontally and vertically. The participating district in many ways serves as a model of innovation for others.

EPILOGUE

The genesis for this study was my own curiosity to understand the phenomenon of innovation. As a school building leader, I have sought a deeper understanding of innovation and factors that motivate teachers. Equally important are leadership styles and behaviors that promote the growth of innovation, risk taking, and collaboration. The culture of an innovative school or school district allows for a free exchange of ideas. The researcher struggles to understand the reason why district and building leadership is reluctant to release control to teachers when the literature as well as my own experiences indicates just such a need. My research confirmed many of my suspicions as a building leader regarding school as a learning organization in a time of change. As I learned through the research process of the study, I implemented many of the strategies in my own school. I learned that providing teachers with common time to plan and problem solve together is vital. I also learned that engaging teachers in on-going professional learning experiences provide teachers with the necessary fuel to meet individual student needs. A top-down leadership style is not conducive to establishing a school culture of innovation. Leaders who are willing to expose their vulnerability and participate in professional learning with teachers are taking steps towards innovation. I discovered the importance of trust. The educators who participated in this study shared their life experiences openly and truthfully. The relationships that leaders have with their faculty will determine a school or district's ability to innovate. It is my hope that this study will challenge those who rely on "doing things the way we have always done them" in order to find ways for students to become responsible for their own learning beyond their school age years.

APPENDIX

Teacher Interview Questions

Interview Question	Research Question
What is innovation and what does it look like in your school/district?	What does innovation look like in a school environment?
What innovative instructional practices are you currently using in your classroom/schools?	What does innovation look like in a school environment?
How does your principal/superintendent support innovation within your school/district?	What are administrators willing to do in order for teachers to innovate in the classroom?
What do teachers need in order to engage in innovative instruction?	What are administrators willing to do in order for teachers to innovate in the classroom?
How does your school/district promote the growth and development of all learners?	What are administrators willing to do in order for teachers to innovate in the classroom?
Think about the evolving role of the teacher within your team. What are some of their areas of strength? What are their next steps?	What characteristics of school culture are important in order for innovation to take place?
Are teachers expected to comply or are they empowered to problem solve and innovate?	What characteristics of school culture are important in order for innovation to take place?
What type of learners do you want to develop? What steps are you taking to achieve this?	What knowledge and skills does the principal apply to encourage innovation for teacher learning?
What is the role of technology within your school/district? What does the principal do to provide leadership in the use of technology?	What knowledge and skills does the principal apply to encourage innovation for teacher learning?
Many great organizations can tell you what they do, but they can't tell you why. Can you explain why your school does what it does?	What characteristics of school culture are important in order for innovation to take place?
What motivates you to innovate? (autonomy, relatedness, mastery)	What are administrators willing to do in order for teachers to innovate in the classroom?

Interview Question	Research Question
Reflect upon those whom you serve as well as colleagues. How do you build upon the strengths of others?	What characteristics of school culture are important in order for innovation to take place?
How would people describe the culture of your school/district?	What characteristics of school culture are important in order for innovation to take place?
What does the culture of your school value?	What characteristics of school culture are important in order for innovation to take place?

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