January 2020

Change Theory And Perceptions Of Innovation From Educators Within K-12 Schools In The State Of North Dakota

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CHANGE THEORY AND PERCEPTIONS OF INNOVATION FROM EDUCATORS WITHIN K-12 SCHOOLS IN THE STATE OF NORTH DAKOTA

By

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A Dissertation
Submitted to the Graduate Faculty

of the

University of North Dakota

in partial fulfillment of the requirements

for the degree of

Doctor of Education
Educational Leadership

May 2020

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Ryan Paul Lyson
April 17, 2020

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ACKNOWLEDGEMENTS

This project has been a long journey with many ups and downs along the way. I would like to thank all of my professors for the time and energy that they gave during my time writing this dissertation. I would like to thank the University of North Dakota for challenging me to think differently.

My family deserves recognition for this product as well. I have spent countless hours researching, writing, and taking courses. At times, these hours have taken away from my family, including missing kids' activities, not being able to be fully engaged, and not being there to assist my wife with parenting responsibilities. I would like to thank my wife, Tracy, because she has been a rock for me throughout the entire process; she has been my biggest cheerleader. She has gone out of her way to provide me with time to work on this project by taking a single-parent role at times. I appreciate everything that she has done to not only support me in fulfilling a dream, but also to financially support this endeavor.

I also want to acknowledge my three boys, Jackson, Lucas, and Carter. Learning is a lifelong endeavor that will provide countless opportunities. I believe that all three of you will go on to do wonderful and amazing things in life. Remember that through hard work and dedication you can accomplish anything.

Lastly, I want to acknowledge my parents, Royal and Pam Lyson, because they provided me with a foundation regarding the importance of education. My father passed away in August of 2019, but I am sure he is looking down now and is proud of this moment. Both of my parents' careers involved education, adding to the overall satisfaction with this dissertation.

ABSTRACT

Throughout the years, policies and mandates have influenced education and forced many school districts, administrators, and teachers to change instructional practices, content, and the overall structure of the school day. Accountability is a common theme in education because many school leaders and districts are trying to work within the parameters given by the State of North Dakota in order to meet the requirements for the state standards which are founded on common core, accreditation visits, state-mandated assessments, and teacher-evaluation components. Innovation is a compelling topic in education; however, there has not been much research that focuses on North Dakota

The study's purpose is to assess if there is an association between educators' perceptions and experiences when pursuing innovation in education. The overall goal is to determine whether innovative educational practices affect educators' experiences with and perceptions about teaching in order to further the research on innovation within the pre-kindergarten (PK)-12 schools in the State of North Dakota. The researcher utilizes a quantitative study to investigate the problem.

Results from this study only include educators within the State of North Dakota. With the onset of the worldwide pandemic brought on by the coronavirus, otherwise known as (COVID-19), schools districts across the country are scrambling to develop online learning opportunities for students. Educators are innovating on daily basis. Systematic accountability will be crucial for every district in the United States to evaluate the overall success of the online learning taking place in almost every district. The findings from this research are insightful and shed some light on the overall perceptions and experiences of educators dealing with innovation. Hopefully, the

survey provides useful data which can be utilized by both districts and the state regarding innovation.

CHAPTER 1

INTRODUCTION

Throughout the years, policies and mandates have affected education and forced many school districts, administrators, and teachers to change instructional practices, content, and the overall structure of the school day. The Common Core State Standards (CCSS) created a content shift for many districts across the nation. Accountability in education increased with the implementation of CCSS, high-stake tests, and educator evaluations. "Although few would argue against the Common Core's overall objective–to raise achievement–that hasn't stopped controversy and criticism from bubbling up, particularly over the way the standards are being implemented" (Estroff, 2014, p. 51). Murphy and Torff (2014) alluded to the fact that implementing high-stake testing at the same time as teaching to the CCSS was a recipe for disaster. Individuals formed their own perceptions about how the Common Core State Standards would work out within schools.

The CCSS was pushed by the National Governor's Association and funded, in part, by the Bill and Melinda Gates Foundation. Trotter (2014) pointed out that other organizations, including the U. S. Chamber of Commerce, Business Roundtable, National Education Association, the American Federation of Teachers, and the U. S. Department of Education, supported the CCSS. North Dakota adopted the CCSS for the state's educational standards. Recently, the state asked for teachers, administrators, and college professors to be part of the process to re-visit the standards and to identify possible changes.

The education delivery model in the United States has been affected since the *A Nation at Risk* report was released in 1983. Now, teachers are constantly striving for excellence in the

classroom; administrators are supporting staff and students; and politicians are insisting on accountability. Education in the United States has gone through many changes over the past 100 years. The stakes are at an all-time high with the onset of the Common Core State Standards and economic competition worldwide to produce 21st-century learners. The past 14 years have seen a direct correlation with the federal government taking a more active role in the field of education with such programs as No Child Left Behind and the Race to the Top Initiative. Urban and Wagoner (2013) explained that, since the time that Regan took office, the educational viewpoint primarily stayed consistent from G. W. Bush to Clinton and then from G. H. Bush to Obama. Each president wanted to be known as an educational president. However, with the creation of the Department of Education during Carter's tenure, it has been clear that little has been done to directly affect student achievement.

When the *A Nation at Risk* report was released in 1983, the groundwork for national standards was set. "A potentially controversial idea was at the core of the program in the pamphlet, however: a statement of the need for national standards as the key aspect of educational improvement" (Urban & Wagoner, 2013, p. 324). A key factor for all people when adjusting the educational standards was the presidents' change of perception. G. W. Bush wanted to make the national standards voluntary, whereas Obama tied federal money to implementing the Common Core State Standards for all states involved with the Race to the Top initiative.

Each president in the past 30 years tried to have his niche in changing educational policy. G. W. Bush managed the crisis that arose with the *A Nation at Risk* report and tried to develop the *America 2000* program. Upon entering office, Clinton took the *America*

2000 program and tweaked it a bit to create *Goals 2000*. "It simply added two goals to Bush's six; first, it advocated parental involvement in education, and second, it established programs for improving the professional education of teachers (Urban & Wagoner, 2013, p. 325). G. H. Bush started the No Child Left Behind (NCLB) Act, which was under much scrutiny as bad policy because of the lack of realistic goals and follow through by the federal government. Obama tried to overcome the perception of NCLB by providing the Race to the Top Initiative, adding regulations such as teacher evaluation and the common core standards in order to get federal money. Obama also influenced funding for college. "In higher education, Obama distinguished himself from Republicans by securing government as the primary provider of student loans, as opposed to private banks (Urban & Wagoner, 2013, p. 349). Over the past 30 years, the federal government instituted mandates which had little influence on overall student achievement in the United States.

The federal government reauthorized the Elementary and Secondary Education Act (ESEA) to be the Every Student Succeeds Act (ESSA). This reauthorization removed the NCLB law that was putting unrealistic expectations on schools. The fact remains that no school wants to leave any child behind. ESSA reduced the federal government's power and shifted some power back to the states. Now, states are required to provide their own way of creating an accountability system under the guidelines of ESSA. North Dakota partners with Cognia, formerly known as AdvancED, to provide accreditation to schools (North Dakota Department of Public Instruction [ND DPI], 2020c).

Consequently, schools have evolved and attempted to implement innovation in order to be creative and to influence students positively for the 21st century. However, innovation has

been loosely defined and is often utilized by administrators and school districts to drive change within schools. "In this process of change, only those organizations which adopt the innovative culture and successfully achieving the innovative structure in them get enormous gains in terms of environmental fitness and adaptation to developments" (Bulbul, 2012, p. 168). Policies drive school district leaders' decisions regarding how to go about the business of school. For schools to be innovative and to create a culture of change within their organization, certain structures, such as schedules, graduation requirements, grading practices, professional development, teacher evaluations, seat time, and policies, need to be evaluated.

Statement of the Problem

Accountability is a common theme in education because many school leaders and districts are trying to work within the parameters given by the State of North Dakota in order to meet the requirements for the state standards which are founded on the common core, accreditation visits, state-mandated assessments, and teacher-evaluation components. North Dakota's Department of Public Instruction (ND DPI), state legislators, Governor Doug Burgum, and State Superintendent Kirsten Baesler have put a plan into place so that schools can operate differently. In 2016, the State of North Dakota passed Senate Bill 2186, nicknamed the Innovative Education Bill, allowing the state superintendent to waive any state law or administrative rule within the education chapter of the North Dakota Century Code 15.1-06. There are many different opinions about what innovation means in education. However, there have been no checks and balances put in place to define what educational innovation looks like within North Dakota. "Innovation and how it is managed is a key strategic issue" (Baregheh, Rowley, & Sambrook, 2009, p. 1334). More clarity needs to be given for what innovation looks

like, feels like, and sounds like within our K-12 schools in order to provide all stakeholders with quality ways to collaborate and to learn from each other. Zairi (1994) stated that defining innovation is challenging and that determining how to quantify innovative activity is difficult. This study can provide the foundation for some type of accountability which the state is requiring for the other aspects of education in North Dakota. Balancing this process with the implementation of innovation, along with accountability, is a challenge that school leaders and districts encounter every year. Various school officials believe that innovation is already occurring within the classrooms. However, many people struggle to understand the benefit of Senate Bill 2186. The bill does not provide any monetary funding for schools to utilize for innovation. Senate Bill 2186 allows schools to break down barriers which might result from student seat time or the even the path a student takes in order to graduate.

Innovation within education can be challenging to measure because teaching is both an art and a science. The U. S. Department of Education (2004) states that not only does innovation come in many forms, but it also stresses the importance of making the criteria transparent for all stakeholders. With the State of North Dakota adopting Senate Bill 2186, the necessary process is to investigate the overall effect which this bill has on pre-kindergarten (PK)-12 education. Senate Bill 2186 has changed the way that schools can operate. Without ample systems in place to measure the overall effect or, at the very least, the perceptions, this bill could be counterproductive and pit one school district against another one. "Change the culture and develop professional capital, and good appraisal systems flourish; throw a good appraisal system into a negative culture, and you get nothing but further alienation" (Hargreaves & Fullan, 2012, p. 20). Stewart (2012) explains that governments around the world are investing resources for

innovation within schools. Our stakeholders depend on accreditation visits and other means to hold schools accountable. Providing research about educators' perceptions about innovation can be even more influential for individual districts; administrators; politicians; teachers; parents; and, above all, students.

Purpose of the Study and Research Questions

This study's purpose was to assess if there is an association between educators' perceptions and experiences when incorporating innovation. The overall goal was to determine whether innovative educational practices affect educators' experiences with and perceptions of teaching in order to further the research on innovation within North Dakota's PK-12 schools. The researcher utilized a quantitative study in order to investigate the problem. The following research questions were developed to guide the research.

(1) What are educators' perceptions of innovation?

(2) What experiences have educators had when dealing with innovation?

(3) Is there a relationship between individual innovation behavior/activity and organizational characteristics (causes of innovation)?

Theoretical Framework

This study's theoretical framework was founded on previous work done by the Hungarian educational sector. Looking through research around the world, Hungary was leading the way to measure innovation for education. The goal of the original study (Horvath & Halasz, 2017) was to provide a clear picture about the innovation activity which was taking place in Hungary during 2016. In order to accomplish this task, different aspects of innovation needed to be considered when comparing higher education to pre-k education. The framework measured innovation as a

product and a process as seen below in Figure 1. The product referred to what type of innovation was taking place while the process focused on the beginning phases along with the diffusion and dissemination (Horvath & Halasz, 2017). The Innova project focused on the bottom-up process. This process referred to teacher-driven initiatives. Creating a composite innovation indicator (CII) was possible when using the data received from the surveys. The CIIs were utilized to map a national level of innovation within Hungary, making it feasible to compare different educational subsystems and the overall intensity of an innovation.

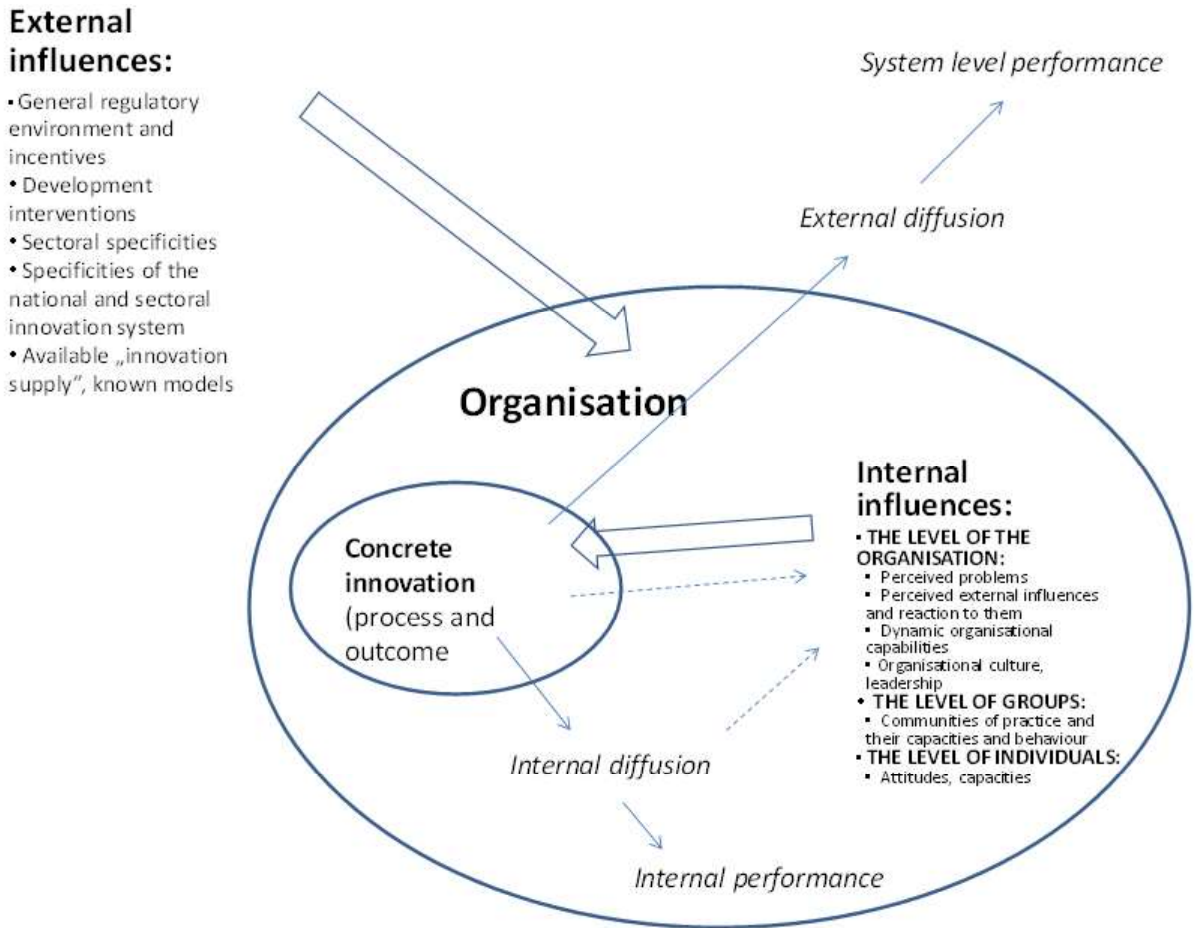

Figure 1. The Dynamic Model Used for the Innova Research Project (Halász, 2018, p. 561).

Significance of the Study

Researching innovation is imperative for all stakeholders involved with education. This study is significant because school leaders and teachers need to have a way to measure innovation. Districts across the state need to utilize the most current research regarding innovation so that they can make quality decisions for the students whom they are serving. Districts are making changes and trying to be innovative throughout the state by implementing practices such personalized learning and one-to-one technology. "Innovation, therefore, is to be regarded as an instrument of necessary and positive change" (Serdyukov, 2017, p. 5). Innovation is often utilized to facilitate some form of change. In order to spark change within the State of North Dakota, legislators passed Senate Bill 2186, nicknamed the Innovative Education Bill; however, many districts are not taking advantage of Senate Bill 2186 because there is not much incentive. Districts do not see Senate Bill 2186's benefit for a variety of reasons, such as there is no monetary value tied to the bill, districts feel as if they are already being innovative, and many items that can be waived can be done through other means. This study could help guide districts with what innovation looks like throughout the state and could provide better opportunities for educators to reflect on their practices within the district.

Delimitations

The delimitation is that this study was only administered in North Dakota.

Researcher's Background

The researcher has been in education for 20 years and has had various roles, including secondary mathematics instructor and administrator. The researcher is currently an instructional coach at Liberty Middle School in West Fargo, ND. Additionally, the researcher is a fellow in

the North Dakota personalized competency-based cohort that is being sponsored by North Dakota's Department of Public Instruction and is supported by Knowledge Works. Knowledge Works is an organization that works with school districts to build capacity for personalized competency-based education and helps to navigate educational policies.

Assumptions

The researcher assumes that all educators provided honest answers within the survey. Another assumption is that this survey's results can be utilized by North Dakota stakeholders to further the discussion about innovation within the state.

Definitions

Adequate Yearly Progress (AYP): Adequate yearly progress was part of the NCLB legislation under Title 1 that was used by the United States Department of Education to measure school performance. States were required to create their own measures of AYP in order to hold schools accountable. If schools failed the process, then states could put schools on probation or even take over the schools (Maleyko & Gawlik, 2011).

Every Student Succeeds Act (ESSA): The Every Student Succeeds Act was a federal education act that followed No Child Left Behind. This shift was significant for the federal involvement regarding educational policy. The ESSA shifted the policymaking back to the states (Heise, 2017).

No Child Left Behind (NCLB): The No Child Left Behind Act significantly increased the federal government's involvement with education. The overall goal was to hold states and educational agencies accountable. There were four major components. First, NCLB required schools to have highly trained teachers; specifically, teachers needed to have the correct

certification to teach certain courses and grade levels. Second, the state accountability systems, or adequate yearly progress, was instituted to measure the schools' success. Third, academic programs had to be research validated. Last, parents could transfer their child from the current school if the school performed low on the AYP reports (Heise, 2017; Kymes, 2004).

Organization of the Study

Chapter 1 provides the initial Introduction for the study, the Statement of the Problem, the purpose of the study, and the Theoretical Framework for the study. The Significance of the Study, the Delimitations, and the researcher's Assumptions are also discussed. Chapter 1 concludes with Definitions and the overall Organization of the Study. Chapter 2 is a review of the current literature about innovation within education and the change framework that is embedded in the overall process. Chapter 3 defines the Methodology utilized for the study. Chapter 4 presents the Results by beginning with the study's purpose and research questions, followed by a description of the methods and the Summary. The data are displayed as tables and graphs. Chapter 5 provides summaries of the findings for the research questions along with the purpose of the study and the conclusions drawn. Chapter 5 also makes connections with the literature, gives implications, and recommends further study.

CHAPTER 2

LITERATURE REVIEW

Introduction

School change has been a constant battle throughout the years. Christensen, Aaron, and Clark (2005) discussed the inability of all schools to find success, and the fact remains that many schools are suffering from chronic underperformance. With the commencement of the common core standards, schools needed to change the way the curriculum was being delivered in order to prepare students for high-stakes tests. The high-stakes tests, which are administered by states, were trying to measure a school's overall success. Also, schools had to change the curriculum delivery in order to successfully educate students in the 21st century. Several states already started projects that focus on 21st-century skills, such as creativity, problem solving, critical thinking, communication and collaboration, digital literacy, and digital citizenship. Innovation in education is a topic that many educators are trying to define and to utilize in order to approach educating students differently. Initiatives are popping up all the time in education, usually resulting in some form of change that is innovative. The Literature Review primarily focuses on school change with an emphasis on innovation in education. In order to effectively compile the research on this broad topic, this review addresses the following questions:

(1) What is the definition of innovation?

(2) What is the role of innovation in education?

(2) What leadership attributes are needed to effectively promote change and innovation within a school?

(3) What structures need to be changed by the administration in order to affect student learning?

(4) How can schools sustain change over time with increased social demands?

(5) What can district leadership do to support adult learning and school funding?

What is the Definition of Innovation?

Innovation in education is challenging to describe because there are many interpretations and opinions about what the term "innovation" means. The literature provided here presents several scholars', practitioners', researchers', and organizations' viewpoints on how to define innovation. The overall perspective of innovation is elusive to many people. "The concept of innovation is currently considered to be the prior condition of making differences in every field and affair, creating values, leading the field and changing things" (Kilicer, Bardakci, & Arpaci, 2018, p. 225). The premise of this dissertation is to measure perceptions about innovation, but in order to start this process, a collective assortment of definitions needs to be presented in order to narrow the overall focus.

> An innovation is a new or improved product or process (or combination thereof) that differs significantly from the unit's previous products or processes and that has been made available to potential users (product) or brought into use by the unit (process). (Organization for Economic Co-operation and Development [OECD]/Eurostat, 2018, p. 22)

Recent history defined innovation differently. E. Rogers (2003) described innovation as any object, idea, technology, or practice that appears to be new. West and Rickards (1999) declared that innovation needs to be intentional in order to change and to truly have an effect. Goldsmith

and Foxall (2003) reinforced this definition of innovation by saying that innovation must have a positive influence once the concept is put into practice. Jensen et al. (2012) defined innovation as the process of taking the initial idea through both research and development. Innovation is also a mindset and can be utilized as a tool to help implement change. "Innovation is a way of considering concepts, processes, and potential outcomes; it is not a thing, task, or even technology" (Couros, 2015, p. 20). This conceptual view about innovation transcends an already allusive topic to one of more motivation.

What is the Role of Innovation in Education?

Innovation is utilized in many facets, from business to education, and involves a variety of components, including, but not limited to, technology, a person's mindset, best practices, culture, and communication. Change is a key component of innovation. Serdyukov (2017) stated that, for innovation to produce some form of change, the overall implementation and execution need to be addressed. States, school districts, and educational leaders across the country are developing educational practices which center on innovation. However, the perception about what innovation is within each district or individual school can be different.

> Innovation is a change in thought process regarding how something is done or the useful application of new inventions or discoveries. It involves changing the paradigm under which we operate to improve quality, efficiency, or the nature of the product or process. (Jensen et al., 2012, p. 2)

Currently, schools can define what innovation is within their district and can determine whether an educational practice or strategy is deemed innovative. The role that innovation has within the field of education can involve a variety of forms, including a driver in the change process,

technology, teaching pedagogy, creativity, and student reflection. "Good quality innovation in education could make learners learn more in a shorter time and could promote learning competence" (Seechaliao, 2017, p. 201). Innovation's role in education needs clarity so that districts and school leaders can appropriately utilize the term "innovation." "Innovation requires planning, team engagement, leadership commitment, metrics and measurements, and some appetite for risk" (Jensen et al., 2012, p. 12). Otherwise, the term "innovation" can become a buzzword which is used to promote a school or program.

The research shows that there are different frameworks to describe innovation. Baregheh et al. (2009) utilized the framework illustrated in Figure 2 to conceptualize innovation. The framework has a total of six attributes for innovation, stages, social, means, nature, type, and aim, which are needed in order to achieve the overall goal.

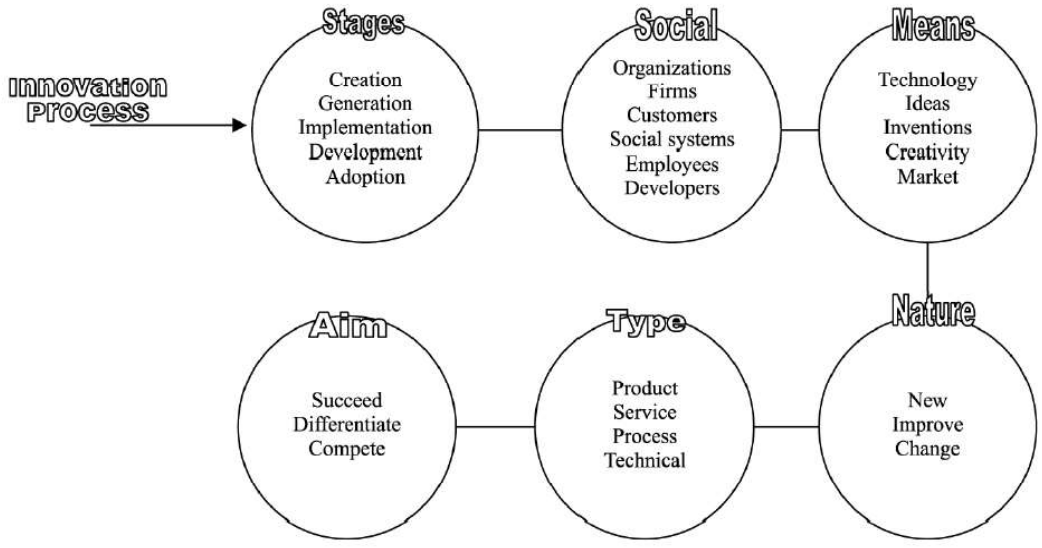

Figure 2. A diagrammatic definition of innovation (Baregheh et al., 2009, p. 1333).

Baregheh et al. (2009) defined innovation as a linear process, contradicting Cai (2017) who claimed that the innovation process is more interactive. Edquist (2011) concurred with Cai

(2017), saying that innovation is, indeed, not a linear process but is, instead, multi-faceted. Cai (2017) stated that there were three other factors which Baregheh et al. (2009) failed to consider in the innovation framework: (1) the overall problem to be solved, (2) the stakeholders involved with the innovation, and (3) the potential challenges that may arise throughout the process. Innovation occurs in many ways, and how an individual interprets the overall meaning is critical for the role that the innovation takes. In order to understand the innovation's role within a system, the structure classification needs to be identified. As the literature suggested, defining innovation can be challenging. Edquist (2011) stated that, in order to understand the role of innovation, determining whether the innovation is a process or a product is critical because innovation is not only complicated, but also heterogeneous. Edquist's (2001) framework is presented in Figure 3.

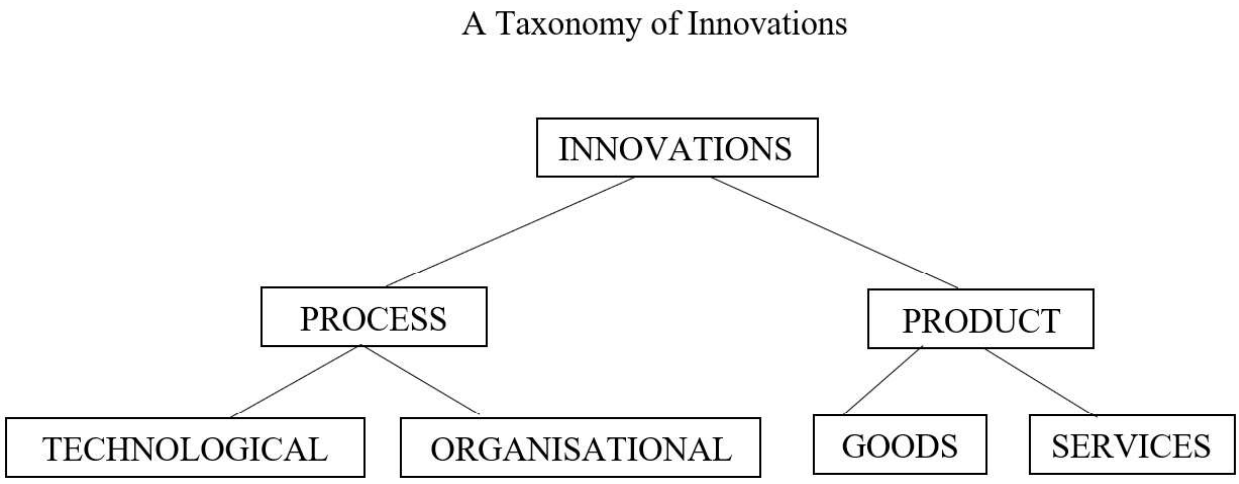

Figure 3. A taxonomy of innovations (Edquist, 2001, p. 7).

Innovation's role in education can have several meanings. "Innovations in education are of particular importance because education plays a crucial role in creating a sustainable future" (Serdyukov, 2017, p. 4). Shear, Novais, Means, Gallagher, and Langworthy, M. (2010b) stated

that innovation included both technology and the pedagogy of teaching. Shear et al.'s (2010b) framework addressed students' 21st-century skills and focused on understanding the conditions which support innovative teaching practices. The constructs on which this research focused included student-centered pedagogy, an extension of learning beyond the classroom, and information and communication technologies being integrated with teaching and learning. Figure 4 shows the framework for the Innovative Teaching and Learning (ITL) research project.

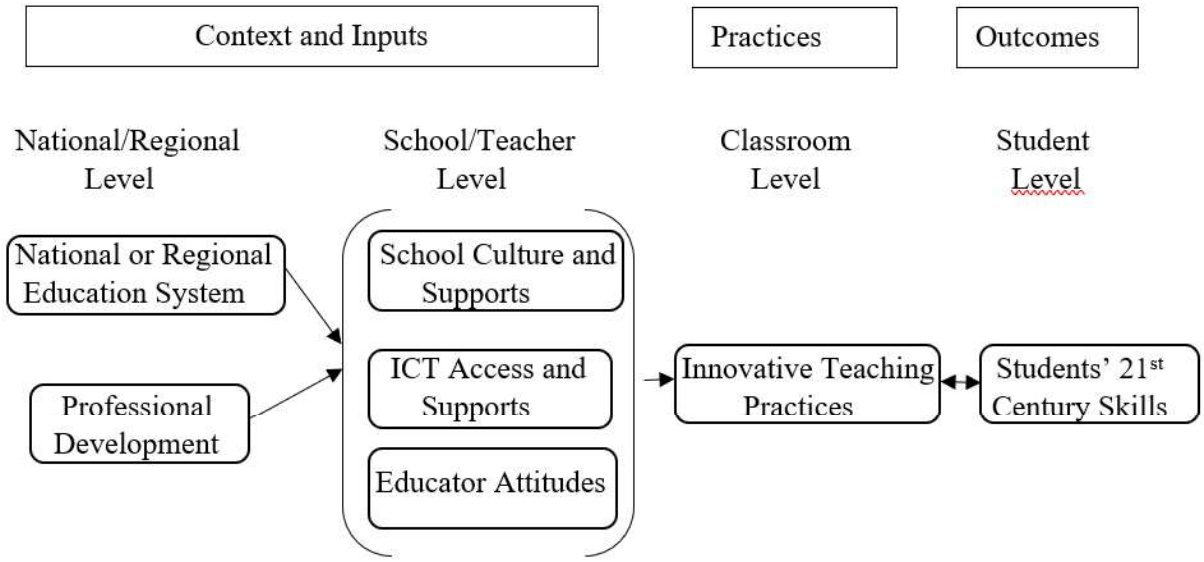

Figure 4. ITL research logic model (Shear, Novais, Gallagher, and Langworthy, 2010b, p. 3).

Serdyukov (2017) agreed with Shear et al. (2010b); innovation can occur in the following areas: theory and practice, curriculum, teaching and learning, policy, technology, teacher education, and school culture. The type of educational innovation that a district is trying to apply may have a separate framework to determine if the innovation is successful. E. Rogers (2003) pointed out that, for innovation to take place, diffusion, which is the way an innovation is communicated to all stakeholders over time, must occur and, consequently, determines the innovation's overall success. E. Rogers (2003) stated that there are four elements for the

diffusion of innovation: the original innovation, the way the innovation is communicated to individuals, the time or rate of adoption, and the social system for all parties involved with the innovation. Figure 5 provides a visual representation of the theoretical framework established for the diffusion process.

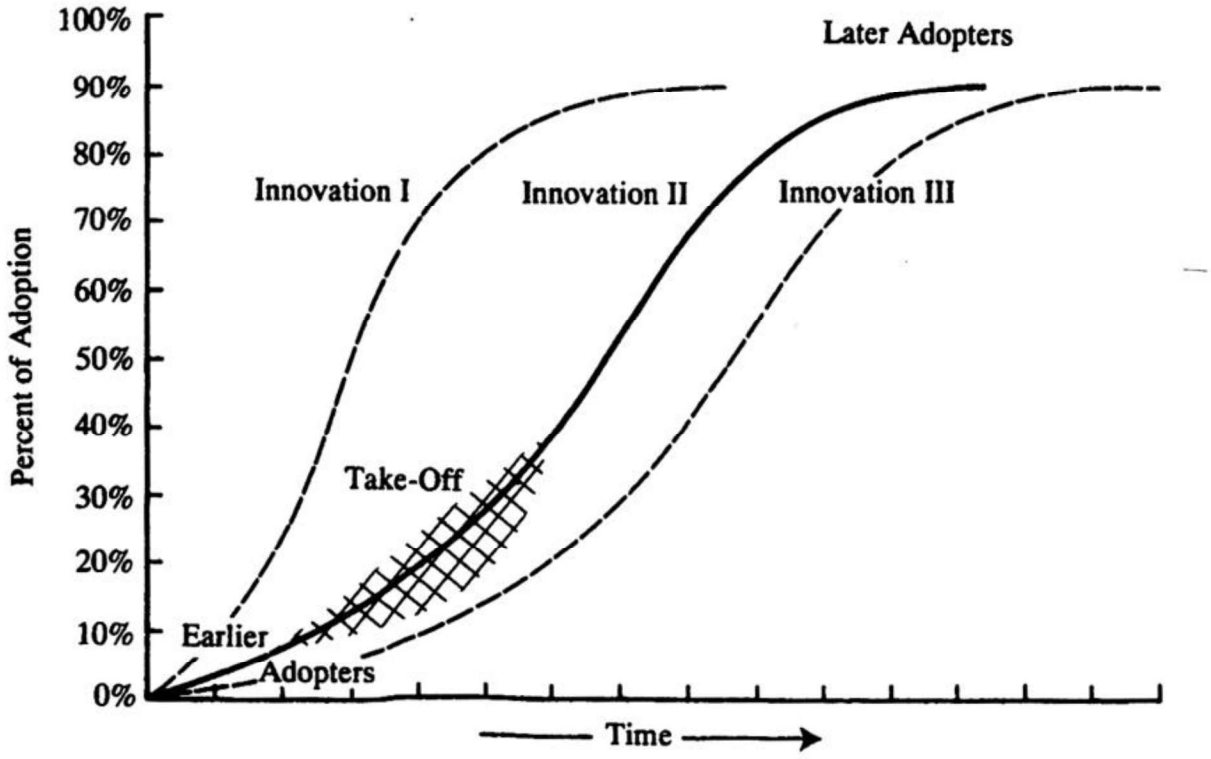

Figure 5. The diffusion process (E. Rogers, 2003, p. 11).

In summary, there are multiple approaches for innovation and how to measure that specific innovation within the field of education. The literature is clear that determining what is being innovated is critical. Once the goal is established, then formal criteria need to be in place in order to have a concrete way of measuring the overall success and sustainability.

Change and Innovation

Some types of innovation in schools have led to systematic change. This modification occurs in many facets. Hargreaves and Fullan (2012) stated that knowing what to change and how to change are two completely different topics which are surrounded by various factors. Innovation sparks the idea to change structures and pedagogy for some school systems. Stewart (2012) stated that innovations for teaching and learning can be an inspiration not only for why to change, but also for how to change. Sahlberg, Ravitch, and Hargreaves (2015) concluded that educational change occurred in Finland during the 1990s due to a shift of thinking that was sparked by innovative practices.

Innovation can be a precursor to change initiatives. Hargreaves and Fullan (2012) stated that Finland is considered a model for educational success due to the fact that its culture is founded on professional capital. Furthermore, in order to change teaching, knowing what to change is as essential as validating the human and social capital. Rooney, Brown, Sommer, and Lopez (2017) determined that, in order to adopt innovations, the following items should be addressed: preparation for change, creation of a new culture, transformational leadership skills, support for all staff, and a guaranteed and viable curriculum. Valle, Rich, and Cox (2017) stated that, for schools to carry out their missions, innovative teaching and learning practices need to be developed. The change process is interwoven with the innovation process.

> At times, change and innovation are seen through the same lens. Our schools, our places of work, and our habits of parenting all must change if we are to actively encourage the Innovation Generation to create an economy and a way of life based on innovation–one

that cultivates and pleasures of creative adult "play", rather than mindless consumption. (Wagner & Compton, 2015, p. 22)

Innovation is a global topic which countries are utilizing to measure success and growth. Stewart (2012) stated that educators across the globe are trying to create learning environments which can produce a workforce that can adapt with change and where economic development is led through innovation. Successful innovations occur through some form of change that is often built from the bottom up. Shirley (2017) suggested that, for innovative changes to occur, an activist approach should be taken, versus a top-down compliance approach, for the reflection to be embraced. Abdul-Jabbar and Kurshan (2015) stated that collaboration is critical for innovation to take place. "Education is best seen not as an industrial system but as an organic one" (Robinson & Aronica, 2016, p. 62). The research explains that, in order to implement change, innovation needs to be part of the process. Innovation and change can happen in many different facets; however, a consistent way of measuring these two topics is critical for the overall success.

Leadership Attributes to Effectively Promote Change

The research showed that the leadership within an organization is pivotal to promote change in schools. Melville, Bartley, and Weinburgh (2012) focused on the principal's role in leading change and determined that creating interpersonal relationships with all staff members is critical. "Finally, it is beholden of principals to shape, and clearly enunciate a school-wide-sense of the common good, for it appears to be this that binds the work of teachers together and shapes teachers' professional learning" (Melville et al., 2012, p. 23). Change is difficult for most people, so principals must maintain a healthy working relationship with the staff in order to help

facilitate any new initiatives. If principals can increase the teachers' professional learning, then change will more likely occur in the classroom. The research supported providing teachers with opportunities to grow as professionals. Eilers and Camacho (2007) reported that reform depended on the leaders' ability to collaborate with all the staff in the building. Most current research supported the fact that the leaders must have a vision of collaboration for the organization to change. "An effective leadership style strategy employed by the principal was a style of leadership that might be considered shared or collaborative" (Eilers & Camacho, 2007, p. 625). Teachers and principals must work together as a team in order to improve the educational setting for all students. Principals need to be the chief learning officers in the building while also relying on the expertise of each individual teacher to successfully affect all classrooms. The research has proven that principals need to play an active role in disseminating information while supporting all staff.

The research pointed out that staff development was a major factor for district leaders to remember during the change process. Teachers, staff, and administrators all need to have an opportunity to be part of staff development in order to grow professionally. Drago-Severson, Asghar, Blum-DeStefano, and Welch (2011) agreed that one of the major processes when promoting change within a school is to provide quality adult-learning opportunities. "We believe school leaders' increased attention to supporting adult development will enable them to serve more effectively and compassionately" (Drago-Severson et al., 2011, p. 101). Administrators can help support adult learning with quality staff development that can lead to some form of change. Altunay, Arli, and Yalcinkaya (2012) stated:

> According to the findings of this research it can be suggested that for applying the change process effectively at schools, different kinds of activities such as in-service training programs, seminars, courses should be organized for not only the teachers but also for the administrators to lead them to gain the necessary skills and knowledge about the change movement. (p. 729)

Principals need to be leaders and not just managers. Principals must be aware of the latest education trends in order to be in the best possible situation to lead the teachers and the school through any change initiatives.

Last, Hargreaves and Goodson (2006) suggested that the most change occurs in a building when there is new leadership. Teachers and students deserve quality leadership when schools attempt change. The principals must have a commitment to the students, the teachers, and the community. Hargreaves and Goodson (2006) found that one factor to sustain change and to build relationships was the amount of time the principal was with a district. In other words, the longer a principal stayed at a school, the more vested that person became in the school's culture. All in all, the research stressed the importance of relationships, collaboration, and staff development as key factors when determining the attributes of quality leaders. Relationships, collaboration, and staff development are vitally important when educators are trying to make change occur within a school.

Structures that Affect Change

The structures defined in the research deal with the principal's ability to change the schedule, culture, staff ideology, and discipline within the building. The research supported changing a school's structure in order to meet the needs of all students as being essential to

promote student learning. For this change to occur, quality leadership must be present. Eilers and Camacho (2007) researched the idea that a principal can influence change at a school which, in turn, can directly correlate with student growth. One item that many educators consider changing is the students' daily schedule. This structural component is a major factor that differs between school to school. "The change in the daily schedule was another structural, and instrumental, change implemented by the principal" (Eilers & Camacho, 2007, p. 623). Not only changing the structure of the school day, but also the staff's expectations is an essential component. "The moves associated with changing the school's culture were many, including introducing the idea of building professional communities of practice, making structural changes to the schedule, aligning curriculum with assessments, and focusing on students' needs" (Eilers & Camacho, 2007, p. 625). In order for student learning to be affected, teachers must change the way they deliver the curriculum. The principal must oversee all teachers' growth as professionals. "Appropriate challenge requires one to gently push a person's thinking by asking critical questions that can spur growth over time" (Drago-Severson et al., 2011, p. 89). Melville et al. (2012) suggested that altering the schedule and not addressing the staff can create a short-term change, but it will not create a fundamental shift in teaching practices. Eilers and Camacho (2007) stated that leaders need to learn and that leaders need to empower teachers to lead; in turn, student learning will be affected.

There are other factors which need to be examined in more depth besides just changing the school's schedule or implementing professional learning communities. Altunay et al. (2012) stated that administrators need to address training for parents, finances, implementation of proper technology, staff buy in, and motivating staff as factors which are involved with the change

process. However, Anderson and White (2011) pointed out that 21st-century principals are taking on more roles and responsibilities when guiding schools through the change process in order to directly influence student learning. Every school is different regarding its needs and approach to change. Altunay et al.'s (2012) research illustrated that the need for change, preparation for the change process, implementation, and assessment are different for all schools. Principals can affect change in a variety of ways within the building. For instance, they can adjust the schedule to create an intervention time where students can obtain assistance with the classes for which they are struggling. Principals can adjust the schedule to create time for professional learning communities. Finally, principals can influence change by addressing the way the people in the building communicate about setting meeting times, forming committees, or establishing a culture of technology use for communication.

Social Demands on Schools and Sustaining Change

There is a lot of pressure on schools to produce students who can perform well on high-stakes tests and to continue to have that success over time. Anderson and White (2011) suggested that leaders need to be creative in order to implement successful change within the organization due to the unique social challenges which schools are facing in the 21st century. "The key for leaders in creating the conditions for student well-being, learning and achievement (often in places of social and economic stress) could lie in putting social capital to work entrepreneurially" (Anderson & White, 2011, p. 52). M. R. Rogers and O'Bryon (2008) suggested that other staff members, such as the school psychologists, need to help address the social barriers that often exist within a school. The report provided processes and strategies for school psychologists to become better advocates for all groups within the school setting.

Anderson and White (2011) stated that successful principals find a way to balance the social demands within a community in order to help sustain growth over time.

Every school goes through change at some point in time. However, the question about how to sustain that change is more difficult to answer. The reviewed research provided some situations where change was not successful for schools. Some schools that went through change struggled with implementing an initiative and having the staff buy into the concept. Other schools struggled with the structure for how the initiative was deployed in the building. The biggest issue was resistance from the staff about the change, leading to the downfall of many new initiatives. Melville et al. (2012) suggested that reforms should not be rushed and forced onto people with a top-down approach. Sergiovanni (1998) stated that there are six change factors that can influence schools at one time: bureaucratic forces, mandates, personal forces, market forces, professional forces, and democratic forces. Sergiovanni (1998) added that bureaucratic forces primarily depend on rules versus mandates and requirements that can prescribe change. Melville et al. (2012) stated that all six of Sergiovanni's (1998) forces must be addressed in order to truly affect a school's culture for any duration of time.

The examined research provided some insight about why change is so difficult to sustain. Hargreaves and Goodson (2006) stated that changing leadership is a common theme for bringing about short-term change, but this approach is not realistic for sustainable improvement. The authors went on to explain that the primary way to sustain change at a school is that, when a new leadership position comes open, districts should hire from within the organization. Hargreaves and Goodson (2006) illustrated the importance of having a new leader with the ability to preserve the past successes while, at the same time, understanding the school district's vision.

Supporting Adult Learning

District leadership is important for the process of school change. However, the research that was examined did not do a great job deciphering between what is the district-office leadership and what is the principal's leadership. There was one connection that correlated the importance of the principal and the district's relationship. "Beyond learning from other schools and principals, the principal took advantage of resources made available to him by the district office" (Eilers & Camacho, 2007, p. 626). The research supported the relationship with the principals and the central office.

The research stated that adult learning was an important factor when promoting change within a district. "Three priorities emerged from their new understandings of adult growth: (a) promoting reflective practice, (b) creating safe learning spaces by developing trusting relationships, and (c) using dialogue and writing as tools for professional development" (Drago-Severson et al., 2011, p. 109). Supporting all of the organization's adult learners is essential according the research. "We believe school leaders' increased attention to supporting adult development will enable them to serve more effectively and compassionately" (Drago-Severson et al., 2011, p. 110). School leaders need to work together as indicated by the following comment: "Our analysis of the data supports the importance of the principal and administrators, working together with teachers, in implementing change" (Melville et al., 2012, p. 16).

School funding has been a major concern for all individuals involved with the change process. Schools need to be creative when seeking financial resources or dealing with a lack of funding. Anderson and White (2011) suggested that a principal be resourceful when reaching out to the community by searching for groups and individuals who would be willing to volunteer or

to donate money in order to enhance student and adult learning. Altunay et al. (2012) found that a lack of financial support for the teachers, schools, and programs had affected the ability for change to occur.

Summary

This chapter provided an overview of the literature, theories, models of practice, and current views regarding innovation. Innovation is an ongoing, evolving concept that centers on several models that can be tied to change; these models were supported and validated by Hargreaves and Goodson (2006), Shear et al. (2010b), Edquist (2011), and E. Rogers (2003).

Additionally, the research provided information about schools and change as well as what leaders need to do in order to be proactive about engaging their staff and community when moving forward with the change process. Most of the research focused on collaboration as a key component when implementing change within schools. Leaders in the 21st century are expected to do more than just manage the school. The research suggested that principals are the key for maximizing change in order to enhance student learning. Also, the research illustrated the importance of staff development and providing professional growth opportunities for all members of the organization. The research overwhelming stressed the significance of leaders having good communication skills and having a vested interest in the community. Chapter 3 provides the research methods which were used to determine the influence of innovation in education.

CHAPTER 3

METHODOLOGY

Introduction

Chapter 3 explains the methods used to investigate the perceptions of innovation within the State of North Dakota. The chapter begins by providing the Purpose of the Study; Research Questions; data collection; and the Method, including the conceptual framework, independent variables, and dependent variables. A description of the study participants, survey instrument, data collection, and the overall analysis of the quantitative data collected is also included.

Purpose of the Study

Innovation is important for any organization to move forward and to change with the current trends. Innovation is not clearly defined in the State of North Dakota. Senate Bill 2186 was implemented to promote innovation and change. However, there are no measurement tools for schools and/or stakeholders to utilize in order to determine what is innovative in North Dakota. This study examined the association of educators' perceptions about overall effectiveness, innovation, and experience. Specifically, this study investigated whether innovative educational practices affect educators' experiences with and perceptions of innovation.

Survey Method

The researcher utilized a quantitative survey to collect information from teachers across North Dakota regarding their perceptions about innovation in education. The research targeted educators in the State of North Dakota. A web-based Qualtrics survey was utilized to maximize the efficiency for collecting data. The researcher used the information that the respondents

provided to investigate potential correlations of educators' perceptions, educators' experiences, and the effectiveness of innovation.

Research Questions

The study's goal was to investigate the innovation process and to provide a tool to assist schools with measuring innovation within the State of North Dakota. The following research questions were developed in order to guide the research.

(1) What are educators' perceptions of innovation?

(2) What experiences have educators had when dealing with innovation?

(3) Is there a relationship between individual innovation behavior/activity and organizational characteristics (causes of innovation?)

Method

Participants

This study's participants were educators from all grade levels (PK-12) throughout the State of North Dakota. A breakdown of the participants and their grade levels is provided in Chapter 4. Other demographics for the study were as follows: the participants' age, educational qualifications held, overall years of educational experience, and years of experience in the current district of employment. The last demographic variable which was considered was the participants' current role within the district.

Instrument

The researcher developed an instrument based on the framework from the Innova project in Hungary; the instrument was used to measure the bottom-up process of top-down innovations. A survey (Appendix C) was administered using the University of North Dakota's Qualtrics web-

based, survey-design software. This study's questionnaire focused on assessing three constructs: the teachers' perceptions about effectiveness, perceptions about innovation, and experiences with innovation. A 6-point, Likert-type scale (Table 1) was used to determine the strength of agreement for a total of 29 questions.

Table 1
Six-point likert-type scale

1	2	3	4	5	6
Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree

Statements in the survey focused on some form of agreement in order to run statistical analyses of the data. There were a total of four constructs throughout these 29 questions: educator perceptions about effectiveness, educator perceptions about innovation, educator experience with innovation, and educator perceptions about innovation within professional development.

Analysis/Design

Independent t tests were used to analyze the data. The independent variable was the participants' agreement with the question: the effectiveness of other institutions compared to their own, the effectiveness over time at their institution, and the effectiveness of their individual work compared to their colleagues. The dependent variables were the constructs of perception and experience regarding innovation. To obtain the construct for the perception of effectiveness, questions 7, 8, and 9 were averaged. To obtain the construct for the perception of innovation, questions 10-15 were averaged. In order to obtain the construct for the experience with innovation, questions 16-27 were averaged. To address perceptions about innovative professional development, questions 28-36 were averaged.

The individual items within the constructs were averaged. The reliability and correlations for each construct were calculated. The correlation between educators' perceptions about effectiveness and educators' perceptions about innovation was calculated. The correlation between educators' perceptions about and experience with innovation was evaluated. The correlation between experience with innovation and perceptions of professional development was calculated.

The purpose of this study was to assess whether innovative educational practices affect educators' experiences with and perceptions of innovation. To measure these three associations, independent t tests were used.

CHAPTER 4

RESULTS

This chapter presents the results of research about educators' perceptions of innovation in the State of North Dakota. This study's purpose was to assess whether innovative educational practices affect educators' experiences with and perceptions of innovation. The overall goal was to determine whether innovative educational practices influence educators' experiences with and perceptions of teaching in order to further the research on innovation within the PK-12 schools in the State of North Dakota. This chapter is divided by sections, including information on the Research Population, analyses for each research question, and an overall Summary. The following research questions were used to guide the study:

(1) What are educators' perceptions of innovation?

(2) What experiences have educators had when dealing with innovation?

(3) Is there a relationship between individual innovation behavior/activity and organizational characteristics (causes of innovation)?

Research Population

A survey was sent by email (Appendix E) to public-school administrators at 173 elementary schools; 28 middle/junior high schools; 34 secondary schools; and 130 elementary, middle/junior high, and secondary schools (ND DPI, 2020a) across North Dakota. The email encouraged administrators to forward the survey onto their staff. A link to the survey was provided in the email; the questionnaire solicited answers to survey items designed to answer this study's research questions (Appendix F). A total of 238 educators responded to the survey. Table 2 and Figure 6 identify the distribution, by level of school the respondents recognized as

their main area of work and percentage of respondents for people who completed every item. The other option in Table 2 and Figure 6, are respondents that did not consider themselves solely affiliated with and elementary school, middle school, high school, combination of elementary/secondary school. These individuals represent superintendents, assistant superintendents, representatives from local education associations, and even potentially alternative schools throughout the state.

Table 2.
Number of respondents according to the grade level.

Grade Level of Educator	**Number (Percentage) Responding**
Elementary Educators	43 (18%)
Middle School Educators	58 (24%)
High School Educators	26 (11%)
Combination Elementary/Secondary Educators	91 (38%)
Other (Superintendents, Education associates affiliated with the State of North Dakota, Alternative Schools)	20 (8%)

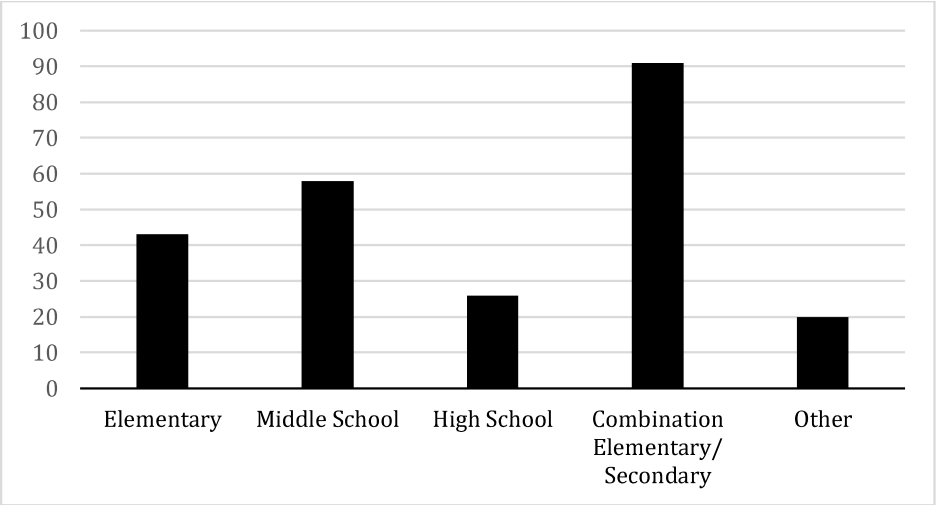

Figure 6. Respondents according to school type.

The survey's demographic questions also included the age of individuals who took the survey about innovation. Two hundred thirty-eight educators participated in this study (Figure

7): 6 educators (3%) were under the age of 25; 29 educators (12%) were between the ages of 25 and 30; 63 educators (26%) were between the ages of 31 and 40; 71 educators (30%) were between the ages of 41 and 50; 54 educators (23%) were between the ages of 51 and 60; 13 educators (5%) were between the ages of 61 and 65; and 2 educators (1%) were older than 65.

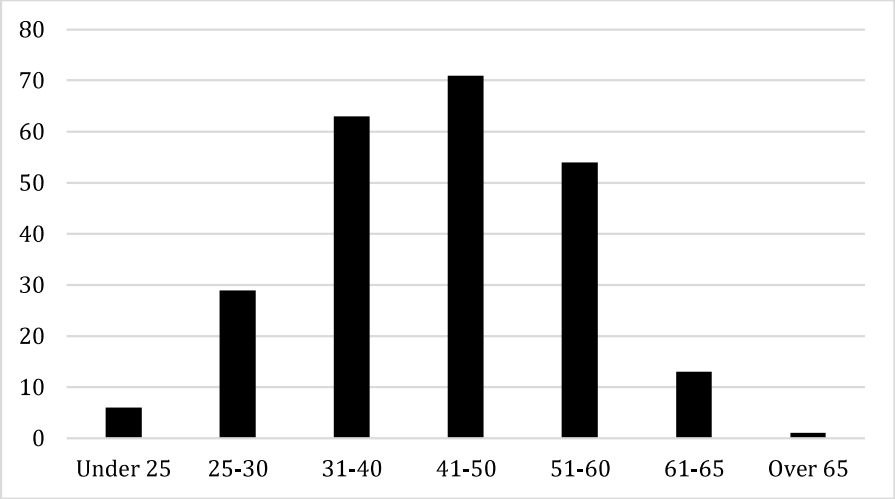

Figure 7. Age breakdown for the educators who participated in the survey.

Another demographic variable was the number of qualifications and titles for the educators who participated in the survey, some of the participants selected more than one option as that is what the survey allowed: 76 people (23%) selected a Bachelor of Arts (B.A.) or Bachelor of Science (B.S.) degree; 159 individuals (48%) selected a master's degree; 33 people (10%) had a Doctor of Philosophy (Ph.D.), Doctor of Education (Ed.D.), or were a candidate in a doctoral program; 4 individuals (1%) marked themselves as a consultant/supervisor; 8 people (2.4%) selected qualifications as a mentor teacher; 40 individuals (12%) had leadership credentials; 9 people (2.7%) selected other teaching qualification; and 4 individuals (1.2%) selected other non-pedagogical qualifications. These other teaching qualifications included a specialist degree, school counselor, Title 1 certification, special education, English language

certification, Career Technical Education (CTE), and interactive television instructor. The study participants had various years of experience within education: 10 people (4%) had 2 years or less experience; 26 individuals (11%) had between 3 and 5 years of experience; 40 people (17%) had between 6 and 10 years of experience; and 162 individuals (68%) had more than 10 years of experience. Question five asked the participants to indicate their length of employment with their current institution: 58 people (24%) had been employed for 2 years or less; 48 individuals (20%) had been employed for 3 to 5 years; 57 people (24%) had been employed 6 to 10 years; and 75 individuals (32%) had been employed by their current institution for more than 10 years.

The last demographic question utilized for the survey had participants indicate their current role at the institution: 73 people (31%) considered themselves to be a non-executive member, such as a trained teacher or instructor; 162 individuals (68%) considered themselves to be a staff member who also had leadership positions, such as teacher leading work groups or administrators; and 3 people (1%) chose not to answer this question.

Instrument

The researcher developed the instrument based on the framework from the Innova Project in Hungary. This dissertation focused on assessing three constructs: teachers' perceptions about effectiveness, educators' perceptions about innovation, and educators' experience with innovation. Participants were asked to rate their level of agreement for 10 questions using a 6-point Likert-type scale: 6 = strongly agree, 5 = agree, 4 = slightly agree (*all some form of agreement*), 3 = slightly disagree, 2 = disagree, and 1 = strongly disagree (*all some form of disagreement*).

The percentage for some form of agreement with each survey question is shown in Table 3. Construct two educators' perceptions about innovation, had both the highest and lowest percentages for some form of agreement. The highest percentage for some form of agreement within the survey was q10, "I have used different solutions from my previous practice," at 98.54%. Ironically, two of the lowest percentages for some form of agreement also occurred within construct two. "I created a successful new solution that was not sustainable or did not last," which was q13, came in at 50% for some form of agreement. The lowest-ranking percentage was 39.5% for q15: "I have experimented with new solutions and methods that have resulted with disadvantageous outcomes for me." However, the overall percentages for some form of agreement could be considered high for most of the survey questions.

Table 3.
Percentage for some form of agreement in effectiveness, perception of innovation, experience of innovation, and perception of innovation in professional learning (strongly disagree = 1, strongly agree = 6)

Survey Questions	% Some Form of Agreement	*M*	*SD*
Construct 1 (Educator perception of effectiveness)			
q7. I believe my school is more effective in comparison to other similar institutions.	85.5	4.4	.9
q8. I believe that my school's effectiveness has improved over time.	90.3	4.6	1.0
q9. I believe that I am more effective educator within my school than I was in previous years.	94.6	4.9	.9
Construct 2 (Educator perception of innovation)			
q10. I have used different solutions from my previous practice.	98.5	4.9	.7
q11. I have used solutions that were significantly different from my previous practice, which I created myself.	85.9	4.4	.9
q12. The new solutions I invented were recognized by leadership of	73.5	4.0	1.2

my school.			
q13. I created a successful new solution that was not sustainable or did not last.	50.0	3.4	1.2
q14. I have experimented with new solutions and methods that have helped my own work.	97.6	4.8	0.8
q15. I have experimented with new solutions and methods that have resulted with disadvantageous outcomes for me.	39.5	3.2	1.3
Construct 3 (Educator experience with innovation)			
q16. I have used a new solution related to methods and tools concerning the planning and implementation of lessons.	89.8	4.6	0.9
q17. I have used a new solution related to the evaluation or assessment of students.	91.4	4.7	1.0
q18. I have used a new solution related to activities outside the classroom or lesson (e.g. expert sessions, field work, independent homework).	77.6	4.2	1.2
q19. I have used a new solution related to the use of technical tools in education and training.	85.6	4.5	1.1
q20. I have used a new solution related to the operation of the school. (e.g. organization of work, management, leadership, infrastructure, etc.)	80.3	4.3	1.3
q21. I have used a new technical and/or IT solution affecting the institution's leadership and management. (e.g. electronic records, internal correspondence, management information system)	73.8	4.2	1.4
q22. I have used a new solution concerning relations with external partners and clients. (e.g. local community, parents, employers, nongovernmental organizations, training users)	66.7	3.9	1.3
q23. I have used a new solution related to nurturing talent.	64.5	3.8	1.3
q24. I have used a new solution related to education of disadvantaged students and or students with special needs.	75.9	4.2	1.9
q25. I have initiated a new solution or a good practice that was adapted by colleagues in my school.	85.6	4.4	1.1
q26. I have initiated a new solution or good practice that was adapted by colleagues from another school.	68.7	3.9	1.3

q27. Colleagues from other schools were interested to learn about a solution I initiated.	69.2	3.9	1.3
Construct 4 (Perception on innovation in professional learning)			
q28. I have participated in a working group within our school that worked on developing new professional solutions to make our work more effective.	90.6	4.8	1.1
q29. I have led training, lecturing or teaching to my colleagues that informed them about educational solutions and made them work more efficiently.	76.9	4.3	1.4
q30. I have evaluated the work of other schools or colleagues working in other schools.	58.6	3.8	1.6
q31. I have taken part in further training where I learned new ways to improve my performance.	95.1	5.1	0.9
q32. I have learned about new professional solutions from literature and I managed to use them in my own work.	91.8	4.8	1.0
q33. I have learned about new professional solutions from browsing the internet and I managed to use them in my own work.	86.3	4.5	0.9
q34. I have participated in professional development in which I had to create new curricula, teaching tools, and pedagogical methods myself.	75.0	4.4	1.3
q35. I have participated in professional development where I had to attend courses.	91.7	5.1	1.1

Table 4
Descriptive statistics

Construct Number	Subscale Constructs	*N*	*Min*	*Max*	*Mean*	*SD*
C1.	Perspective of effectiveness	233	1.0	6.0	4.6	0.8
C2.	Perspective of innovation	211	2.3	5.7	4.1	0.6
C3.	Experience with innovation	189	1.8	6.0	4.2	0.8
C4.	Perspective of innovation of professional development	182	2.5	6.0	4.6	0.8

A Pearson product-moment correlation coefficient was computed to assess the relationship between construct one, the educator's perception of effectiveness ($M = 4.62$, $SD = .76$), and construct two, the educator's perception of innovation ($M = 4.11$, $SD = .58$). A Pearson's r data analysis revealed a weak correlation, $r(211) = .133$, $p > .05$. There was not a strong correlation between an educator's perception about effectiveness and his/her perception of innovation. A Pearson product-moment correlation was computed to assess the relationship between construct two, the educator's perception of innovation ($M = 4.11$, $SD = .58$), and construct three, the educator's experience with innovation ($M = 4.22$, $SD = .78$). A Pearson's r data analysis showed a moderate correlation, $r(211) = .483$, $p > .01$. There was some level of correlation with how educators are perceiving innovation and their experiences with innovation. A Pearson product-moment correlation was computed to assess the relationship between construct three, the educator's experience with innovation ($M = 4.22$, $SD = .78$), and construct four, the educator's perception about the innovation of professional development ($M = 4.59$, $SD = .77$). A Pearson's r data analysis showed a moderate correlation, $r(182) = .670$, $p > .01$. There was some level of correlation with how educators are perceiving their experiences with innovation and their perception about the innovation of professional development.

Table 5
Correlation of subscale constructs and measures of internal consistency

Construct Number	Subscale Constructs		C1.	C2.	C3.	α
C1.	Perspective of effectiveness	q7 – q9				.724
C2.	Perspective of innovation	q10 – q15	.133			.598
C3.	Experience with innovation	q16 – q27	.220**	.483**		.871
C4.	Perspective of innovation of professional development	q28 – q36	.130	.400**	.670**	.791

** Correlation is significant at the 0.01 level (2-tailed).

The internal consistency for the data's reliability produced a Cronbach alpha (α) of .724, which means that 72.4% of the scores' variance is reliable within construct one, the educator's perception of effectiveness. Construct two, the educator's perception of innovation, had an α = .598, which means that 59.8% of the scores' variance is reliable within construct two. One factor for the reliability being lower with construct two could be because the term "innovation" is challenging for educators to define. Construct three dealt with questions asking about the educator's experience with innovation. The α = .871, showing that 87.1% of the scores' variance is reliable. Finally, construct four focused on the educator's perception of innovation within professional development. The α = .791, which showed that 79.1% of the scores' variance is reliable.

Non-Executive Staff Members Versus Staff Members with Leadership Positions

One of this study's purposes was to investigate educators' perceptions of innovation. The statistics compared in the next section specifically focus on educators who are non-executive staff versus educators who also have a leadership position, for example being an administrator.

For the first analysis, construct one, the educator's perception of effectiveness, was compared within two groups: non-executive staff members and staff members who have leadership roles. A Levene's test result, $F(228) = 1.713$, $p = .239$, indicated that the variances of the two populations were assumed to be equal. A t test was administered to compare the independent variables of non-executive staff members and staff members who had leadership positions. The dependent variable for this analysis focused on construct one: the educator's perception of effectiveness. For confidence, the mean response for educators who recognized

themselves as non-executive staff members was M = 4.46 while the mean response for educators who considered themselves to be a staff member with a leadership position was M = 4.70. The difference was statistically significant, $t(228) = -2.18$, $p < .05$, $d = .31$. Therefore, the sample showed that educators' perceptions about effectiveness are different between non-executive staff members and administrators.

The second analysis included construct two, the educator's perception of innovation, and was compared within two groups: non-executive staff members and staff members who have leadership roles. A Levene's test result, $F(207) = .005$, $p = .945$, indicated that the variances for the two populations were assumed to be equal. A t test was administered to compare the independent variables of non-executive staff members and staff members with leadership positions. The dependent variable for this analysis focused on construct two, the educator's perception of innovation. For confidence, the mean response for educators who recognized themselves as non-executive staff members was M = 3.99 while the mean response for educators who considered themselves to be a staff member with a leadership position was M = 4.18. The difference was statistically significant, $t(207) = -2.27$, $p < .05$, $d = .33$. Therefore, the sample showed that educators' perceptions regarding innovation are different between non-executive staff members and staff members who have a leadership position.

The third analysis compared construct three, the educator's experience with innovation, and had two groups: non-executive staff members and staff members who have leadership roles. A Levene's test result, $F(186) = .005$, $p = .945$, indicated that the variances for the two populations were assumed to be equal. A t test was administered to compare the independent variables of non-executive staff members and staff members with leadership positions. The

dependent variable for this analysis focused on construct two: the educator's perception of innovation. For confidence, the mean response for educators who recognized themselves as non-executive staff members was M = 3.99 while the mean response for educators who considered themselves to be a staff member with a leadership position was M = 4.18. The difference was statistically significant, $t(207) = .192$, $p < .05$, $d = .848$. Therefore, the sample showed that educators' perceptions regarding innovation are different between non-executive staff members and staff members who hold a leadership position.

The last analysis compared construct four, the perception about innovation in professional development, within two groups: non-executive staff members and staff members who had leadership roles. The results for the Levene's test, $F(179) = 1.39$, $p = .239$, indicated that the variances for the two populations were assumed to be equal. Thus, the standard t test results were used. For confidence, the mean response for educators who recognized themselves as non-executive staff members was M = 4.23 while the mean response for educators who considered themselves to be a staff member with a leadership position was M = 4.73. The difference was statistically significant, $t(179) = -4.29$, $p < .05$, $d = .67$. Therefore, the sample showed that educators' perceptions are different between a non-executive staff member and an administrator.

Summary

Research question 1, the educators' perceptions about innovation, revealed some differences among subgroups. Specifically, there was difference in how the schools' non-executive staff, such as teachers, perceived innovation. Investigating the data further, the t tests revealed that a significant statistical difference existed among the two groups. Moreover, according the survey, the percentage of educators who had some form of agreement led to some

insight data. Almost 99% of the educators agreed that they have used different solutions from their previous practice. However, 50% of the educators had some form of agreement about where they created a successful new solution that was not sustainable or did not last. If innovation is being tried by almost everyone, why is it that we cannot sustain the innovation? The data also illustrated that 39% of the educators showed some form of agreement when experimenting with new solutions and methods which resulted in disadvantageous outcomes for themselves.

Research question 2, the experiences educators have had when dealing with innovation, was analyzed through construct three: the educator's experience with innovation. There were a total of 12 questions within the third construct. Question 17, I have used a new solution related to the evaluation or assessment of students, provided the highest agreement at 91.39%. The lowest agreement was 64.52% for question 23: I have used a new solution related to nurturing talent. Four of the questions scored 80-90% for some form of agreement. These questions involved educators who used new solutions for planning and implementing lessons, utilizing technical tools for education and training, operating a school, and adapting practices of other colleagues.

Organization of the Study

Chapter 5 summarizes the research questions, the conclusions gathered from the results, the Limitations for the study, and the Recommendations for Further Study. Chapter 5 also provides a short summary moving forward with online learning and what challenges face educators in the future.

CHAPTER 5

SUMMARY, CONCLUSIONS, LIMITATIONS, AND RECOMMENDATIONS

Chapter 5 is divided into five sections: a Summary of the results, conclusions, Implications, Limitations, and Recommendations for Further Study. This study's findings were derived from a Literature Review and quantitative data analysis.

Summary

The purpose of this quantitative study was to determine the overall perceptions of innovation within PK-12 schools. The sample shows that the overall perception, experience, and effectiveness within the process were statistically significant. Chapter 5 provides a discussion related to the findings about innovation. The data used in this study directly influence the conversation about what is innovative in North Dakota and have the potential to set the stage for accountability within the state when districts claim to be innovative. The overall delivery of education has changed drastically since the original survey was administered. On March 13, 2020, Governor Burgum issued Executive Order 2020-03, stating that North Dakota was in a state of emergency in response to President Trump issuing a national state emergency due to the spread of the coronavirus (COVID-19; Office of the Governor, State of North Dakota, 2020a). Deng and Peng (2020) stated that the novel coronavirus pneumonia, otherwise known as COVID-19, had traveled to 25 countries in less than 2.5 months. On March 15th, Governor Burgum released Executive Order 2020-04 which closed all schools in North Dakota for one week (Office of the Governor, State of North Dakota, 2020b). On March 16th, Governor Burgum amended Executive Order 2020-04 to close schools for an additional week (Office of

the Governor, State of North Dakota, 2020c). Then, on March 22nd, Governor Burgum issued Executive Order 2020-10 that closed all North Dakota schools until further notice and required all districts to provide the state with a plan for students' distance learning (Office of the Governor, State of North Dakota, 2020d). Innovation had to take place immediately whether schools were ready or not. Now, more than ever, a need to measure innovation is critical.

Chapter 5 contains a discussion to help provide clarity for the following research questions.

(1) What are educators' perceptions of innovation?

(2) What experiences have educators had when dealing with innovation?

(3) Is there a relationship between individual innovation behavior/activity and organizational characteristics (causes of innovation)?

All the research questions focused on innovation. Because there is not a unified definition for innovation, some survey questions utilized the term "new solution."

Conclusions with Discussion

Research Question 1: What are the Educators' Perceptions of Innovation?

Because innovation is a difficult topic to measure, the researcher utilized educators' perceptions to gauge the percentage for some form of agreement within the survey questions. The responses showed that 98.5% of the educators have used different solutions within their practice. The responses indicated that most educators had attempted to change practices in order to improve. In addition, 85.9% of the educators acknowledged that they created different solutions which were utilized. GE (2011) reported that 69% of the participants for its survey agreed that innovation is more driven by people's creativity than by high-level scientific

research. For this dissertation's study, 99.6% of the educators agreed that they had experimented with new solutions and methods that have helped them with their work. Another piece of data from the survey focused on recognition from leadership; 73.5% of the educators who took the survey were recognized by their schools' leadership for the new solutions that they had created. The overall results showed that a high percentage of educators performed some form of innovation throughout their career.

Research Question 2: What Experiences have Educators had when Dealing with Innovation?

Twelve questions were utilized to address the educators' experience with innovation. Assessment is a critical component for education; 91.4% of the educators agreed that they had used new solutions related to evaluation or assessment. Not only is assessment important, but planning lessons is also essential. In their responses, 89.8% of the educators agreed that they had used a new solution related to methods and tools concerning the planning and implementation of lessons. Technology has a role in education, too. Couros (2015) stated that educators should try and utilize technology to frame their teaching instead of understanding the opportunities that students can gain individually. In order to assess technology and innovation, the term "new solution" is utilized to help broaden the perspective. According to this dissertation's survey, 85.6% of the educators agreed that they had used a new solution related to utilizing technical tools for education and training. The data's results support the idea that technology is being utilized to increase efficiency and overall planning. Lastly, 73.8% of the educators agreed that they had used a new technical solution, such as record keeping, internal correspondence, and management information systems, that affected the institution's leadership and management.

Collaboration is a useful tool to enhance and develop new solutions for education. Wagner and Compton (2015) stated that one of the most essential qualities of a successful innovator is collaboration. There were several survey questions which focused on sharing information; 85.6% of the educators agreed that they had initiated a new solution or good practice which was adopted by a colleague at their school. Schools can also learn from and share new ideas and innovative practices with other schools. The results from these questions were not as high; 68.6% of the participants initiated a new solution or practice that was adopted by colleagues at another school, and 69.1% of the educators agreed that colleagues from other schools were interested in learning about new solutions. Stewart (2012) stated that American educational leaders are starting to seek innovations from other countries. The results from this study's survey provide evidence that, within building walls, collaboration is quite high; however, collaboration is not as evident, from a perception basis, from school to school.

Being innovative in our changing world can be challenging, especially with community engagement. However, schools need to build the capacity to create these powerful relationships. "Strong partnerships between schools, businesses, and community organizations build a shared sense of responsibility for the success of both the students and communities to which they belong" (Martinez & McGrath, 2014, p. 140). The second-lowest percentage of agreement for this section dealt with community engagement. Only 66.7% of the educators agreed that they had used a new solution concerning relationships with external partners and clients. Based on the data, about two-thirds of the educators had experience dealing with this type of innovation. The lowest percentage of agreement was for nurturing talent. Only 64.5% of the educators agreed that they had used a solution related to nurturing talent. Furthermore, 58.6% of the

educators answered with some form of agreement about taking part in evaluating other schools' work. Therefore, a little over half of the survey participants had an opportunity to investigate other schools.

Educators' perceptions about their experience with innovation showed high forms of agreement in the areas of assessment, planning, collaboration among staff in the building, and utilizing technology. The survey results also suggested that there was room for improvement in the following areas: collaborating between schools, engaging the community, and nurturing talent.

Research Question 3: Is There a Relationship Between Individual Motivation Behavior/Activity and Organizational Characteristics (Causes of Innovation)?

In order to accurately assess research question 3, several survey items were considered along with the themes that affect individuals and organizational characteristics, such as perceptions of effectiveness and perceptions of professional development. "High-performing systems have a systematic approach to professional development, focusing on more effective forms and linking them closely to both the instructional goals of the school and career opportunities for teachers" (Stewart, 2012, p. 109). The two main constructs that affect research question 3 had a total of 11 questions embedded into the educators' survey.

The first construct focused on educators' perceptions of effectiveness. There were three questions within this construct. The first question inquired about the educators' perception of if their school was more effective compared to other similar institutions; 85.5% of the educators responded with some form of agreement that they felt their school was more effective, and 90.3% agreed that their school had improved its effectiveness over time. The results from the data showed that the educators believed in their school's overall organization. The last question

focused on self-reflection; 94.6% of the educators had some form of agreement that they were a more effective educator within their school than they had been in previous years.

The second construct that affects research question 3 focused on perceptions about innovation within professional learning. Of the educators surveyed, 95.1% had taken part in training where they learned new ways to improve their overall performance. The results from the data support the idea that quality training is critical for any organization, but it is even more important when developing innovative strategies that affect individuals. Another crucial component was the following statement: "I have participated in a working group within our school that worked on developing new professional solutions to make our work more effective." Over 90% of the educators responded with some form of agreement. The results showed that educators who are working together and collaborating can influence the entire school and may be an indicator for the causes of innovation. All in all, the research showed that there was a relationship between individual innovation and organizational characteristics.

Limitations of the Study

There are limitations within the scope of this dissertation. One factor to consider is the total number of educators in North Dakota and how many people participated in the survey. According to the North Dakota's Department of Education, there are roughly 11,401 full-time employees in grades K-12 (North Dakota Department of Public Instruction, 2020b). There were 238 educators who participated in the study. Another limitation is the type of educator who responded to the survey. The study had more executive staff answer the questions than non-executive staff members. The research would benefit from having more teachers respond to the survey in order to balance out the administrators' perceptions. Also, a pilot study was not

utilized to confirm all correlations for the questions. There could be more work done to determine different subgroups within education, such as comparing elementary, middle, and high school. Another factor to consider could be district/school size, contrasting the perception differences based on a school's overall student enrollment. Lastly, defining innovation is inherently challenging, and perceptions vary on the broad topic.

Recommendations for Further Study

Based on the data collected within this study and the current pandemic regarding COVID-19, there are several recommendations for further study. A starting place for states could be collecting longitudinal data to determine the long-term effects of sustained innovation. With all schools across the state of North Dakota and much of the United States developing online learning for students, now would be a great opportunity to capture educator and stakeholder perceptions about innovation. Another recommendation would be to administer a mixed-methods study or to perform a qualitative-study component in order to dig deeper into why educators respond the way they do. This approach would allow for more clarity to come through with the interpretation of results. A final recommendation would be for all school districts to use a uniform tool to measure innovation throughout North Dakota.

Implications

There are numerous implications from this dissertation. Time is of the essence, with every school district in the state racing to develop an online education per Governor Burgum's request. In the United States, we have been doing traditional education for over 100 years. In the short time since the outbreak of COVID-19, we have moved to an online-learning delivery platform. Innovation is occurring daily in our schools, and there needs to be some form of

accountability and a way to measure the overall success. Innovation within the field of education will expand drastically within the next few months. These changes will involve the technology that students need to master in order to navigate and to engage in the learning process. However, technology in and of itself cannot be the only innovation. "Technology should personalize, not standardize" (Couros, 2015, p. 142). In other words, technology should be a platform to create individual opportunities for students to find their passion areas instead of having a one-size-shoe fits all mentality.

Another implication for this study is how innovation is being defined by the students' parents. Currently, most of the parents' experiences with education are from their past: a traditional classroom setting where the teacher was placed in the front of the classroom and used instruction with lectures, homework, and assessments. While this setup can still take place in the new online learning format, districts need to engage parents and guardians about how the current innovative learning experience is going overall. If districts across the state had an assessment tool for measuring and defining innovation within education, this finding could be communicated to the parents.

Parents are now expected to not only work from home, but also to facilitate their children's learning. This expectation, in and of itself, can be daunting and intimidating, especially if the family dynamics are strained or if relationships are not strong enough to support working together for education. Parents are going to have to learn how to navigate this innovation with their children in order to support the overall learning experience. Social emotional concerns for all students in the PK-12 learning environment need to be considered and measured in an innovative way. This study could be used to lay the foundation for schools to

appropriately measure the innovative ways in which districts are supporting all students' mental health.

Innovation is currently occurring all around the world because of the COVID-19 pandemic. However, within education, a major disruption with structure, content delivery, pedagogy, student engagement, and assessment has occurred due to COVID-19. This pandemic is sweeping the world and disrupting the current education setting. "But from time to time things get shaken up when a different type of innovation emerges in an industry-a disruptive innovation" (Christensen, Horn, & Johnson, 2011, p. 47). A disruptive innovation is not a breakthrough improvement but, instead, can increase the overall efficiency of how schools are educating students. Christensen et al. (2011) stated that disruptive innovation is not a threat, but it can be an opportunity if it is managed correctly. All in all, there are many new studies which could be applied to the foundation that has been provided by this dissertation.

APPENDIX A

NDCC § 15.1-06.08.1 and 15.1-06.08.2 (SB 2186, 65th Legislative Assembly, 2017)

15.1-06-08.1 Statutes – Waiver.

1. The superintendent of public instruction may not waive any statute, in whole or in part, except as provided for in this section.
2. A school or school district may apply to the superintendent of public instruction for a waiver of chapters 15-20.1, 15.1-06, 15.1-18, 15.1-20, 15.1-21, 15.1-22, 15.1-25, 15.1-32, and 15.1-38, or any associated rules, if the waiver:
   a. Improves the delivery of education;
   b. Improves the administration of education;
   c. Provides increased educational opportunities for students; or
   d. Improves the academic success of students.
3. The initial waiver must be for a specific period of time but may not exceed one year. The school district may apply for extensions of the waiver. The first extension may not exceed a period of one year. Additional extensions may not exceed periods of two years.
4. If the superintendent of public instruction, after receipt and consideration of an application for a waiver under this section, approves the waiver, the superintendent shall file a report with the legislative management. The report must provide a detailed account of the reasons for which the waiver was granted and the specific time period for the waiver. If the superintendent of public instruction denies an application for a waiver under this section, the superintendent shall file a notice of denial with the Page No. 6 legislative management. If requested, the superintendent shall appear and respond to questions regarding the approval or denial of any application for a waiver under this section.
5. The superintendent of public instruction shall adopt rules governing the submission and evaluation of applications and the monitoring of any school or school district that receives a waiver under this section.

15.1-06-08.2. Innovative education program – Participation – Reports to legislative management.

1. The superintendent of public instruction shall adopt rules to administer this section and develop criteria for the submission, approval, and evaluation of the proposals and plans under this section.
2. The superintendent of public instruction may accept a proposal from any public or nonpublic school, upon approval by the school board or governing board, for participation in an innovative education program. The proposal must include evaluation criteria and specify the innovations to be pursued at the school or school district level and the manner in which the proposal will: a. Improve the delivery of education; b. Improve the administration of education; c. Provide

increased educational opportunities for students; or d. Improve the academic success of students.

3. The superintendent of public instruction may approve the proposal, reject the proposal, or work with the submitting school to modify the proposal.
4. During the school's initial year of participation in the innovative education program, the school shall develop a comprehensive implementation plan and work with the superintendent of public instruction to ensure the long-term viability of the proposal.
5. The superintendent of public instruction may approve the comprehensive implementation plan developed under subsection 4 for a period of up to five years. If, due to a change in circumstances, there is a determination by either the school or the superintendent of public instruction that modifications to the comprehensive implementation plan are necessary, the school and the superintendent of public instruction shall work with each other to achieve the necessary modifications.
6. The superintendent of public instruction may revoke any waiver granted under section 15.1-06-08.1 if the superintendent of public instruction determines the school has failed to perform in accordance with the agreed upon terms of the program or failed to meet the requirements of this section.
7. Any school participating in the program shall provide program evaluation data to the superintendent of public instruction at the time and in the manner requested by the superintendent of public instruction.
8. The superintendent of public instruction shall provide annual reports to the legislative management regarding the innovative education program, including:
    a. The status of the implementation plan;
    b. A summary of any waived statutes or rules; and
    c. A review of evaluation data results.

APPENDIX B

NDDPI Administrative Rules for Innovative Education
(ND Administrative Code § 67-19-03)

CHAPTER 67-19-03
INNOVATIVE EDUCATION PROGRAM

Section
67-19-13-01 Definitions
67-19-03-02 Participation
67-19-03-03 Planning Proposal – Innovative Education Program
67-19-03-05 Waiver

67-19-03-10. Definitions

As used in this section:

1. "Board" means the school board of a public school district.

2. "Governing board" means the board or governing body of nonpublic school.

3. "Superintendent" means the superintendent of public instruction.

History: Effective January 1, 2018.
General Authority: NDCC 28-32-02
Law Implemented: NDCC 15.1-06-08.2

67-19-03-02. Participation.

Any public school or school district or any nonpublic school may apply to the superintendent for participation in an innovative education program.

History: Effective January 1, 2018.
General Authority: NDCC 15.1-06-08.2, 28-32-02
Law Implemented: NDCC 15.1-06-08.2

67-19-03-03. Planning proposal - Innovative education program.

To be considered, the planning proposal at a minimum must include:
1. Rationale and vision.
   a. Provide justification for implementation of an innovative education program. Cite research, evidence-based, or best practice information.
   b. Describe how the innovative education program will:

(1) Improve the delivery of education;

(2) Improve the administration of education;

(3) Provide increased educational opportunities for students; or

(4) Improve the academic success for students.

2. Stakeholder engagement. Describe how the planning process included stakeholders. Stakeholders should include district and school leaders, teachers and teacher leaders, students, parents, school district board or school governing board members, community and business leaders, and institutions of higher learning where appropriate.

3. Public school district board and nonpublic school governing board - Approval. The board or governing board must approve the innovative education program planning proposal. Documentation of approval must include:

   a. In the case of a public school, approved minutes of the meeting at which the innovative education program planning proposal was discussed and approved by the district board and signed by the president of the board and the superintendent; or

   b. In the case of a nonpublic school, approved minutes or an official statement indicating when the innovative education program planning proposal was discussed and approved by the governing board and signed by the chair of the governing board and the chief executive officer.

4. Professional development. Establish and describe a professional development plan aligned to the innovative education program.

5. Application process.

   a. Schools, school districts, and nonpublic schools are encouraged to submit an innovative education program planning proposal by November first.

   b. No specific form is required.

   c. Innovative education program planning proposals should be mailed or emailed to the director, office of school approval and opportunity.

History: Effective January 1, 2018.
General Authority: NDCC 15.1-06-08.2, 28-32-02
Law Implemented: NDCC 15.1-06-08.2

67-19-03-04. Implementation proposal - Innovative education program.

To be considered, the implementation proposal at a minimum must include:

1. A copy of the approved innovative education program planning proposal along with evidence of one year of planning.

2. Stakeholder engagement. Describe how the innovative education program implementation proposal planning process included stakeholders. Stakeholders should include district and school leaders, teachers and teacher leaders, students, parents, school district board or governing board members, community and business leaders, and institutions of higher learning where appropriate.

3. Implementation plan. The innovative education program implementation proposal must:

    a. Describe how the implementation proposal aligns with the school's vision for teaching and learning.

    b. Describe the plan to initiate the implementation plan.

    c. Include measurable goals and objectives, timelines, and action plan, including parties responsible for completion of activities.

    d. Provide information on how the implementation plan is expected to:

        (1) Improve the delivery of education;

        (2) Improve the administration of education; 2

        (3) Provide increased education opportunities for students; or

        (4) Improve the academic success of students.

4. Public school district board and nonpublic school governing board - Approval. The board or governing board must approve the innovative education program implementation proposal. Documentation of approval must include:

    a. In the case of a public school, approved minutes of the meeting at which the innovative education program implementation proposal was discussed and approved by the district board and signed by the president of the board and the superintendent; or

b. In the case of a nonpublic school, approved minutes or an official statement indicating when the innovative education program implementation proposal was discussed and approved by the governing board and signed by the chair of the governing board and the chief executive officer.

5. Professional development. Establish and describe a professional development plan aligned to the innovative education program.

6. Continuous improvement.

a. Provide documentation of commitment made to a continuous improvement process that will guide schools toward the vision created by the innovative education program planning proposal.

b. Describe how the use of data will guide the innovative education program implementation proposal.

7. Evaluation criteria.

a. Describe the evaluation measures to monitor the progress of innovative education program implementation as well as the measures to be used to evaluate how the program has:

(1) Improved the delivery of education;

(2) Improved the administration of education;

(3) Provided increased education opportunities for students; or

(4) Improved the academic success of students.

b. The evaluation plan must include multiple measures, such as quantitative and qualitative indicators, short-term and long-term goals, academic, school climate, and timelines.

c. Early stages of evaluation must include measures, such as attendance, disciplinary incidents, student engagement, student voice, student and parent surveys, and evidence of improved instructional practices.

d. Mid-stages and later stages of evaluation must include measures of student performance, including academic content skills, performance indicators, as well as proficiency and growth measures.

8. Sustainability. Describe a sustainability plan designed to ensure the plan is embedded in future planning giving consideration to possible changes to school and district leaders, building administration, the district superintendent, the governing board or the chief executive officer.

9. Application process.

   a. Schools, school districts, and nonpublic schools are encouraged to submit an innovative education program implementation proposal by March first. Proposals may be submitted throughout the school year with the knowledge that implementation will begin after the proposal has been approved.

   b. No specific form is required.

   c. Innovative education program implementation proposals should be mailed or emailed to the director, office of school approval and opportunity.

History: Effective January 1, 2018.
General Authority: NDCC 15.1-06-08.2, 28-32-02
Law Implemented: NDCC 15.1-06-08.2

67-19-03-05. Waiver.

When deemed appropriate and necessary to implement the innovative education program implementation proposal, the superintendent may grant a waiver of all or part of statute as provided in subsection 2 of North Dakota Century Code section 15.1-06-08.1.

History: Effective January 1, 2018.
General Authority: NDCC 15.1-06-08.1, 28-32-02
Law Implemented: NDCC 15.1-06-08.1

APPENDIX C

Educators' Perceptions of Innovation Survey

UNIVERSITY OF NORTH DAKOTA
Institutional Review Board
Informed Consent Statement

Title of Project: Educator's Perceptions of Innovation in the State of North Dakota

Principal Investigator: Ryan Lyson, email: ryan.lyson@und.edu

Advisor: Dr. Jared Schlenker, email: jared.schlenker@und.edu

Purpose of the Study:
The purpose of this study will be to determine whether innovative educational practices impact educators' experiences and perceptions of teaching in order to further the research on innovation within the PK -12 schools in the State of North Dakota.

Procedures to be followed: You will be asked to answer 10 questions. 6 of the 10 questions are demographical questions and 4 of the 10 questions are 6 point likert-type scale.

Risks: There are no risks in participating in this research beyond those experienced in everyday life

Benefits: This survey can potentially help gauge district's level of innovation.

Duration: This survey will take approximately 4 minutes.

Statement of Confidentiality: The information gathered does not require you to put your name or other identifying information to be able to identify who the responses came from. Therefore, the responses are recorded anonymously. All survey responses that we receive will be treated confidentially and stored on a secure server. However, given that the surveys can be completed from any computer (e.g., personal, work, school), we are unable to guarantee the security of the computer on which you choose to enter your responses. As a participant in our study, we want you to be aware that certain "key logging" software programs exist that can be used to track or capture data that you enter and/or websites that you visit.

Right to Ask Questions: The researcher conducting this study is Ryan Lyson. You may ask any questions you have now. If you later have questions, concerns, or complaints about the research please contact Ryan Lyson at ryan.lyson@und.edu. Dr. Jared Schlenker is the advisor and he can be reached at jared.schlenker@und.edu or at 701-777-3584. If you have questions regarding your rights as a research subject, you may contact The University of North Dakota Institutional Review Board at (701) 777-4279 or UND.irb@UND.edu. You may contact the

UND IRB with problems, complaints, or concerns about the research. Please contact the UND IRB if you cannot reach research staff, or you wish to talk with someone who is an informed individual who is independent of the research team. General information about being a research subject can be found on the Institutional Review Board website "Information for Research Participants" http://und.edu/research/resources/human-subjects/research-participants.html

Compensation:
You will not receive compensation for your participation.

Voluntary Participation:
You do not have to participate in this research. You can stop your participation at any time. You may refuse to participate or choose to discontinue participation at any time without losing any benefits to which you are otherwise entitled. You do not have to answer any questions you do not want to answer. You must be 18 years of age older to participate in this research study. Completion and return of the survey implies that you have read the information in this form and consent to participate in the research. Please keep this form for your records or future reference.

Innovation in North Dakota Survey

Block 1 Demographics

Q1 Which of the following categories best describes your institution?

- ○ Elementary School
- ○ Middle School
- ○ High School
- ○ Combination Elementary/Secondary
- ○ Other: Please Specify _____

Q2 Please indicate your age

- ○ Under 25 years
- ○ 25-30 years old
- ○ 31-40 years old
- ○ 41-50 years old
- ○ 51-60 years old
- ○ 61-65 years old
- ○ Older than 65 years
- ○ I do not want to answer this question

Q3 Please indicate which of the following qualifications and titles best describes you professionally?

- ○ BA or BS College/University degree
- ○ Master's degree
- ○ Doctoral degree (PhD, EdD, candidate
- ○ Consultant, Supervisor
- ○ Mentor Teacher Qualifications
- ○ Leadership credentials
- ○ Other teaching qualification _____
- ○ Other non-pedagogical qualifications, please specify: _____

Q4 Please indicate for how long you have been working within the field of education

- ○ 2 years or less
- ○ 3-5 years
- ○ 6-10 years
- ○ More than 10 years

Q5 Please indicate the length of your employment with the current institution/organization

- ○ 2 years or less
- ○ 3-5 years
- ○ 6-10 years
- ○ More than 10 years

Q6 Please indicate your role in your current institution/organization

○ Non-executive staff member (e.g. trained teacher, instructor)

○ Staff member who also carries out leadership positions (e.g. a teacher leading a working group, administrator)

○ I cannot/ I do not want to answer the question

Construct 1 Educator perception of effectiveness

Q7 The following questions deal with an educator's perception of effectiveness.

	Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree
I believe my school is more effective in comparison to other similar institutions.	○	○	○	○	○	○
I believe that my school's effectiveness has improved over time.	○	○	○	○	○	○
I believe that I am more effective educator within my school than I was in my previous years.	○	○	○	○	○	○

Construct 2 Educator perception of innovation

Q8 The following questions deal with educator's perceptions of innovation.

	Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly agree
I have used different solutions from my previous practice.	○	○	○	○	○	○
I have used solutions that were significantly different from my previous practice, which I created myself.	○	○	○	○	○	○
The new solutions I invented were recognized by leadership of my school.	○	○	○	○	○	○
I created a successful new solution that was not sustainable or did not last.	○	○	○	○	○	○
I have experimented with new solutions and methods that have helped my own work.	○	○	○	○	○	○
I have experimented with new solutions and methods that have resulted with disadvantageous outcomes for me.	○	○	○	○	○	○

Construct 3 Educator experience with innovation

Q9 Please indicate in which areas did you (alone or with your colleagues) find new solutions in the past ten years that clearly improved your professional work or the effectiveness of the school in which you are currently working. Please provide an answer for each item.

	Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree
I have used a new solution related to methods and tools concerning the planning and implementation of lessons.	○	○	○	○	○	○
I have used a new solution related to the evaluation or assessment of students.	○	○	○	○	○	○
I have used a new solution related to activities outside the classroom or lesson (e.g. expert sessions, field work, independent homework)	○	○	○	○	○	○
I have used a new solution related to the use of technical tools in education and training.	○	○	○	○	○	○
I have used a new solution related to the operation of the school. (e. g. organization of work, management, leadership, infrastructure, etc.)	○	○	○	○	○	○
I have used a new technical and/or IT solution affecting the institution's leadership and management. (e.g. electronic records, internal correspondence, management information system)	○	○	○	○	○	○

I have used a new solution concerning relations with external partners and clients. (e.g. local community, parents, employers, non-governmental organizations, training users)	○	○	○	○	○	○
I have used a new solution related to nurturing talent.	○	○	○	○	○	○
I have used a new solution related to education of disadvantaged students and or students with special needs.	○	○	○	○	○	○
I have initiated a new solution or a good practice that was adapted by colleagues in my school.	○	○	○	○	○	○
I have initiated a new solution or good practice that was adapted by colleagues from another school.	○	○	○	○	○	○
Colleagues from other schools were interested to learn about a new solution I initiated.	○	○	○	○	○	○

Construct 4 Perception on innovation in professional learning.

Q10 Could you please indicate to what extend have the following practices occurred in your personal experiences in the past ten years. Please provide an answer for each line.

	Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree
I have participated in a working group within our school that worked on developing new professional solutions to make our work more effective.	○	○	○	○	○	○
I have led training, lecturing or teaching to my colleagues that informed them about educational solutions and made them work more efficiently.	○	○	○	○	○	○
I have evaluated the work of other schools or colleagues working in other schools.	○	○	○	○	○	○

I have taken part in further training where I learned new ways to improve my performance.	○	○	○	○	○	○
I have learned about new professional solutions from literature and I managed to use them in my own work.	○	○	○	○	○	○
I have learned about new professional solutions from browsing the internet and I manged to use them in my own work.	○	○	○	○	○	○

I have participated in professional development in which I had to create new curricula, teaching tools, and pedagogical methods myself.	○	○	○	○	○	○
I have participated in professional development where I had to attend courses.	○	○	○	○	○	○

APPENDIX D

Emails

Initial Email:

Subject Line: Educators' Perceptions of Innovation in North Dakota
Dear Participant,
I invite you to participate in a research study entitled: Educators' Perceptions of Innovation in North Dakota. I am currently enrolled in the Teaching, Leading, and Professional Practice Leadership at the University of North Dakota and am in the process of writing my dissertation. Some questions throughout the state is what is the definition of innovation? What is the benefit of Senate Bill 2183? How is innovation being measured?

The purpose of this study is to determine whether innovative educational practices impact educators' experiences and perceptions of teaching regarding innovation within the PK -12 schools in the State of North Dakota. North Dakota does not currently have a state wide accountability system for innovation.

The enclosed questionnaire has been designed to collect information on innovation in the State of North Dakota. This should take about 5 minutes.

Thank you for your assistance in this important endeavor.

Sincerely,
Ryan Lyson

Take the Survey:

- Click here to take the Innovation Survey or copy and paste the URL into your browser:

  https://und.qualtrics.com/jfe/form/SV_a4aINnTnpFgr4B7

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