Leadership and Innovation in a Special Education School

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This qualitative case study explored ways innovation is practiced in a PK-12 special education school, including the antecedents and outcomes to innovation, and how innovation was supported. Findings concluded that specific elements within the school's staff, leadership, and environment fostered high levels of innovative practice. Individual's intrinsic motivation, openness to change, and way they approached challenges led to more innovative practices. Leaders who demonstrated transformational and servant leadership promoted innovative practices within the special education school. Implications for practice across special education is discussed, as well as how findings can be applied to the general education environment.

Keywords: special education, innovation, leadership, equity, inclusion

In education, the word innovation has grown to be synonymous with teaching and learning. School systems are being transformed as we speak. If schools wish to continue to grow and persevere, they cannot continue with the status quo. Teachers and leadership must take on a collaborative and innovative mindset (Paxton & Stralen, 2015). If school leaders can understand what inspires a person to be innovative or drives a person to create a novel solution to a problem, they can foster its existence. Within innovative learning environments, key to continued growth and success is leadership that navigates uncertainty, fosters willingness to learn and change (Paxton & Stralen, 2015), promotes transformation in school culture, and generates a shared vision for the future (Earl & Timperley, 2015). Now, more than ever, it is imperative to research how school's stakeholders transform ideas into initiatives. It is then that they can begin to solve related problems and generate educational value.

Schools Must Innovate to Survive

The past year has forced many schools to jump headfirst into implementing new, innovative approaches to teaching students, before many of them were ready to do so. Over the course of the abrupt closures in March of 2020, schools came face to face with the grim reality of providing students equitable access to a free, appropriate, and public education, and often falling short. Many schools struggled to provide special education services, accommodations, and modifications to students virtually (Nadworny, 2020). Equity issues become very apparent as lack of access to technology prevented student participation in an all-virtual education, in addition to the reality that the virtual environment is not the least restrictive environment for many special education students. The specialized instruction that many students require often cannot be delivered as effectively over a computer. The situations that we have experienced this past year warrants school leaders and teachers to take on and adopt an innovative mindset—one that is open to new ideas, flexible, willing to take risks, and not afraid to fail (Amabile & Gryskiewicz, 1987; Warford, 2010; Bourrie, Cegielski, Jones-Farmer, & Sankar, 2014; Earl & Timperley, 2015).

The purpose of this qualitative case study was to explore ways innovation is practiced in a PK-12 special education school in a Northeast state, and specifically identify the innovative practices found in the special education school, the antecedents of innovation, the outcomes of innovation, and how leadership supported innovation throughout the school.

Why special education? Special education pedagogy has the potential to inform and influence general education inclusive practices. The core of special education service is that practitioners work within their current system to assess the needs of all stakeholders, identify problems, evaluate possible barriers, and create innovative solutions. These practices are the hallmarks of effective creativity (Runco & Jaeger, 2012).

The conceptual framework below captures how I utilized the Diffusion of Innovation theory to study how leadership supports innovation implementation (Rogers, 2003). Rogers' Diffusion of Innovation Theory (2003) includes the socio-organizational contexts of a system, which is a contributing factor in educational innovation. In special education, multi-disciplinary collaboration, partnership, and teaming are core components to successful service delivery. For example, multiple specialists (occupational therapists, social workers, behavior therapists) work both independently and jointly to problem-solve and deliver services to students. These cross-discipline teams bring together their varied expertise to solve complex problems that require novel solutions. Leaders need to support this collaborative culture for effective delivery of special education services by developing a climate of trust and support of personnel who take risks to

achieve student and school goals (Waldron and McKleskey, 2010).

  Creating this type of environment is necessary for innovation to be implemented and sustained. Cementing innovative practices are the elements of communication, collaboration, and effective teaming (DiPaola & Walther-Thomas, 2003; Rogers, 2003). These components comprise my conceptual framework below. This theory reflects people's attitudes, identities, and practices within an organization, especially a school, and is an appropriate lens through which to view innovation in a special education school (Rogers, 2003).

Figure 1

Conceptual Framework

Special Education School
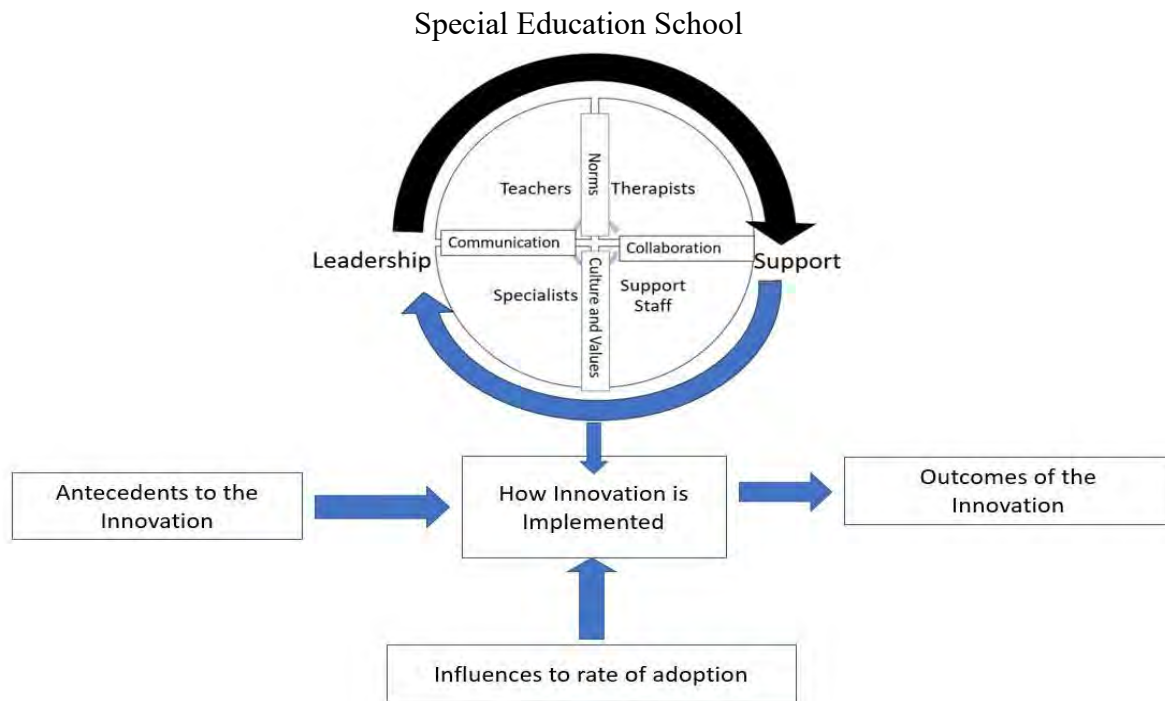
Literature Review

  Research into the study of environmental and personal characteristics influencing innovation has produced common findings. Early work by Amabile and Gryskiewicz (1987) concluded innovative environments were ones that encouraged innovation, produced challenges to solve, and were autonomous in nature. Individuals' knowledge of the innovation and their openness to change affected the adoption of an innovation (Warford, 2010). Specifically, intrinsic motivation, along with an individual's skill expertise, and preference for risk taking, relate to qualities of individuals that promote creativity (Amabile & Gryskiewicz, 1987). Lastly, motivation was found to be an important characteristic in the successful dissemination of innovations (Bourrie, et al., 2014).

  Environmental and individual characteristics are contributing factors to innovation dissemination. Environments are highest in creativity when its members have high skills in

creative thinking, high domain expertise, high levels of support for creativity, and members with high intrinsic motivation (Amabile, 1983). Traits and attributes of individuals and environments go hand in hand, and both promote and inhibit creativity (Amabile & Gryskiewicz, 1987, p. 14). Individuals who are high in skill expertise, intrinsic motivation, and risk-taking, thrive in environments that facilitate autonomy, contain adequate resources, and promote a culture of collaboration. Individuals also thrive in environments that did not punish risk-taking attempts that resulted in failure. Regarding innovation, the person influences the environment, and the environment influences the person (Amabile & Gryskiewicz, 1987).

If leaders want to sustain innovation, they need to be open to ideas for improvement, be pragmatic, and develop teams, specifically interdisciplinary ones (Blackwell, 2009; Mateo et al., 2016). Connecting people to others outside their own disciplines is critical to the continuation and sustainability of the innovation process (as cited in (Mateo et al., 2016).

Knowledge-Building "refers to the creation and improvement of ideas that have a life out in the world, where they are subject to social processes of evaluation, revision, and application" (Scardamalia & Bereiter, 2003, p. 2). In Knowledge Building Environments (KBE), members are concerned with not only supporting individual member's learning, but also advancing its state of knowledge. Groups convene organically to solve problems and produce new understandings and solutions (Scardamalia & Bereiter, 2003). More than sharing knowledge, Knowledge Building Environments seek to situate new ideas beyond the minds of the creators and the limits of the organization. An effective KBE supports the continuous advancement and improvement of ideas (Scardamalia & Bereiter, 2003).

Knowledge-building practices must be adaptive, and members should be encouraged to demonstrate epistemic agency in their pursuits of knowledge creation (Gloor, 2006). Ma et al., (2016) suggest that a school environment can be innovative if it utilizes the concepts of collective cognitive responsibility, agency, respect for diverse ideas, and shared leadership. All these elements are required for effective knowledge advancement.

Leadership is influential in promoting innovation in organizations. Agbim's (2013) research concluded that a leader's relationship style, specifically the ability to foster idea-sharing, collaboration, trust, and respect between employees, was critical to support knowledge building practices and innovation. Despite a school's typical hierarchal structure, if school leaders want to foster innovation, they should encourage cross-functional teams or informal professional learning communities in their school. Through this network of relationships and interactions among school staff, leaders can use distributive leadership to empower school personnel to share responsibility for decision making (Waldron and McKleskey, 2010).

School leaders must focus on building a culture that values collaboration and idea sharing among the teachers before they delve into the process of implementation (Agbim, 2013). Shared leadership and collaboration are crucial for the development of inclusive schools and a collaborative culture (Waldron and McKleskey, 2010).

Sagnak, Kuruoz, Polat, and Soylu (2015) found that transformational leadership is the most effective environmental condition required for innovation and creativity. As principals increase transformational leadership behaviors, employee empowerment rises, which leads to an increased innovative climate. Transformational leaders create an environment that is open, free from punishment, and is a place where individuals feel autonomy and control to make decisions on their own. Through this empowerment, transformational leaders can create a climate for innovation (Sagnak, et al, 2015).

Methodology

In this qualitative case study, I explored ways innovation is practiced in a PK-12 special education school in a Northeast state. I chose a case study design (Yin, 2014), because it allowed for a focus on the process and context of how innovation is demonstrated (Creswell, 2018). Case study research produced rich descriptions of faculty's actions and beliefs, how the physical environment was utilized to enhance practices, and how faculty, staff, and administrators leverage school and community stakeholders to achieve goals in innovation (Merriam, 1988).

The research setting was a private special education school in a Northeast state. The school serves 235 students in grades preschool to grade 12. Students are age three to 21, and all receive special education services driven by their Individual Education Plan (U.S. Department of Education, 2018). The school offers educational programs in autistic support, life skills/multiple disabilities, mental health, therapy and support services in occupational therapy, speech therapy, vision therapy, physical therapy, and behavioral health services.

The participants of this study were all school employees in the selected school. The initial three participants were chosen using purposive sampling. Snowball sampling was used to identify additional participants. Nine participants chose to participate in the study. Three participants identified as male and six as female. These participants comprise a representative sample of the professionals working directly with students at the school. The unit of analysis in a case study is not dependent on participant number. Rather, it is important that participants exemplify a holistic analysis of the phenomenon investigated with the case (Creswell, 2018). For this case study, pseudonyms were used for each participant.

Table 1

Participant information

Name	Job title	Gender
Carol	Education Program Coordinator	Female
Natalie	Preschool Supervisor	Female
Zane	IT coordinator	Male
Jennifer	Occupational Therapist	Female
Sarah	Speech and Language Pathologist	Female
Seth	Special Education Teacher	Male
Luke	Special Education Teacher	Male
Laura	Special Education Teacher	Female
Nora	Special Education Teacher	Female

I conducted nine semi-structured interviews that lasted 45 minutes to one hour for each participant. I took photographs of the physical classroom and school environment—I wanted to capture physical evidence of the tools that are used throughout the school that were indicative of innovative practices. I also collected multiple documents and artifacts. Artifacts analyzed for this research study were obtained directly. I acquired documents from mining the school's website and online presence. The other documents were obtained from attending community advisory board meetings held at the school beginning in the fall of 2016. The meetings' main purpose was information sharing. Meeting minutes were disseminated afterwards and were used to validate my

observations and anecdotal notes from the actual meeting. In summary, I collected 129 pages of interview transcripts, 364 minutes of observation, 30 documents from meetings, 8 pages of notes, and 20 pictures.

Data Analysis

For my data analysis, I used an inductive approach described by Yin (2014). All collected data was organized topically and repeatedly read and reviewed. Interview data was coded using in vivo and axial coding and analyzed. Codes from the interviews were then combined into categories. Analyzing the patterns and convergence categories from interviews, artifacts, and photos together, I collapsed overlapping components of categories into the final thirteen categories. From there four themes emerged (Table 2).

Table 2

Themes from data analysis

Themes	Categories
Innovate Attributes	Embracing challenges
	Open to risk taking
	Taking initiative
	Reflective
Environment Fosters Innovation	Cross-discipline Collaboration
	Partnerships
	Diverse Environment
	Work Outside Comfort Zone
Leadership	Supportive
	Shared Vision
	Provide Trust and Autonomy
School Culture and Systemic Practices	Continuous Improvement
	Research Minded

I ensured reliability and validity during my data collection and analysis process by using member checking, multiple sources of evidence, and triangulation of the data (Yin, 2014). I also explained my position as the investigator in this study in relation to the group being studied (Merriam, 1988).

Findings

Innovation was first demonstrated through individuals' identities and personal character attributes. Interviewed participants shared common attributes, such as the ability to embrace new challenges, being open, willing to fail, demonstrating initiative, being collaborative, and engaging in the act of reflection. Initiative was highlighted in Carol's response when she described the teachers' actions. She noted, "They are ready to try and do anything. They are always ahead of the game. So, they are real go-getters." These behaviors contributed to the participants' continued learning process and are attributes often associated with innovative behavior (Amabile & Gryskiewicz, 1987; Warford, 2010; Bourrie, Cegielski, Jones-Farmer, & Sankar, 2014; Earl & Timperley, 2015).

Exemplifying an innovative attribute alone is not enough to translate into demonstrating innovative practices within a school. Innovation lives in the intersection of individuals and their environment (Amabile & Gryskiewicz, 1987). Not only did participants demonstrate innovative characteristics, but the school environment was also conducive to innovation and fostered the existence of innovative practices.

A special education school is diverse, both in student population and in the backgrounds of teachers and staff. This diversity is a catalyst for innovative practices. Diverse student needs require multiple specialists to take a team approach in developing each student's Individual Education Plan (IEP). In interviews with participants, many discussed examples of how, through interdisciplinary collaboration, they and their team members invented and manufactured new products and assistive technology, devised new instructional strategies, and researched classroom solutions for their students (Ma et al, 2016).

The diversity of student need is not only a part of the innovative environment, it is a catalyst for innovative practices. When students' academic and functional skills are not at the normal standard, typical practices will not work. Staff must attempt novel ideas. The experience of working at the school and living within the environment of diverse student needs and professional expertise is a driver for innovation.

The school's environment was innovative because personnel demonstrated knowledge-building practices of collective cognitive responsibility, agency, respect for diverse ideas, and shared leadership (Ma et al., 2016). All of these practices are components of a knowledge-building community, and all are necessary to meet student needs. The special education school supported individual learning and advancing the state of knowledge within that community (Scardamalia, 2003).

Several examples from the data illustrated knowledge-building practices. Teachers, therapists, and specialists demonstrated collaborative problem solving towards a shared goal through weekly cross-discipline team meetings (Chen & Hong, 2016). Monthly "Tech Talks" were held to keep staff up to date on the latest advances and resources for the classroom. Many universities and corporations asked the school to help develop new technologies and products beneficial for their student population, and the school was a hotspot for research and innovation. Also, multiple research studies have been conducted at the school. Innovation was seen as the collective responsibility of the school (Cheng & Jhang, 2016). Through member assessment, evaluation, collaboration, and problem solving, they took ownership and responsibility for creating and sharing knowledge at the school (Waldron and McKleskey, 2010; DiPaola & Walther-Thomas, 2003).

Several antecedents to innovation emerged in the study. Starting from the top, the school is driven by a shared vision statement that promotes innovation:

> It is our vision that professionals will see our organization as the place where their profession is practiced at the highest level of expertise… and that people will see the organization as a valued resource for knowledge, education, training, consultation, and support.

To further that mission, several interviewed participants noted that the vice-president of the organization sought out partnerships with universities and corporations to implement new programs at the school. She remained current on the latest technology and research and used that to drive the technology initiatives through the technology strategic planning team. Carol, the

education program coordinator, noted that the organization's vice president is key in bringing research opportunities to the school.

The school's administration exemplifies balance between being visionary and staying true to the core values of the school. Using the vision of the school as the driving force for change, innovation catapults the organization and its members forward. This drive for progress was a shared piece of the school's culture. A core value of the school is to provide the best possible education for the students and is embedded in the actions of every school personnel. Connected to this value is a drive for change, improvement, and innovation. Collins and Porras (1997) categorize this behavior as "preserving the core, stimulating progress" (p. 82). This behavior allows an organization to explore, experiment, and change. They can remain true to their values but still be visionary.

In the interviews and analysis of data, a common theme was the shared purpose and passion that drove individual actions and programming. This purpose was rooted in a commitment to the students. This passion for students was the core driver for innovation at the school. The teachers or administrators who were interviewed did not set out to be "innovative." They set out to make their students' lives better. Through these actions, innovative ideas and practices emerged.

The commitment to innovation is time intensive. The individuals in this organization understood that innovation was not created in a single defining action or program. It was a process with unrelenting small, yet transformative successes that gained momentum. A key predictor of innovation at this school was a commitment by individuals to achieving the goals they set out to attain, both personal and student centered in nature.

Two outcomes of innovation for teachers entailed developing a growth mindset and a changed perspective towards innovation. Many teachers described new initiatives and strategies they attempted with their students. No initiative worked perfectly in its first attempt. In interviews, contrary to Warford's (2010) research, teachers did not convey that this initial failure resulted in an abandonment of the idea, rather, it fostered a mindset of growth and change. Teachers viewed failure as part of the learning process and a step closer to achieving the end goal (Kouzes & Posner, 2012). Data analysis from interviews and artifacts captured teacher and staff's experience of living in an innovative environment. Individuals shared stories that captured two to twenty years of teaching experience. After experiencing their own innovative experiences, in addition to being more open to change, participants conveyed a newfound confidence. This trait was developed by experiencing risk and trying new things within the school environment. Due to their experiences, these teachers are now a conduit for innovative practices.

Seth, Laura, Jennifer, Nora, and Luke all noted that since working at this school, they have changed how they approach new tasks. Because of their experiences, taking risks are now something they enjoy and have learned will produce positive results, even if those results are initial failures. Jennifer described how she approaches challenges and relates them to puzzles:

> I jump on them, and they're not really stressful to me, they're, more of a… okay, I'm going to figure [it] out. It's more like you're, you're giving me a dare, and I'm going to do this. So that, in one hand, it makes me happy, and it makes me feel fulfilled that I'm actually helping that one person. It may not make a difference everywhere, but it's making a difference here and now. That's what I like to do.

Laura discussed how she previously viewed mistakes or challenges as something she was once apprehensive about, but now approaches differently. She believes her transformation was due

in part to the change in her current position at school, as well as a change in her personal mindset.

> Okay, you don't know what's going to happen. Make the best of every day, do the best you can because that's all you can do and just know that it's a learning experience all the way through. No matter what happens, it's going to turn out okay. I think being in this room kind of changed me a little. It really allowed me to rethink some things and to say it's okay when things don't go quite right. This isn't going to work, that's not a problem. We'll find something else that does. I have a lot of support from the administration being in this room this year and that, too, is huge. They're willing to let me try whatever I need to try to get things going and we're in a good spot now.

Leadership supported innovation through forming relationships, being accessible, and supporting individuals in their innovation efforts. Seth, a special education teacher, was asked to describe the administration at the school. He said:

> Supportive. Cautiously optimistic. They also inspire change and growth. And they allow me to have some autonomy and do what I need to do. And sometimes if something is not ready for the classroom, we look a little bit closer at it, and see if we put on the back burner. They are so supportive, and I couldn't be more blessed. But they make it a point to, to know you personally too. And to help you in the areas that you need help in as well. I do not think I've had administration take you under their wing as much.

Carol, the education program coordinator, was asked to describe the culture and climate of the school, she described how important training and development was for staff.

> So, I think in our culture, if you don't know something, we will retrain you, and we will retrain you. At the many lectures I go to I hear 'you have to hear something seven times before it might kick in.' So, it's just that constant retraining and that re-speaking about the issue and going, reviewing things with them that way. But I think the biggest thing here is to walk into a room, oh just stay, stay positive, stay flexible. We will work through that.

Administration supports teachers' and staff development by focusing on a culture of training, education, and growth, and support of risk taking (Kouzes & Posner, 2012). New, innovative practices are driven bottom up, based on the needs of students, as opposed to typical innovations in a public school system, which are artificially disseminated top down, and can easily fail and fizzle out, due to their lack of connection to the school and staff. Administration works closely with teachers, through distributed leadership, and are so attuned to the needs of the staff and students, several participants noted that new programs and initiatives were much more likely to be successfully implemented.

Two theoretical frameworks best represent the leadership at the school: transformational leadership and servant leadership. Transformational leadership practices create an environment that is open and free from punishment, where individuals feel autonomy and control to make their own decisions (Sagnak et al, 2015). The administrators in this study demonstrated positive relationships with the school staff, and empowered them to achieve their goals, supporting innovation (Northouse, 2016). As Nora noted,

I think, I think the type of school we have, I think that administrators have to have some kind of trust in their teachers. Because there are no two classrooms that are the same. We all have to find what works in our classroom for our group. They support your individuality as a teacher, and they do take your ideas and they share them.

Servant leadership is focused on realizing the goals of others, as opposed to organizational goals. Servant leaders are motivated primarily by a deep desire to help others and seek to "transform their followers to grow healthier, wiser, freer, and more autonomous" (Greenleaf, 1977, p. 13-14.). The school administrators' servant leader attitude was shown to be at the heart of their actions. This aligns with the vision of the school and the core values of the staff. As data demonstrates, the leaders and staff of this school were driven by a desire to serve the needs of the students. Service remains the core driver of innovation (Greenleaf, 1977).

Both servant and transformational leadership exemplify people-oriented approaches, with a focus on their followers seeking to enhance the personal development and professional contributions of all organizational members (Russell, 2001). The administration in this school see the best in their staff. These leaders understand that when people succeed, the organization succeeds. Thus, they devote resources to investing in people first (Kouzes & Posner, 2012; Wiseman, 2010). This philosophy and leadership style best support innovations.

Implication for Practice

This case study explored how innovation was practiced in a PK-12 special education school. The results demonstrated that innovation is prevalent in the mindsets, practices, environment, and leadership support at the school. This special education school demonstrated practices that are valuable, and the results have implications for general and special education.

Investigating student participation in general education, statistics show from fall 2000 to fall 2017, 63% of students ages 6-21 served under the IDEA spent 80% or more of their day in the general education classroom. Students are coming to school with more and more significant health, mental, and behavioral challenges that impact their ability to learn (Kessler, Berglund, Demler, 2005). Administration in public schools would more fully be able to address the increasing student needs in their school if they implemented practices such as interdisciplinary teams, cross-discipline collaboration, continuous training, curriculum, and instruction driven by student needs, and making all specialists valued members of the classroom environment. Administrators should also collaborate within and across departments of other education administration and special education programs to further develop their skills and understanding in serving their students with disabilities (Pazey, Garcia, & Cole, 2012). This would improve their skill set as instructional school leaders.

When the teachers and administration are already innovating within their regular practice, working every day to adapt for each student, it is much easier for them to strategically pivot when faced with new challenges. This was the case for this school during the pandemic. When the school moved to remote only learning, their challenge was even greater than the public school, as every child's program was delivered virtually, and no two programs were alike. The school provided access to online educational resources for parents via their website as supplemental materials to the direct instructional lessons the students received. Many of the students in the school have physical disabilities, are non-verbal, and/or have significant cognitive challenges, which can produce barriers to learning in the physical classroom, and even more in the virtual

classroom. The teachers and administration worked to ensure that the students continued to receive equitable instruction as mandated by their individual education plan (IEP) throughout the school closure, continuing to innovate. Schools that struggled the most to innovate and implement new practices during the pandemic were ones that did not have a very strong innovative environment to begin with. This cements even more the importance of placing innovation in the forefront of priorities for school leadership.

Recommendations for Future Research

This study was a beginning exploration of innovation in a special education school. One area of future research is to take the conceptual framework created for this study and use it to evaluate how innovation is practiced in other special education schools. This study's school in a northeast state may not be representative of all the special education schools in this association. Even though the case included significant data, it still only focused on a single school with a smaller sample size of interview participants, making it challenging to generalize the study's findings. I recommend this exploratory study be continued in a multiple case study of schools across the U.S. This would increase the sample size and allow generalizations to be made regarding the study's implications. This study's methodology could also be repeated in a general education school in the same northeast state to see how innovation differs in public schools.

Conclusion

Innovation is a mindset and culture that must be developed across all facets of a school environment. Education's direction has been narrowly focused far too long on standardization and aiming for average, lessening educator's creativity. If future school leaders want to solve student's unique needs and complex problems, they must facilitate teachers working with people from disciplines outside their own, push themselves out of their comfort zones, and continuously seek out training and research for themselves and their staff. This is what our students need from us so that they can maximize their growth and achievement. This is what all students need.

Innovation implementation is the first step towards educational equity amongst all students, especially students with disabilities. School leaders need to keep the needs of the individual student at the forefront of their efforts. Special education is a responsibility for every school stakeholder, and a core skill for every educator and administrator to demonstrate (Pazey, Garcia, & Cole, 2012). According to Theoharis's (2007) definition of social justice, principals should make central to their advocacy, leadership practice, and vision, working to eliminate marginalization in schools. This includes inclusive schooling practices for students with disabilities. He builds upon the work on Sapon-Shevin (2003) who asserted that, "Inclusion is not about disability… Inclusion is about social justice… By embracing inclusion as a model of social justice, we can create a world fit for all of us" (pp. 26, 28).

I believe, right now in the unknown state that education is in, schools must look to change or be left behind. Innovation does not just happen. Innovation lives within a school and its people. This study can open the door to new ways researchers and practitioners think about educational innovations, specifically from the perspective of special education. Leaders need to leverage the power of innovation in their schools to improve special education practices, to ensure that all students are receiving an equitable education. Innovation is not just about the latest technology, tool, or program. Innovation *is* special education.

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