Administrative Motivation in the Growth of Virtual Education in Indiana

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Table of Contents

List of Tables

List of Figures

Abstract

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Administrative Motivation in the Growth of Virtual Education in Indiana

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Virtual education has grown exponentially in past years. During the 2019-20 school year, more than three-quarters of all states had some sort of virtual education program which catered to students in grades K-12. The National Educational Policy Center reports that more than 480,000 American students in 40 states attended virtual or blended instruction schools in 2019-20. (Molnar et al., 2021). While virtual education has been growing in recent years, the onset of the COVID-19 pandemic and subsequent school closures caused districts to create virtual education programs. While this number is not yet quantified, it is reasonable to assert that virtual education was more prevalent in the United States and Indiana than ever before. This is supported by the documented growth in 2020 of Stride K12 and Connections Academy, two of the country's largest online providers (Barnum, 2020). Additionally,

There is a significant body of research exploring the challenges experienced by many virtual students. There is, however, less understanding as to why school districts continue to promote and expand virtual education in light of data that shows a lack of success in these types of programs. The purpose of this mixed-methods sequential explanatory study was to understand the decisions made by Indiana public school K-12 district superintendents and virtual program administrators when choosing whether or not to implement a virtual education program.

All public school superintendents in Indiana were surveyed, as were those individuals designated by their district as virtual program administrators. Survey topics included perceived limitations, benefits, and challenges of virtual education in Indiana. Individual follow-up interviews were

conducted with volunteer participants. Throughout the study, it quickly became evident that both program administrators and superintendents had similar views of virtual education's benefits and challenges. While most cited the COVID-19 pandemic as a cause for growth, they also overwhelmingly identified credit recovery for high school students as a driving force behind virtual program adoption. Additionally, both groups identified historically common challenges such as student engagement and the development of a quality curriculum.

Regardless of the perceived challenges, COVID-19 was a primary cause for the recent expansion of virtual education. This phenomenon impacted not only students but also their teachers and the school districts they attended. This study provides a snapshot of the state of virtual education in Indiana during the 2020-21 school year, including the perceptions of school administrators and the impact of COVID-19. While the pandemic may have spurred the growth of virtual education, the benefits and challenges experienced in schools are the same as those felt by educators and students in previous years.

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Chapter 1: A Problem of Practice

The popularity of virtual education has exploded in recent years (Barbour, 2018; Clark, 2001; Molnar et al., 2021). From its roots in mail correspondence courses to the fully virtual schools of the 21st century, virtual education has taken hold in the American educational landscape. While it is difficult to ascertain specific numbers of enrolled virtual students at any given time, the National Education Policy Center has reported that in the 2019-20 school year, 40 states had either fully virtual or blended-environment schools. This included 332,379 virtual students and 152,530 students in a blended classroom (Molnar et al., 2021). This is an increase from the 2017-18 school year when 39 states enrolled students in either full-time virtual or blended-environment schools. This amounted to an enrollment of 297,712 full-time virtual students, as well as 132,960 students in blended learning schools (Miron & Elgeberi, 2019).

The COVID-19 pandemic of 2020 caused a further rise in interest in virtual educational environments. Two major providers of online school, Stride K12 (formerly K12, Inc.) and Connections Academy, each reported marked increases in student interest at the beginning of the 2020-21 school year. K12 noted a 38% increase in enrollment, while Connections logged a 61% increase in applicants (Barnum, 2020; Lieberman, 2020). Through time and regardless of the overriding health or social landscape, the purpose of distance education has been to provide access to quality education to a diverse group of learners who were unable to receive it through a more traditional model (Barbour, 2018; Harting & Erthal, 2005; Kentnor, 2015).

Students and their families choose virtual education for a multitude of reasons. There are a variety of situations in which students may find that their education is best served through the flexible scheduling offered through a virtual environment. This may include special physical or emotional needs and unique family situations and responsibilities (Archambault & Kennedy, 2017; Borup & Kennedy,

2017; Woodworth et al., 2015). Students may also choose virtual education due to the diverse course offerings that may not be available in a traditional school. This might include opportunities to recover credits or retake classes (Borup & Kennedy, 2017; Swingle & Vieta, 2012). Additionally, others may be looking for courses that allow them to accelerate quickly (Archambault & Kennedy, 2017; Borup & Kennedy, 2017; Swingle & Vieta, 2012).

While there are great benefits in virtual education, there are also a variety of common challenges experienced by students in this type of schooling. These challenges sometimes stem from the students' perceptions and habits, as some lack the internal motivation and learner independence required in virtual education (Barbour, 2016; Borup & Kennedy, 2017; Bullen, 1998; Hasler-Waters et al., 2018; Murphy & Rodriguez-Manzanares, 2009). Students may also struggle socially in a virtual environment. The lack of interaction with peers and teachers can cause feelings of disconnect and isolation (Dikkers, 2018; Muilenburg & Berge, 2005). Yet others may experience practical technological issues such as limited internet access and connectivity (Archambault & Kennedy, 2017; Hart et al., 2019).

These challenges translate into a lack of success for many virtual programs and their students. Research shows that students across the country are typically less successful in all virtual environments than their counterparts in traditional schools (Ahn & McEachin, 2017; Hart et al., 2019; Miron et al., 2018; Woodworth et al., 2015). Graduation rates are one primary measure of success. The National Educational Policy Center reports that more than 300,000 American students in 39 states attended virtual schools in 2019-20. The national graduation rate was 85% during that same year, while full-time virtual schools demonstrated a graduation rate of just 54.6% (Molnar et al., 2021).

State and federal accountability ratings of Indiana's virtual schools also indicate a lack of success in the state's virtual programs. Federal accountability is determined by academic performance, including

achievement and progress, English language progress, and absenteeism. High school ratings include diploma strength and graduation rates (Indiana Department of Education, n.d.) In 2020, eleven virtual schools were identified within the state of Indiana. Of these schools, only three received a state accountability grade of C, and three received a grade of D. The remaining five schools did not meet the Indiana Department of Education requirements to receive a grade that year (Indiana Department of Education, 2020a). The most recent federal accountability ratings in 2019 further confirmed these findings. Only one school was rated as "Approaches Expectations." Four schools received a rating of "Does Not Meet Expectations." Two schools were not in existence in 2020, and two schools were not rated (Indiana Department of Education, 2020b).

Much of the current research is focused on the downfalls of virtual education. While there is little evidence supporting students' success in a virtual environment, school districts still choose to maintain and begin new virtual programs (Barbour, 2016; Molnar et al., 2021). Much has been studied about the consequences of the virtual education movement, but there is little understanding of how and why school districts choose to implement these programs (Adams, 2014). Administrators in K-12 virtual education are closely tied with implementation decisions and the success of their programs. They have a detailed understanding of the challenges and benefits found in this educational environment. It is essential to look to these professionals when studying various aspects of virtual education (Brown, 2009; Morse & Jasparro, 2010).

Statement of the Problem

Virtual education has grown exponentially in past years. More than three-quarters of all states had some sort of virtual education program which catered to students in grades K-12 during the 2019-20 school year. The National Educational Policy Center reported that more than 480,000 American students in 40 states attended virtual or blended instruction schools during that year. (Molnar et al., 2021). While

virtual education is on the rise, there is little understanding of why school districts continue to promote and expand virtual education in light of data showing a lack of success in these programs.

Purpose of the Study

The purpose of this mixed-methods sequential explanatory study was to understand the decisions made by Indiana public school K-12 district superintendents and virtual program administrators when choosing whether or not to implement a virtual education program.

Research Questions

This mixed-methods sequential explanatory study sought answers to seven research questions:

1. What factor(s) influence an Indiana district's decision to adopt a virtual education program in school?
2. What factor(s) influence an Indiana district's decision to decline to adopt a virtual education program in school?
3. What is the difference in perceived benefits of virtual education in Indiana between superintendents and program administrators?
4. What is the difference in perceived challenges of virtual education in Indiana between superintendents and program administrators?
5. In what ways do superintendents and program administrators vary in their belief in the strength of traditional schools or virtual schools to achieve commonly stated educational goals?
6. What is the difference in the perceived effectiveness of virtual education programs in Indiana between superintendents and virtual program administrators?
7. In what ways did the COVID-19 pandemic impact the adoption and perception of virtual programs?

Definitions

The following terms are used within this study and are defined here to ensure consistency of understanding.

Asynchronous instruction refers to instruction in which the student and teacher are separated by time and physical space. In this case, there is no simultaneous interaction between the student and teacher; instead, the curriculum and instruction are predetermined or prerecorded (Chen et al., 2005; Lee & Figueroa, 2012; Rhim & Kowal, 2008).

Blended learning is a type of instruction that contains both virtual and in-person components (Ahn & McEachin, 2017; Caruth & Caruth, 2013; Digital Learning Collaborative, 2019; Eisenbach, 2016; Lee & Figueroa, 2012; Molnar et al., 2019; Schwirzke et al., 2018; Watson & Murin, 2014).

Brick-and-mortar schools are where the students attend classes in an actual building. Education in a brick-and-mortar school typically occurs face-to-face (Eisenbach, 2016; Rhim & Kowal, 2008).

Distance education refers to an educational environment where the instructor and student are separated by time and/or physical space. Distance education began over 200 years ago in the United States. It was meant to provide access to education for those students who may have otherwise been unable to participate in a traditional form of instruction (Harting & Erthal, 2005; Kentnor, 2015). This term is a blanket statement used to describe the spectrum of learning in which the teacher and student are physically separated, including correspondence courses conducted by mail, classes that took place via the radio or television, as well as current virtual education taking place on the Internet (Kentnor, 2015).

One-to-one initiatives are plans implemented by school districts to ensure that each student has access to their own tablet, computer, or other electronic devices (Kaufman & Kumar, 2018).

Online learning is a type of education in which instruction is delivered via the Internet (Digital Learning Collaborative, 2019). Online learning may also be called e-learning, virtual learning, or cyberlearning (Rhim & Kowal, 2008; Schwirzke et al., 2018; Watson & Murin, 2014).

Supplemental virtual programs are those in which the student primarily attends a traditional school while taking one or more courses virtually (Molnar et al., 2019; Schwirzke et al., 2018; Watson & Murin, 2014).

Synchronous instruction refers to simultaneous instruction in real-time (Chen et al., 2005; Lee & Figueroa, 2012; Martin & Parker, 2014; Rhim & Kowal, 2008). The student and instructor can communicate directly via chat, audio, or video functions (Martin et al., 2012; Martin & Parker, 2014).

Virtual education is a form of distance education conducted over the Internet (Kentnor, 2015).

Virtual school refers to an educational entity where instruction is delivered electronically, and the students and instructors are separated by time or place. Virtual school may also be referred to as cyber school (Currie, 2010; Rhim & Kowal, 2008).

Chapter 2: A Review of Relevant Literature

Virtual education has rapidly become a popular offering for students in American public schools (Barbour, 2018; Molnar et al., 2021). While this form of education has grown, most students' success level is highly contested (Ahn & McEachin, 2017; Miron et al., 2018). States across the country, including Indiana, continue to pursue these programs even with a lack of data supporting their effectiveness. As a result, it is essential to review the existing literature regarding virtual education to gain a holistic perspective of the history and current state of virtual education.

This literature overview is divided into sections that can be viewed together to provide a picture of virtual education and the opportunities and challenges that are associated with it. The first section discusses the foundations and purposes of education in the United States. The second section contains a history of virtual education, from its roots in mail-based instruction to the current iteration of fully online schools. The third section provides an overview of the Institutional theory framework, through which the growth of virtual education can be viewed. The fourth section describes the types of virtual schools currently available for students. The fifth section is an overview of the potential outcomes of virtual education, including goals, challenges, and success measures used to gauge the implementation of this type of program. Finally, the sixth section discusses the current state of virtual education, both at a state and national level.

Educational Foundations

The purpose of education has been a point of intellectual discourse for over 2000 years. This dates back to ancient Greece, in which Spartans were educated to create devotion to the state and a spirit of patriotism. In contrast, the Athenians were educated to promote democratic ideals (Webb et al., 2000). These themes have been reiterated throughout the history of American education. This discussion itself became a pertinent topic in what is now the United States during the colonial period.

In colonial America, settlers began to address the issue of education as they developed governmental and social systems. The New England and middle colonies looked to education as a necessary tool in understanding and promoting religion. As a result, these schools were often religiously based and typically organized by denominational authorities. The southern colonies were founded for more economical reasons, and they developed a system of education that was determined more by social position (Spring, 2001; Webb et al., 2000).

During the revolutionary period, the founding fathers continued to develop and promote the cause of education. The educational system during this period was primarily devoted to creating an informed citizenry that would put the needs of one's country above the needs of oneself. During this time, forefathers like Thomas Jefferson began to invoke the ideals of John Locke, such as popular sovereignty. They also developed a plan to educate the public to provide an enlightened populace, strong government, and a sense of public safety (Urban & Wagoner, 1996; Webb et al., 2000).

The common school movement of the nineteenth century developed as a response to an influx of immigrants from around the world and the need for an educated workforce. The common schools allowed for education for all children, not simply those with wealthy families. The working class embraced this system as a means for upward social mobility and an opportunity for children to participate in the democratic system. This movement also allowed a centralization of education that promoted literacy and citizenship in a dispersed, rural population (Ravitch, 2001; Spring, 2001; Urban & Wagoner, 1996; Webb et al., 2000).

The latter part of the nineteenth century saw a country recovering from civil war and dealing with another influx of immigrants. During this time, the public secondary school movement developed as a need grew for skilled workers who understood and appreciated American democracy. New child labor laws impacted compulsory attendance laws, the demand for skilled labor, and Supreme Court

cases such as *Stuart et al. v. School District No. 1 of the Village of Kalamazoo* (1874), which allowed for public funding of schools (Webb et al., 2000).

The beginning of the twentieth century saw the development of the progressive educational movement in the United States. This more child-centered approach promoted the child's interest as the impetus behind the curriculum. The free expression and development of creativity in children, focusing on practical work skills rather than a traditional academic curriculum, were also important cornerstones of this movement. (Webb et al., 2000). Notably, philosopher John Dewey expounded the beliefs of this movement and the need for education to promote individual development and prepare students to participate in democracy (Brick, 2005; Webb et al., 2000; Wonacott, 2003).

During the second half of the twentieth century, the progressive movement declined as the United States recovered from World War II. Critics of the movement promoted a need for schools to provide rigorous curriculum across subject matter and focus on developing children's intellectual growth rather than workplace skills. The space race between the United States and the Soviet Union in the mid-century served to continue progressivism's decline as the public became concerned with math and science instruction in schools. Similarly, economic competition with Japan in the 1980s caused a focus on the quality of education and its preparation of students to compete internationally (Webb et al., 2000).

Two particular educational movements developed and grew through the end of the twentieth century and into the beginning of the twenty-first century: the promotion of career and technical education and the excellence movement. Career and technical education (CTE) can be traced back to the progressive movement and advocates of vocational education such as Dewey, Massachusetts Commissioner of Education David Snedden, and the country's first Commissioner of Vocational Education, David A. Prosser (Wonacott, 2003). Dewey himself argued that schooling should have real-

world relevance and prepare students to be good citizens and to have a vocation (Pieratt, 2010; Stipanovic et al., 2012; Wonacott, 2003).

The excellence movement, fueled by a belief that American children were falling behind, focused on educational accountability and parental choice (Peterson, 2011). This movement was a response to the concern that American schoolchildren were not performing well and would not be able to compete in a global economy, threatening the United States' economic standing in the world marketplace (Mehta, 2015). This focus on accountability inherently came with a need to create standards and the ability to measure progress and performance. William Bennett, Secretary of Education under President Ronald Reagan, took up the cause of the U.S. National Commission on Excellence in Education's 1983 report "A Nation at Risk" to promote the excellence movement (Peterson, 2011).

An emphasis on accountability and federal involvement in education continued through subsequent Presidents Bill Clinton and George H.W. Bush. During this time, states worked to develop their accountability measures and revise curriculum standards (Hayes & Urbanski, 2008). Concern about the performance of American schoolchildren as compared with their international counterparts spurred this phenomenon, and with the 2001 passage of No Child Left Behind (NCLB), schools were increasingly held to accountability standards (Hayes & Urbanski, 2008; Kim & Sunderman, 2005; Peterson, 2011). In an effort to decrease the disparity and inequity in education, schools were required to reach annual yearly progress (AYP) to prove their performance and increase academic achievement among various subgroups (Hayes & Urbanski, 2008; Kim & Sunderman, 2005). It additionally promoted the cause of school choice as it allowed parents of students at failing schools to choose a different school within the district (Peterson, 2011).

In 2015 the Every Student Succeeds Act (ESSA) replaced No Child Left Behind. ESSA continued a focus on accountability assessments and the preparation of students to participate in post-secondary college or career. ESSA also required increased transparency by using published state data which provided detailed school information such as graduation rates and test scores (US Department of Education, 2021). These are the federal accountability standards by which virtual schools across the United States are still measured, providing a comparison for their performance as opposed to that of traditional schools.

The iterations of education throughout the centuries contain some common threads. Through the years, education has been used as a vehicle to prepare students to participate in a democracy and compete economically in the national or international marketplace. The need to develop skilled workers who can promote the interests and ideals of the United States has been achieved by various means, from the progressive movement to the excellence movement and the age of choice and accountability. This rich history has set the stage for the genesis of the virtual education movement and its potential of continuing these educational goals for students who may not have access to or thrive in a traditional environment. As the prospect of distance education, a forerunner of today's virtual education, gained momentum, it became ingrained in the longitudinal development of educational purpose and the need to reach students who needed an alternative method of instruction. It was yet another point where education could be effectively offered to a new type of student and continue society's educational goals.

History of Virtual Education

Virtual education is a form of distance education in which instruction is web-based and takes place via the Internet (Clark, 2012; Kentnor, 2015). Distance education can be traced back over 200 years in the United States (Harting & Erthal, 2005; Kentnor, 2015; Mathieson, 1971). Through time, the purpose of distance education has remained consistent: to provide access to quality education for those

who had previously been unable to participate (Barbour, 2018; Harting & Erthal, 2005; Kentnor, 2015). Distance education became common in the late 1800s and early 1900s, utilizing print-based correspondence through the postal service (Bower & Hardy, 2004; Harting & Erthal, 2005; Kentnor, 2015; Watson & Murin, 2014). This became more common for students pursuing college degrees and for professionals and military personnel seeking new training (Kentnor, 2015; Mathieson, 1971; Reiser, 2001).

The use of technology in the development of distance education rose during the early twentieth century. During this time, radio emerged as a vehicle for distance education in the United States (Bower & Hardy, 2004; Clark, 2012; Kentnor, 2015), although it was more prevalent in regions with low literacy rates and inconsistent postal service (Kentnor, 2015). The advent of television led to yet another step in developing distance education. In 1932, the University of Iowa began to transmit courses through television productions (Clark, 2012; Harting & Erthal, 2005). After World War II, more universities began using this medium as televisions became more common in American society. By the end of the 1950s, 17 distance education programs included an instructional component delivered via television (Harting & Erthal, 2005).

Post-secondary institutions played a part in the development of virtual education through their correspondence programs, designed for post-secondary purposes and as an independent study for high school students. As with other distance education programs, post-secondary correspondence programs were meant to offer a broadened curriculum to students for whom it was previously inaccessible (Caruth & Caruth, 2013; Mathieson, 1971; Reiser, 2001). University-run independent study high school programs were a direct predecessor of the current virtual school movement. These programs began in the 1920s and continued into the twenty-first century (Clark, 2003). In particular, the evolution of the independent study program to a virtual program can be found at the University of Nebraska-Lincoln,

which began its independent study program in 1929 (Clark, 2003; Mathieson, 1971) and maintained it through the better part of the century before obtaining federal funding in 1996 to develop a virtual school (Clark, 2003). These early correspondence programs were designed to allow diverse classes in smaller schools (Clark, 2003; Mathieson, 1971) and provide vocational courses for at-risk students (Clark, 2003).

Advances in technology provided new outlets for interactive education. The advent of email and computer conferencing in the 1970s, while somewhat limited for educators at first, offered new opportunities for collaboration and interaction (Harasim, 2000; Tao & Reinking, 1996). In the 1980s, electronic messaging, both synchronous (text teleconferencing) and asynchronous (electronic mail), promoted interaction between students and teachers who were often physically removed from one another. As with other forms of electronically delivered curricula, this iteration also allowed students to access education at their convenience, regardless of their location (Quinn et al., 1983; Tao & Reinking, 1996).

The World Wide Web became readily accessible in the early 1990s and soon became a vehicle for professional training programs and academic coursework (Kentnor, 2015; Reiser, 2001). The Internet began to allow for communication between students and instructors and among groups of learners. As technology continued to evolve, this interactive environment ushered in new opportunities for educational expansion (Reiser, 2001). Students began to use the Internet during this decade, although their access was primarily at school. Students used the Internet for research and study help, while teachers gradually started to use websites as part of their classroom instruction (Pew Internet and American Life Project, 2001).

Virtual schools and programs began to emerge in the early 1990s. At this time, most early virtual schools were either charter or state-run schools, while some other individual school districts began to

operate their own virtual programs (Schwirzke et al., 2018; Watson & Murin, 2014). These early programs were designed to allow schools, particularly in rural areas, to offer a diverse array of courses for their students while providing greater access for students needing to recover credits, as well as adult learners returning to finish their high school diplomas. The virtual platform allowed individual supplemental courses to be taught to meet learners' diverse needs (Clark, 2012; Watson & Murin, 2014).

The growth of virtual learning has been staggering. In 2001, it was estimated that approximately 40,000 to 50,000 American students in grades K-12 would take at least one course via distance education (Barbour, 2018; Clark, 2001). The National Education Policy Center reported that 40 states allowed for fully online schools, which served 332,379 students and blended-learning schools, which enrolled 152,530 students. (Molnar et al., 2021). Enrollment in online learning in 2020 and 2021 grew significantly during the COVID-19 pandemic, although these figures are not yet quantified.

Institutional Theory

The rapid growth of virtual education can be examined through the lens of institutional theory. Institutional theorists examine how organizations adapt to change and the forces that cause this change (Burch, 2007; Hanson, 2001; Meyer & Rowan, 2006). Institutionalists have long studied this type of change, sometimes focusing on standard business practices (Burns & Scapens, 2000) and political institutions (Clemens & Cook, 1999). The theory dates back to the late nineteenth-century work of Thorstein Veblen, who posited that institutional changes are sometimes a result of human curiosity and the innate desire to innovate (Burns & Scapens, 2000).

Institutions themselves are entities defined by relationships between stakeholders and the activities, rules, and norms that delineate them (Burns & Scapens, 2000; Coccia, 2018). In utilizing the lens of institutional theory, a researcher examines educational institutions and reviews the causes of

and constraints to change (Hanson, 2001). The institutional theory purports that not all change is made out of a quest for efficiency (Burch, 2007; DiMaggio & Powell, 1983; Meyer & Rowan, 1977). Change often results from power shifts within institutions (Burch, 2007; Meyer, 2006).

Institutional theorists claim that organizations change due to their continual search for legitimacy and that they will begin to resemble one another to gain this legitimacy (Burch, 2007; Hanson, 2001; Meyer & Rowan, 1977; Meyer & Rowan, 2006), even if it involves a loss of internal control (Meyer & Rowan, 1977). Organizations may also shift to address societal or institutional problems they are facing. These adjustments become a new policy that speaks to these issues. They may not represent the most optimal solution yet are legitimized by other organizations that adopt them (Burch, 2007; Burns & Scapens, 2000).

The importance of societal and stakeholder opinion is also considered a force for change through the lens of Institutional theory. The perception of an institution's importance by society, legal entities, or the educational system can further legitimize an organization and encourage transformation (Hanson, 2001; Meyer & Rowan, 1977). Alongside is the assertion that organizations change due to more dominant stakeholders in the field. In this case, the market demand is impacted, causing a necessary adjustment within an organization (Meyer & Rowan, 1977; Meyer & Rowan, 2006).

Specifically, a more recent branch of Institutional theory studies forces that change educational institutions and the outcomes of these changes (Burch, 2007; Hanson, 2001; Meyer & Rowan, 2006). Since the 1970s, Institutional theory has been used to explain the organization of schools and their isomorphic tendencies (Davies et al., 2006). Institutional theorists use three types of isomorphism (coercive, mimetic, and normative) to explain how organizations, including schools, become more similar over time (DiMaggio & Powell, 1983; Lamb & Weiner, 2018). Coercive pressure is what an organization feels from other entities it depends on, such as the government. This pressure can move an

organization to look more like its counterparts to meet these expectations. Mimetic isomorphism describes the relationship between like organizations in uncertain environments. Rather than solve a problem individually, organizations tend to look at others like themselves to find a solution, even if that solution is less efficient. Finally, normative isomorphism describes organizational change due to professional expectations. In this case, professionalization encourages actors to behave similarly to standardize actions through an industry (DiMaggio & Powell, 1983; Lamb & Weiner, 2018).

This framework has been widely studied through the advancement of online learning in postsecondary institutions (Cox, 2005; Pratt, 2004). The development of this type of learning can result from pressures from outside sources, leading universities to make sometimes faulty assumptions about the effectiveness of this type of education (Cox, 2005; Gaytan, 2009; Pratt, 2004). Additionally, the emulation of this type of learning is sometimes viewed as the most efficient path to legitimization in a competitive environment (Pratt, 2004). While the bulk of research dealing with the institutional theory and K-12 schooling has focused upon the adoption of educational technology (Lamb, 2018; Lamb & Weiner, 2018), it is natural to jump to Institutional theory as a means of examining the growth of virtual education in K-12 environments.

Organization of Virtual Schools

At the state level, virtual education may be organized in various ways: district-led virtual schools, virtual state schools, and virtual charter schools (Digital Learning Collaborative, 2019; Hornbeck et al., 2019; Toppin & Toppin, 2016; Watson & Murin, 2014). District-level virtual schools began to gain popularity in the late twentieth century as a local response to the spread of state virtual schools and virtual charter schools (Taylor & McNair, 2018; Watson & Murin, 2014). These programs often include a blended learning component that allows greater flexibility and choice in student academic scheduling (Watson & Murin, 2014). District-level programs are sometimes tricky to track nationally due to the

prevalence of technology and the exceptional amount of online and digital curriculum available for integration within traditional classroom use (Digital Learning Collaborative, 2019). In 2018, the state of Indiana formally identified 38 district-based virtual programs (Keller, 2018).

State virtual schools allow enrollment for students across the state. While these schools may provide full-time enrollment for students (Digital Learning Collaborative, 2019; Watson & Murin, 2014), they typically focus on providing access to supplemental courses, which allows students to have access to coursework that may not be available in their particular district (Beem, 2010; Digital Learning Collaborative, 2019; Tucker, 2007; Watson & Murin, 2014). As of 2017, 23 states had virtual state schools (Digital Learning Collaborative, 2019). These schools are usually created and funded by state legislatures (Digital Learning Collaborative, 2019; Watson & Murin, 2014).

While many states feature district-level schools, which may or may not include enrollment for students across the state, virtual charter schools have also become prevalent (Watson & Murin, 2014). In 2018, charter schools comprised 46.5% of all virtual schools yet accounted for 79% of total enrollment (Miron & Elgeberi, 2019). For-profit companies typically run these virtual charter schools, often referred to as EMOs (educational management organizations; Gulosino& Miron, 2017; Miron & Elgeberi, 2019). In 2018, 64.4% of all virtual charter schools were run by for-profit companies (Miron & Elgeberi, 2019).

Charter schools are authorized by an agency, such as a university, state board of education, or local school district. These authorizers make a charter with the school's governing board, articulating desired outcomes, organization, and funding. The schools are considered public schools yet are exempt from some regulations while still required to meet their stated goals (Buddin & Zimmer, 2005; Huerta & Zuckerman, 2009; Rhim & Kowal, 2008; Torre, 2013). Charter schools are created with a focus on a specific type of theme or pedagogical approach (Buddin & Zimmer, 2005; Huerta & Zuckerman, 2009).

Virtual charter schools allow students to receive instruction in a fully online or blended environment (Gulosino & Miron, 2017; Torre, 2013), often contracting with a virtual school provider (Rhim & Kowal, 2008). These schools are largely born of the school choice movement, allowing parents to choose this nontraditional option for their students. In a virtual charter school, the educational institution supplies the curriculum and teacher support, while the parent retains control over the student's school environment at home (Torre, 2013).

Types of Virtual Education

By definition, virtual learning occurs primarily over the Internet and may also be called online learning, cyberlearning, or eLearning (Schwirzke et al., 2018; Watson & Murin, 2014). There are multiple iterations of this type of schooling. Students may participate in full-time virtual schools that deliver all curriculum and instruction or a blended environment that exhibits a hybrid of online education and traditional face-to-face interaction (Ahn & McEachin, 2017; Digital Learning Collaborative, 2019; Miron et al., 2018; Miron & Elgeberi, 2019; Schwirzke et al., 2018; Watson & Murin, 2014). Some virtual learning programs also allow students to take supplemental courses, allowing them to participate in online learning part-time (Schwirzke et al., 2018; Watson & Murin, 2014).

Interaction in a virtual environment may also be synchronous or asynchronous at a program level. Participants interact through methods such as email or discussion boards in an asynchronous environment. Synchronous interaction takes place in real-time through means such as chatrooms or videoconferencing (Bower & Hardy, 2004; Chen et al., 2005; Hrastinski, 2008, Martin & Parker, 2014; Woodworth et al., 2015). Synchronous instruction may happen to different extents in a virtual environment and may be likened to a traditional school where the teacher simultaneously instructs all students. In these cases, students would log in and watch a teacher deliver a lesson in real-time (Woodworth et al., 2015). Asynchronous virtual environments allow students to complete work

independently, providing flexibility for students whose schedules make it challenging to complete schoolwork outside regular working hours (Bower & Hardy, 2004; Woodworth et al., 2015).

Virtual Education Outcomes

Benefits

The very nature of the online learning environment meets diverse learning goals and provides benefits to both student and teacher that are not available or possible in a traditional school (Archambault & Kennedy, 2017; Finn & Fairchild, 2012). Many students require flexibility that may not be available in a brick-and-mortar setting. Students who have special physical or emotional needs, unique family situations and responsibilities, or extracurricular opportunities that require extensive travel may all benefit from a virtual environment (Archambault & Kennedy, 2017; Borup & Kennedy, 2017; Woodworth et al., 2015).

Virtual schools may also provide a diverse offering of courses not available in a student's given traditional school. These courses offer independent, individualized learning that allows students to participate and achieve various purposes (Borup, 2016; Borup & Kennedy, 2017; Repetto et al., 2010; Rhim & Kowal, 2008). For example, students can often move quickly through a class and accelerate their learning. Virtual courses also offer students a path to recover failed credits and return to a graduation track (Borup & Kennedy, 2017; Swingle & Vieta, 2012). Students may also take a virtual course to improve their grades or make space in their traditional school schedule for different classes (Hart et al., 2019).

Virtual education offers additional opportunities and benefits to students with a variety of special needs. Individualized instruction, curricular differentiation, and pacing may contribute to the support and accommodations required by these students (Clifford, 2018; Martin, 2017). The digitized nature of the online environment also allows for detailed and consistent progress monitoring (Martin,

2017; Weatherly, 2016). Students with severe allergies or other physical impairments may also find that a distance learning environment is beneficial for their health (Martin, 2017).

Finally, virtual learning offers enhancements to the learning experience that may not be available in a traditional school. Since parents support student learning at home, virtual environments foster increased parental involvement (Borup & Kennedy, 2017; Rhim & Kowal, 2008). Further, virtual settings provide students with the opportunity to experience an online environment and gain skills such as collaboration that will allow them to be successful in post-secondary education or future careers (Borup & Kennedy, 2017).

Challenges

While virtual learning can be beneficial, it still poses various challenges for both teachers and students. Students struggle at times with adapting to a virtual learning environment. For some students, internet access and connectivity may be limited (Archambault & Kennedy, 2017; Hart et al., 2019). They may struggle with the process of learning online and the motivation to work independently (Barbour, 2016; Borup & Kennedy, 2017; Bullen, 1998; Hasler-Waters et al., 2018; Murphy & Rodriguez-Manzanares, 2009). Since the teachers are not onsite with students, the lack of real-time feedback may lead to a lack of teacher immediacy and a feeling of isolation among students (Baran et al., 2013; Bohnstedt et al., 2013; Borup & Kennedy, 2017; Bullen, 1998; Richardson & Swan, 2003). Students may also struggle with reduced social interaction (Dikkers, 2018; Muilenburg & Berge, 2005). Students' connection with their peers and teachers allows for a sense of belonging and community, often lacking in a virtual environment (Dikkers, 2018).

Students with special needs may also find the virtual environment challenging for various reasons. Often there are difficulties with providing appropriate accommodations and supports in a virtual setting (Martin, 2017; Weatherly, 2016). Virtual schools may find it difficult to give equal access

to students who may need specialized technology to participate in an online environment (Rhim & Kowal, 2008; U.S. Department of Education, 2013; Weatherly, 2016). Finally, some students with special needs struggle in a virtual environment due to the increased responsibility of the parent for day-to-day learning rather than licensed teachers (Clifford, 2018; Weatherly, 2016).

Teachers also report challenges with virtual education. These challenges stem from the changing role of the teacher in a virtual environment, as they are asked to lead less direct instruction and are required to move into a facilitation role (Baran et al., 2013; Borup, 2018; DiPietro et al., 2010; Hawkins et al., 2012). Teachers find that student motivation in a virtual environment is challenging (DiPietro et al., 2010; Hawkins et al., 2012). As a result, the importance of student-teacher interaction, timely feedback, and synchronous communication is magnified (Dikkers, 2018; Hawkins et al., 2012; Murphy & Rodriguez-Manzanares, 2009). This may be compounded by the design of virtual courses, which sometimes make authentic engagement challenging to achieve or monitor (Archambault & Kennedy, 2017; Borup & Kennedy, 2017; DiPietro et al., 2010; Hawkins et al., 2012). Finally, teachers struggle with building relationships, just as students do. Teachers may also struggle with feelings of disconnectedness and isolation from their students and peers. In these cases, the lack of immediate cues from students makes their interactions and understanding challenging to gauge (Hawkins et al., 2012).

State of K-12 Virtual Education in the United States

Enrollment and Expansion

Virtual schooling has become increasingly popular in past years. While it is difficult to find exact numbers of students from the early days of the virtual movement, a 2002 article by the Wall Street Journal reported that fewer than 50,000 students were enrolled in virtual schools nationwide in that year (Tomsho, 2002). The number of students participating in virtual education has expanded in the decades since. By 2007, 18 states had full-time virtual schools in multiple districts, and 38 states had

substantial supplemental virtual programs in multiple districts (Watson & Ryan, 2007). While the number of students in each type of program is unavailable for that period, Florida Virtual School itself enrolled more than 50,000 students (Watson & Ryan, 2007).

The popularity of virtual education has continued to grow in the United States. The National Education Policy Center (NEPC) has reported that in the 2017-18 school year, 39 states enrolled students in either full-time virtual or blended-environment schools. There were 501 virtual schools nationwide during that same year, which enrolled 297,712 students. Additionally, 132,960 students in the United States attended blended learning schools (Miron & Elgeberi, 2019). This demonstrates an increase since 2016-17 when 34 states enrolled 296,518 students in 429 full-time virtual schools while 29 states had 296 blended schools serving 116,716 students (Miron et al., 2018). The NEPC reported continued growth into the 2019-20 school year, with 40 states reporting having full-time virtual or blended-learning schools. This encompassed 477 fully virtual schools and 306 schools featuring a blended-learning model (Molnar et al., 2021).

Virtual Learners

In a nationwide survey of virtual education institutions, the National Education Policy Center (NEPC) discovered that virtual schools contained a lower representation of minority and economically disadvantaged students than traditional public schools. In 2019-20, approximately 50% of students nationwide were identified as White/Non-Hispanic. Conversely, over 58% of students in virtual schools fell into this demographic. The percentage of Black and Hispanic students enrolled in virtual schools was lower than found in traditional schools nationwide. Nationally, 25.25% of students were Black, compared to only 10% of students enrolled in virtual schools (Molnar et al., 2021). In its survey, the NEPC also found that economically disadvantaged students were underrepresented in virtual school

enrollment. In 2019-20, over 51% of students in the United States qualified to receive free and reduced-price lunches, compared to only 41% of students in virtual schools (Molnar et al., 2021)

It is difficult to discern the representation of special education students in virtual education due to a lack of reported data (Martin, 2017). Virtual schools often provide supplementary credit or support, while traditional schools maintain the students' IEP (Repetto et al., 2010). The NEPC study found that only a limited number of virtual schools reported this data (Miron & Elgeberi, 2019). While the actual number of virtual students with disabilities is difficult to ascertain, there is some evidence that students with special healthcare needs are enrolling in virtual education at an increasing rate (Fernandez et al., 2016; Martin, 2017). Students with health concerns and disabilities such as autism may choose to attend virtual schools because the format and adaptive technology are conducive to their learning while reducing social stigma (Martin, 2017; Repetto et al., 2010).

Gifted students are sometimes drawn to the promise of virtual education as a means to participate in challenging courses and work at a faster, individualized pace (Archambault & Kennedy, 2017; Potts, 2019). The number of high-ability students nationwide is somewhat low, as only 6.7% of students nationwide are identified as gifted. Virtual schools offer an opportunity for students to interact with and collaborate with students like themselves, regardless of physical location (Potts, 2019). While there are no statistics regarding the number of gifted students enrolled in virtual schools, these environments do meet the documented educational needs of many gifted students, including the need for differentiation to support advanced understanding of the material and a need to explore deeply based on personal interest (Potts, 2019).

Virtual Education Choice

Families choose virtual education for a variety of reasons. These may include student learning style and academic needs, lifestyle choices, or social-emotional issues. Often students simply need to

complete course work at their own pace, a desire supported by the virtual environment (Archambault & Kennedy, 2017; Borup & Kennedy, 2017). Students sometimes have health problems that make a virtual environment safer than a traditional school building (Archambault & Kennedy, 2017; Martin, 2017). Others may choose virtual education as an alternative to conventional homeschooling (Archambault & Kennedy, 2017; Borup & Kennedy, 2017; Roblyer, 2006). Some students fall into at-risk categories and need additional assistance completing their diploma requirements. In this case, they may be English language learners or fall below grade level. The virtual environment may meet the particular needs of these students (Archambault & Kennedy, 2017; Borup & Kennedy, 2017).

Some students' lifestyle requires flexibility in scheduling for a variety of reasons. Virtual education allows for individualization and flexibility in the students' place and time that they work on the course. (Archambault & Kennedy, 2017; Borup & Kennedy, 2017). These students may be teen parents (Ahn, 2011; Archambault & Kennedy, 2017; Borup & Kennedy, 2017) or have alternative work schedules. (Ahn, 2011; Roblyer, 2006). Others may be elite athletes or participate in extracurriculars that require time flexibility for training purposes (Ahn, 2011; Archambault & Kennedy, 2017; Roblyer, 2006).

Finally, students who have social-emotional concerns may also choose virtual education. Students who experience negative social contact at school often are drawn to virtual education to avoid further interaction (Muilenburg & Berge, 2005). These interactions may include previous experience with bullying (Ahn, 2011; Archambault & Kennedy, 2017; Borup & Kennedy, 2017; Roblyer, 2006). Regardless of the nature of their interactions, some students simply do not enjoy being with others and want to finish their courses with minimal social interaction (Hawkins et al., 2012).

Student Success Measures

Research shows that students in all types of virtual environments are generally less successful than their counterparts in traditional schools (Ahn & McEachin, 2017; Hart et al., 2019; Miron et al.,

2018; Woodworth et al., 2015). One measure of student success is graduation rates, which tend to be lower in virtual educational environments. In 2019-20, the national graduation rate was 85%, while the graduation rate for full-time virtual schools was at 54.6%, and blended schools had a graduation rate of 64.3%. Although these schools do not exhibit the same successes as their traditional counterparts, enrollment consistently increases. Student success is also reflected in the overall performance rating of the schools they attend. While each state has different criteria for measuring the success of their schools, in 2019-20, only 42.8% of fully virtual schools were received acceptable ratings from their state (Molnar et al., 2021).

Research exists to support the theory that the success rate of virtual education is low due to the types of students attracted to this type of education. Wang and Decker (2014) argue that virtual education is perceived as an alternative to a traditional school, which is inherently attractive to students who feel marginalized in a traditional environment. These students may also be drawn to virtual schools that specifically advertise to students who are credit deficient or have discipline issues (Wang & Decker, 2014). Their study of Ohio's virtual schools also discovered that students with special needs and those from economically disadvantaged households were disproportionately represented. They attribute this to the fact that Ohio state law requires virtual schools to provide computers to all students, which could be an attractive incentive to these families (Wang & Decker, 2014). Specific subgroups of students show lower academic achievement in a virtual environment. Students of poverty tend to exhibit lower academic achievement in a virtual environment than they do in a brick-and-mortar setting (Barbour, 2016; Woodworth et al., 2015), as do special education students (Woodworth et al., 2015).

Researchers have identified several indicators of success in a virtual environment. These may include factors such as the student's motivation and ability to learn independently and self-regulate. Success may also depend on the student's access to and comfort with technology (Lee & Figueroa, 2012;

Shea & Bidjerano, 2010). Self-efficacy, which can be described as a student's belief in their ability, also plays a vital role in the success of virtual education (Lee & Figueroa, 2012; Shea & Bidjerano, 2010; Swingle & Vieta, 2012). Finally, positive parental involvement is a critical component of student success in the virtual environment (Lee & Figueroa, 2012).

State of Virtual Education in Indiana

Who and How Many?

In a 2018 study conducted by the Indiana Department of Education, it was found that 93% of school districts offered some type of virtual programming, with 38 districts containing what was identified as an entirely virtual program (Keller, 2018). In the 2018-19 school year, average daily membership (ADM) was paid for 18,690 virtual students state-wide. This number represents an increase of 4500 students from the prior year (Keller, 2018).

State Accountability and Student Success

State and federal accountability ratings of Indiana's virtual schools can be used to gauge their success. Federal accountability is determined by academic performance, including achievement and progress, English language progress, and school absenteeism. Additionally, these ratings take into account academic achievement gaps in grades K-8. High school ratings include diploma strength and graduation rates (Indiana Department of Education, n.d.). Indiana state A-F school grades are currently determined based upon three domains: performance, growth, and multiple measures for high schools. The performance domain includes current year school data, while the growth domain takes into account both current and previous years' data. The multiple measures domain consists of graduation rates, as well as a college and career readiness indicator score (Indiana Department of Education, 2016). Due to the cancellation of state testing in 2020, no new federal accountability ratings were issued that year. Additionally, each school was awarded a state accountability letter grade that would be no lower than

the grade given in 2017-18 or 2018-19 under the state's "hold harmless" policy (Indiana Department of Education, 2020c).

In 2020, eleven virtual schools were identified within the state of Indiana. These included: Insight School of Indiana, Hoosier Academy-Indianapolis, Achieve Virtual Education Academy, Indiana Connections Academy, Indiana Agriculture and Technology, Indiana Digital Elementary, Indiana Digital Jr and High School, Indiana Digital Alternative School, Indiana Connections Career Academy, Gary Virtual Academy, and Vigo Virtual School Academy (Indiana Department of Education, 2020a). Of these schools, only Insight School of Indiana, Indiana Digital Jr and High School, and Hoosier Academy-Indianapolis received a grade of C. Achieve Virtual Education Academy, Indiana Digital Elementary, and Indiana Connections Academy received a grade of D. The remaining schools did not meet the Indiana Department of Education requirements to receive a grade that year (Indiana Department of Education, 2020a).

These schools did not perform better when reviewing the 2019 federal accountability ratings. Two schools, Gary Virtual Academy and Vigo Virtual Success Academy, were not in existence in 2019. Only Hoosier Academy-Indianapolis was rated as "Approaches Expectations." Achieve Virtual Education Academy, Indiana Connections Academy, Indiana Connections Career Academy, and Insight School of Indiana all received a rating of "Does Not Meet Expectations." The remaining schools were not rated (Indiana Department of Education, 2020b).

Current Legislation

Indiana is one of 25 states which enacted legislation around virtual schooling between 2017 and 2019. In these two years, the Indiana State Legislature passed five bills on this topic (Erwin, 2019). In 2019, the Indiana State Legislature addressed concerns regarding virtual schools in its legislative session. Public Law 159 was passed by the legislature and signed into law by Governor Eric Holcomb on May 1,

2019. This law aimed to provide more significant restrictions and oversight for these schools (Education Matters, 2019). It specifically required any student entering a virtual school after July 1, 2020, to participate in the school's orientation and onboarding process with their parent or guardian. Additionally, this law determined that virtual programs with more than 100 students, or those which have enrolled more than 30% of the corporation's student population, must become individual virtual schools. The law also ensured that all teachers in a virtual school must meet Indiana State licensing requirements (Education Matters, 2019). P.L 159 also addressed attendance among virtual students by stipulating that all students must be residents of Indiana and will be withdrawn from the school if they become habitually truant. It required that virtual schools explain attendance policies to parents during orientation and articulated requirements for tracking and recording student attendance (Education Matters, 2019).

Indiana law additionally addresses the issue of funding for virtual schools. In a typical year, a virtual school will receive 85% of the funding per student that is allotted to brick-and-mortar schools (Loughlin, 2019; Smith, 2020). However, during the 2020-21 school year, Indiana schools received 100% of the funding for virtual students who began learning virtually after school closures due to the COVID-19 pandemic (Smith, 2020).

Virtual Education and COVID-19

On December 31, 2019, the first case of coronavirus disease (COVID-19) was reported in Wuhan, China (Fan et al., 2020). The virus spread quickly, and the first case of COVID-19 was reported in the United States on January 20, 2020 (Harcourt et al., 2020). On March 19, Indiana Governor Eric Holcomb joined ten other states when he ordered all schools closed until May 1. On April 2, 2020, this order was extended through the school year's end (Herron, 2020). Schools were still required to provide virtual instruction for students, even while closed to face-to-face instruction (Herron, 2020).

This proved to be a challenging time for students and educators. One primary difficulty stemmed from the issue of technical access for students. Virtual instruction is dependent on student access to computers and internet connectivity. A study at Ball State University found that between 68,649 and 84,118 school-age children in Indiana lacked an internet connection at home. This accounted for approximately 6.5% of Indiana households with children of school age (Devaraj et al., 2020). The study also found that single-parent, low-income, and non-English speaking households were more likely to lack internet access, compounding educational difficulties these children may already be experiencing (Devaraj et al., 2020).

The pandemic caused a steep increase in virtual school enrollment in the fall of 2020. Two of the country's largest virtual education providers, K12 and Connections Academy, noted this growth. K12 has reported that its enrollment expanded from 123,000 to 170,000 students this year. Connections Academy indicated a 61% increase in applications this year (Barnum, 2020).

Summary

In summary, virtual education is a rapidly growing sector of the American education system. The review of literature examined the purposes and foundational theories of education in the United States, which have remained largely the same throughout American history as both traditional and virtual schools strive to promote civics and democratic ideals while preparing students for the workplace. It then explored the history of virtual education as it evolved from lessons sent through the postal service to entirely online schools. Next, it considered Institutional theory as a framework through which the changes in education can be viewed.

The literature review concluded with three sections devoted to a current view of virtual education. This included an overview of the types of virtual schools and the benefits, challenges, and

success measures used to gauge the effectiveness of virtual education. Finally, it examined the current state of virtual education in the United States and its presence in Indiana.

Virtual education is growing at an unprecedented rate. To fully understand this phenomenon, administrative motivation in the decision-making process must be studied. In reviewing the reasons for a district to choose whether or not to implement virtual programming, the trajectory of virtual education may be anticipated. Virtual education is altering the face of education, and the impetus of this change must be understood.

Chapter 3: Methodology

Research Design and Rationale

This study aimed to explore the rapid growth of virtual education programs in the state of Indiana. Specifically, it examined the reasons why school districts choose whether or not to implement virtual education programs. Additionally, it examined the perceived limitations, benefits, and challenges of virtual education in Indiana. This research is based upon a case study by Adams (2014), which examined similar concepts in virtual education from the state of Kansas. Permission to utilize the survey instrument, with some alterations, was obtained from the author.

This study utilized a mixed-methods sequential explanatory design. Mixed methods are often used in social science research to capitalize on the strengths of both quantitative and qualitative design. Mixed methods studies allow for the analysis of both types of data to more adequately express the complex nature of the issues that the social sciences address (Creswell, 2009). Within the sequential explanatory design, the researcher first gathers and analyzes quantitative data. The qualitative data is then collected to explain further or examine the findings of the quantitative portion of the study (Cresswell, 2009; Ivankova et al., 2006; Terrell, 2011). In this study, the basis of conclusions was the quantitative findings. Qualitative findings through the interviews were used to further explain the outcomes.

Research Questions

This mixed-methods sequential explanatory study explored seven research questions:

1. What factor(s) influence an Indiana district's decision to adopt a virtual education program in school?
2. What factor(s) influence an Indiana district's decision to decline to adopt a virtual education program in school?

3. What is the difference in perceived benefits of virtual education in Indiana between superintendents and program administrators?
4. What is the difference in perceived challenges of virtual education in Indiana between superintendents and program administrators?
5. In what ways do superintendents and program administrators vary in their belief in the strength of traditional schools or virtual schools to achieve commonly stated educational goals?
6. What is the difference in the perceived effectiveness of virtual education programs in Indiana between superintendents and virtual program administrators?
7. In what ways did the COVID-19 pandemic impact the adoption and perception of virtual programs?

Subjects

The subjects for this study were all public school superintendents in the state of Indiana (*N*=290) and the administrators of virtual education programs (*N*=77) in the state. Superintendent emails were gathered from the Indiana Department of Education 2019-20 School Directory. Seventy-seven individuals were identified through their district website or their superintendent as responsible for a virtual education program. Their email addresses were obtained either on their corporation's website or through communication with their superintendent or other administrative staff. This sample is appropriate since contact information for all subjects was readily available. Additionally, these subjects represented those closest to the decision-making process as districts choose whether or not to implement a virtual program and how such a program might be administered.

Data Collection

Data collection came from three sources: a survey of superintendents of Indiana public school districts, a survey of Indiana virtual program administrators, and interviews with both superintendents

and virtual program administrators. On March 1, 2021, initial introductory emails with a link to the study surveys were sent to 290 superintendents and 77 program directors. On March 9, 2021, a reminder email was sent to those who had not yet responded. Ultimately, 36 program directors (47%) and 96 superintendents (33.1%) responded to the survey.

The use of three data sources allowed for triangulation of data and improved internal validity. This aided in the discovery of themes that helped explain the phenomenon.

Instrumentation

Survey Data

The survey was patterned after an instrument used by Adams (2014) in her study of the growth of virtual education in Kansas. Surveys were conducted of public school superintendents in Indiana (*N*=290) and virtual program administrators (*N*=77).

In 2018, the Indiana Department of Education conducted a survey in which it determined that there were 38 public school virtual programs in the state (Keller, 2018). Due to the rise of the COVID-19 pandemic in 2020, many school districts nationwide found themselves quickly building virtual programs to meet the needs of students with health concerns and those in quarantine (Diliberti & Schwartz, 2021; Maranto et al., 2021). As a result, the researcher contacted each Indiana public school corporation by email to determine whether they had a director of virtual education or another staff member involved in leading these changes in their districts. In the winter of 2021, 77 individuals were identified through their district website or their superintendent as being responsible for a virtual education program. Superintendent emails were gathered from the Indiana Department of Education 2020-21 School Directory.

An introductory letter and link to a Qualtrics survey were sent to each individual. The survey window remained open for two weeks. A reminder email was sent after the first seven days.

Table 3.1 indicates question content for both the superintendent and virtual program administrator surveys.

Table 3.1

Survey Question Content

Question content	Audience
Descriptors of District	S, PA
Current status of virtual education programming within district	S, PA
Factors contributing to decision to provide or not provide a virtual education program	S
Effectiveness of traditional schools or virtual schools in meeting societal goals for education	S, PA
Perceived challenges of operating a virtual education program	S, PA
Perceived benefits of operating a virtual education program	S, PA
Perceived effectiveness of current virtual education program	S, PA
Perceived importance of factors leading to the need of a virtual education program	PA

Note. S = Supt., PA = Program admin

The goal completion rate of surveys was set at 40%. According to Nardi (2018), an initial survey can expect an initial 20% to 30% return, while reminders can yield a return of 50%. A study by Greenlaw and Brown-Welty (2009) comparing web-based, paper-based, and mixed-mode survey distribution found that the web-based surveys yielded a response rate of 52.46%.

The surveys addressed the first six research questions:

1. What factor(s) influence an Indiana district's decision to adopt a virtual education program in school?

2. What factor(s) influence an Indiana district's decision to decline to adopt a virtual education program in school?
3. What is the difference in perceived benefits of virtual education in Indiana between superintendents and program administrators?
4. What is the difference in perceived challenges of virtual education in Indiana between superintendents and program administrators?
5. In what ways do superintendents and program administrators vary in their belief in the strength of traditional schools or virtual schools to achieve commonly stated educational goals?
6. What is the difference in the perceived effectiveness of virtual education programs in Indiana between superintendents and virtual program administrators?

Survey Data Analysis

Once the surveys were completed, the data for each question was entered into SPSS. Questions common for both the superintendent and program administrator groups and utilized a Likert scale were analyzed using an independent sample *t*-test. Hedges's *g* was calculated to determine effect size. These tests allow for the means to be compared between both sample groups.

Questions common to each group and included an item checklist were analyzed using a chi-square test for independence. Cramer's *V* was used to determine effect size. These tests allow the researcher to determine whether there is a relationship between the subject's role and their perceptions of the question.

Survey Validity

The purpose of evaluating validity is to determine which survey items should be retained and which should be removed (Rubio et al., 2003; Taherdoost, 2016). The current study utilized the Kansas case study conducted by Adams (2014) as a model. In that research, Adams asserted the internal validity

of her survey instrument as demonstrated by the triangulation of four data sources. This study is modeled upon Adams' research while also evaluating both content and face validity.

For this study, a panel of six professionals was surveyed to determine the survey instrument's face and content validity. Five of these individuals, representing district-level administrators and virtual educators, participated by reviewing the instrument. None of these individuals participated in the formal administration of the survey for this study.

Content Validity. Content validity asks whether or not the instrument comprehensively examines all aspects of the phenomenon being measured (Nardi, 2018; Rubio et al., 2003; Taherdoost, 2016). In reviewing content validity, a panel is surveyed regarding each item. Recommendations regarding the ideal panel size vary among researchers. Rubio et al. (2003) suggest a panel size of at least six members. Research by Taherdoost (2016) acknowledges a minimum of five members, while a study from Shrotryia and Dhanda (2019) recommend at least three members.

The panel is presented with the criteria within the survey and asked to judge each item based on a three- to four-point scale. In reviewing this survey, the panel of professionals was presented with the content of the survey questions and asked to rate each descriptor in relation to the question itself. They rated each as "not relevant," "somewhat relevant," "quite relevant," and "highly relevant."

Once completed, the results were examined using the content validity index (CVI). The CVI was determined by the number of panelists who rated descriptors as either "quite relevant" or "highly relevant" and dividing that number by the total number of responses (Rubio et al., 2003 & Shrotryia & Dhanda, 2019). The average CVI for all descriptors within an item is recommended to be at least 0.80 (Rubio et al., 2003; Shrotryia & Dhanda, 2019). Shrotryia and Dhanda (2019) recommend that individual questions reflect a CVI of 1.00 when there are five or fewer panelists. Davis (1992) recommends that individual questions reflect a CVI of 0.80 to confirm content validity.

Table 3.2 displays the panelists' responses when examining descriptors related to the reasons a school district may choose to implement a virtual program. There are nine descriptors. Of these descriptors, seven were found to have a CVI value of 1. Two descriptors (recruitment of homeschool students and replication of other districts' programs) were found to have a CVI value of 0.80. The average CVI for all descriptors is 0.96. These findings indicate that all descriptors are a valid measure of the question.

Table 3.2

Relevance of Descriptors Related to Implementing a Virtual Program

Descriptor	Not relevant		Somewhat relevant		Quite relevant		Highly relevant		Total	CVI
	n	%	*n*	%	*n*	%	*n*	%	*N*	
Increase enrollment	0	0	0	0	1	20	4	80	5	1
Increase revenue	0	0	0	0	1	20	4	80	5	1
Develop innovative instructional practice	0	0	0	0	2	40	3	60	5	1
Recruit home school Students	0	0	1	20	2	40	2	40	5	0.80
Replicate other districts' use of virtual ed	0	0	1	20	4	80	0	0	5	0.80
Alternative education for children with mental or physical health concern	0	0	0	0	1	20	4	80	5	1
Alternative education for children with behavioral concerns	0	0	0	0	2	40	3	60	5	1
Increase grad rates	0	0	0	0	1	20	4	80	5	1
Credit recovery for high school students	0	0	0	0	1	20	4	80	5	1

Table 3.3 displays the panelists' responses when examining descriptors related to the reasons a school district may choose not to implement a virtual program. There are five descriptors. Of these descriptors, three were found to have a CVI value of 1. Two descriptors (lack of community support and financial considerations) were found to have a CVI value of 0.80. The average CVI for all descriptors is 0.92. These findings indicate that all descriptors are a valid measure of the question.

Table 3.3

Relevance of Descriptors Related to Declining to Adopt a Virtual Program

Descriptor	Not relevant		Somewhat relevant		Quite relevant		Highly relevant		Total	CVI
	n	%	*n*	%	*n*	%	*n*	%	*N*	
Lack of district support	0	0	0	0	2	40	3	60	5	1
Lack of community support	0	0	1	20	1	20	3	60	5	0.80
Perceived ineffectiveness of virtual ed	0	0	0	0	1	20	4	80	5	1
Financial considerations	0	0	0	0	2	50	2	50	4	0.80
Does not meet the goals of our district	0	0	0	0	2	40	3	60	5	1

Table 3.4 displays the panelists' responses when examining descriptors related to the perceived benefits of a virtual education program. There are 16 descriptors. Of these descriptors, 14 were found to have a CVI value of 1. Two descriptors (offer courses that are difficult to staff in a traditional school setting and offer a school choice option to in-district students) were found to have a CVI value of 0.80.

The average CVI for all descriptors is 0.98. These findings indicate that all descriptors are a valid measure of the question.

Table 3.4

Relevance of Descriptors Related to Perceived Benefits of a Virtual Program

Descriptor	Not relevant		Somewhat relevant		Quite relevant		Highly relevant		Total	CVI
	n	%	*n*	%	*n*	%	*n*	%	*N*	
Financially efficient	0	0	0	0	2	40	3	60	5	1
Convenience and flexibility for learners	0	0	0	0	2	40	3	60	5	1
Higher quality instruction	0	0	1	20	3	60	1	20	5	0.80
Courses that are difficult to staff in traditional setting	0	0	0	0	1	20	4	80	5	1
Students can accelerate and earn additional credits	0	0	0	0	1	20	4	80	5	1
Support students with special needs	0	0	0	0	2	40	3	60	5	1
Expand course offerings	0	0	0	0	1	20	4	80	5	1
Enroll students from outside district	0	0	0	0	2	40	3	60	5	1
Increase district enrollment	0	0	0	0	1	20	4	80	5	1
School choice option for in-district students	0	0	1	20	0	0	4	80	5	0.80

Descriptor	Not relevant		Somewhat relevant		Quite relevant		Highly relevant		Total	CVI
	n	%	*n*	%	*n*	%	*n*	%	*N*	
Access for rural learners	0	0	0	0	2	40	3	60	5	1
Alternative education for children with mental health concerns	0	0	0	0	1	20	4	80	5	1
Increase grad rate	0	0	0	0	1	20	4	80	5	1
Alternative education for children with behavioral concerns	0	0	0	0	2	40	3	60	5	1
Credit recovery for high school students	0	0	0	0	1	20	4	80	5	1
Alternative education for children with physical health concerns	0	0	0	0	1	20	4	80	5	1

Table 3.5 displays the panelists' responses when examining descriptors related to the perceived challenges of operating a virtual education program. There are ten descriptors. Of these descriptors, six were found to have a CVI value of 1. Four descriptors (lack of community support, recruitment of new students, professional development for staff, and staff retention) were found to have a CVI value of 0.80. The average CVI for all descriptors is 0.92. These findings indicate that all descriptors are a valid measure of the question.

Table 3.5

Relevance of Descriptors Related to Perceived Challenges of a Virtual Program

Descriptor	Not relevant		Somewhat relevant		Quite relevant		Highly relevant		Total	CVI
	n	%	*n*	%	*n*	%	*n*	%	*N*	
Staffing virtual classes	0	0	0	0	1	20	4	80	5	1
State regulation and oversight	0	0	0	0	1	20	4	80	5	1
Lack of community support	0	0	1	20	1	20	3	60	5	0.80
Recruitment of new students	0	0	1	20	1	20	3	60	5	0.80
Student engagement	0	0	0	0	1	20	4	80	5	1
Student retention	0	0	0	0	1	20	4	80	5	1
Excessive cost	0	0	0	0	2	40	3	60	5	1
Staff professional development	0	0	1	20	1	20	3	60	5	0.80
Staff retention	0	0	1	20	0	0	4	80	5	0.80
Ensuring quality of curriculum and instruction	0	0	0	0	1	20	4	80	5	1

Table 3.6 displays the panelists' responses when examining descriptors related to the strength of traditional schools in achieving commonly stated educational goals. There are five descriptors. Of these descriptors, three were found to have a CVI value of 1. Two descriptors (socialization opportunities and encouragement for students to participate in extracurricular activities) were found to have a CVI value of 0.80. The average CVI for all descriptors is 0.92. These findings indicate that all descriptors are a valid measure of the question.

Table 3.6

Relevance of Descriptors Related to Traditional Schools Meeting Educational Goals

Descriptor	Not relevant		Somewhat relevant		Quite relevant		Highly relevant		Total	CVI
	n	%	*n*	%	*n*	%	*N*	%	*N*	
Socialization opportunities for children	0	0	1	20	1	20	3	60	5	0.80
Encouragement for students to participate in extracurricular activities	0	0	1	20	1	20	3	60	5	0.80
Development of strong student/teacher relationships	0	0	0	0	2	40	3	60	5	1
High quality academic preparation	0	0	0	0	2	40	3	60	5	1
Successful preparation for students to be adult citizens	0	0	0	0	1	20	4	80	5	1

Table 3.7 displays the panelists' responses when examining descriptors related to the strength of virtual schools in achieving commonly stated educational goals. There are five descriptors. Of these descriptors, all were found to have a CVI value of 0.80. The average CVI for all descriptors is 0.80. These findings indicate that all descriptors are a valid measure of the question.

Table 3.7

Relevance of Descriptors Related to Virtual Schools Meeting Educational Goals

Descriptor	Not relevant		Somewhat relevant		Quite relevant		Highly relevant		Total	CVI
	n	%	*n*	%	*n*	%	*n*	%	*N*	
Socialization opportunities for children	0	0	1	20	1	20	3	60	5	0.80
Encouragement for students to participate in extracurricular activities	0	0	1	20	1	20	3	60	5	0.80
Development of strong student/teacher relationships	0	0	0	0	1	25	3	75	4	0.80
High quality academic preparation	0	0	1	20	1	20	3	60	5	0.80
Successful preparation for students to be adult citizens	0	0	1	20	0	0	4	80	5	0.80

Face Validity. Face validity asks whether or not the survey measures the effect that it is intended to measure. In this case, the researcher must know that the items taken at "face value" appear to measure the intended item (Nardi, 2018; Rubio et al., 2003). The survey is reviewed to determine whether it is reasonable and relevant to the study when determining face validity. The survey is judged on its clarity, readability, and style (Taherdoost, 2016).

For this study, the panel was provided with a copy of the survey and asked to evaluate it. Table 3.8 indicates that the panel agreed that the survey was clearly written, easy to read, and accomplished the intended purpose of the study: To determine the reasons why a school district would choose whether or not to implement a virtual education program.

Table 3.8

Evaluate Each of the Following Statements

Descriptor	Strongly disagree		Somewhat disagree		Neither agree nor disagree		Somewhat agree		Strongly agree		Total
	n	%	*n*	%	*n*	%	*n*	%	*n*	%	*N*
Survey is clearly written	0	0	0	0	0	0	1	20	4	80	5
Survey is easy to read	0	0	0	0	0	0	0	0	5	100	5
Survey is effective in accomplishing the purpose of the study	0	0	0	0	0	0	0	0	5	100	5

Survey Reliability

Reliability is the measure of consistency. It is an assurance that the outcomes will remain consistent through multiple administrations of the survey instrument (Abowitz & Toole, 2010; Cresswell, 1994; Morrison, 2019; Nardi, 2018, Taherdoost, 2016). The Adams study did not indicate a measure of reliability, although the researcher did note that the responses indicated an alignment between the motivating factors of program adoption and the perceived benefits of such programs. Additionally, the researcher discovered alignment between the reasons why districts chose not to offer a virtual program and the perceived limitations of the program (Adams, 2014). While the Adams study did not include statistical measurement of this phenomenon, it can be inferred that this finding provides a measure of reliability within internal consistency (Morrison, 2019; Taherdoost, 2016).

Internal consistency is the measure of reliability of one survey administered a single time. In this case, Cronbach alpha is most often used with ordinal variables to measure reliability (Brown, 1997; Morrison, 2019). For this study, questions with ordinal variables on the administrators' survey had a level of internal consistency as measured by Cronbach's alpha of .669. These questions on the

superintendents' survey had a higher level of internal consistency as measured by Cronbach's alpha of .722.

According to Laerd Statistics (n.d.), there is no valid statistical test to measure the reliability of nominal data. In this case, triangulation between all three data sources (superintendent survey responses, program administrator survey responses, and program administrator interviews) provided further validity and reliability to this study. For example, question 9 of each survey asked about the factors which motivate a district to begin or maintain a virtual program. Both superintendents and program administrators chose a need for educational options during the pandemic and an avenue for high school students to recover credits as the two most important factors. This was verified during the interviews in which participants also cited these reasons. This pattern was repeated with survey and interview questions regarding both the benefits and challenges of virtual education.

Interview Data Acquisition

Semi-structured interviews with willing superintendents and virtual program administrators provided qualitative data to address the final research question (regarding the impact of the COVID-19 pandemic on the perception of virtual programs) and further explain phenomena observed in the quantitative portion of the study. The semi-structured format allows for a dialogue that can provide additional knowledge and context for the observed phenomenon. This type of interview also allows the interviewer to guide the conversation by utilizing important questions to understand the content (Brinkmann, 2018).

The goal was to interview ten program administrators (representing 13% of identified administrators), five superintendents from districts that do not have virtual programs, and five superintendents from districts that offer virtual programs (representing a total of 3.45% of all Indiana public school superintendents). A question at the end of each survey requested participation in the

interviews. Ultimately, five program administrators and six superintendents participated in interviews. While this fell short of the initial goal, the program administrators still represented 13.9% of overall respondents (*N*=36), which was a larger percentage than anticipated. One superintendent of a corporation without a virtual program was interviewed, while five superintendents of corporations with virtual programs were interviewed. This represented 6.25% of respondents (*N*=96), a larger percentage than anticipated. Ten participants came from school districts that had enrollments of less than 6000. Only one participant came from a district of more than 10,000 students. Participants were also evenly distributed across the state: two came from the northeast quadrant of Indiana, two were from north-central Indiana, two were from northwest Indiana, three were from southeast Indiana, and two were from southwest Indiana.

Interview participants were interviewed in web-based meetings. Due to public health concerns, there were no in-person interviews. Interviews lasted approximately twenty minutes and were recorded for transcription. Once transcribed, the interviews were coded to determine themes that explain the phenomenon of virtual education growth. Interviews were also used to answer the final research question: In what ways did the COVID-19 pandemic impact the adoption and perception of virtual programs?

Interview Data Analysis

Interview data was examined using phenomenological analysis methods. Phenomenological analysis is utilized when the researcher is identifying themes among various subjects' interpretations of a particular phenomenon. This type of analysis is frequently employed in a variety of qualitative methodologies, including interview studies (Bhattacharya, 2017; Cooper et al., 2012; Finlay, 2014; Hycner, 1985). The primary benefit of phenomenological analysis is to allow the interviewees to provide context and background to their "lived experiences," allowing the researcher to more fully understand

the concept being studied (Alase, 2017). In the case of this research, the use of phenomenological analysis provided insight into the reasons behind the adoption of a virtual program and the impact of COVID-19 on virtual education in these districts.

Once the interviews were completed, the researcher transcribed the content and reviewed it for coding purposes. Coding was used to examine the data and determine recurring themes (Alase, 2017; Cresswell, 1994). This procedure aims to allow the researcher to review a body of interviews and extrapolate the common core ideas expressed by the subjects (Alase, 2017).

Chapter 4: Conclusions

The purpose of this mixed-methods sequential explanatory study was to explore the factors considered by Indiana public K-12 school corporations when choosing whether or not to implement a virtual education program; furthermore, this study examined the impact of the COVID-19 pandemic on the formation and perceptions of virtual programs. The study focused on seven research questions. These questions were used to understand the factors influencing the school corporation's decision whether or not to implement a program, the benefits and challenges of virtual education programs, and the differences in perspective between virtual program administrators and superintendents.

Descriptive Data

This study consisted of a survey of Indiana public school superintendents, a survey of Indiana public school virtual program administrators, and follow-up interviews with willing participants. The survey was completed by a variety of district-level leaders from across Indiana.

Table 4.1 illustrates the number of years the program administrators and superintendents had been in their current position. Most of the respondents indicated that they had been in their current role for one to five years. This includes 55.6% of program administrators (*N* = 36) and 58% of superintendents (*N* = 88).

Table 4.1

Years Served in Current Role

Role	1-5 years		6-10 years		11-15 years		More than 15 years		*N*
	N	%	*n*	%	*n*	%	*n*	%	
Program administrator	20	55.6	11	30.6	3	8.3	2	5.6	36
Superintendent	51	58	24	27.3	9	10.2	4	4.5	88

Table 4.2 depicts the types of school corporations in which these participants work: rural, suburban, or urban. The majority of respondents identified themselves as being part of a rural district. This includes 61.1% of program administrators (*N* = 36) and 62.5% of superintendents (*N* = 88).

Table 4.2

Description of District

Role	Rural		Suburban		Urban		*N*
	n	%	*n*	%	*n*	%	
Program administrator	22	61.1	7	19.4	7	19.4	36
Superintendent	55	62.5	20	22.7	13	14.8	88

Table 4.3 exhibits the total enrollment for each district represented in the survey. The largest number of participants, including 27.8% of program administrators (*N* = 36) and 35.2% of superintendents (*N* = 88), indicated that their districts had between 1001 and 2500 students during the fall of 2020.

Table 4.3

Student Enrollment in Your District in the Fall of 2020

Role	1-500		501-1000		1001-2500		2501-5000		5001-10000		10001-15000		More than 15000		*N*
	n	%	*n*	%	*n*	%	*n*	%	*n*	%	*n*	%	*n*	%	
PA	2	5.6	8	22.2	10	27.8	3	8.3	7	19.4	4	11.1	2	5.6	36
S	6	6.8	15	17	31	35.2	16	18.2	11	12.5	6	6.8	3	3.4	88

Note. PA = Program administrator; S = Superintendent

Table 4.4 illustrates the number of students in each participant's district that received free or reduced-price meals during the fall of 2020. The majority of participants, 48.6% of program administrators (*N* = 35) and 51.1% of superintendents (*N* = 88), responded that between 25.1% and 50% of their students participated in this program.

Table 4.4

Percentage of Students Receiving Free or Reduced-Price Meals in the Fall of 2020

Role	0-25%		25.1-50%		50.1-75%		75.1-100%		*N*
	n	%	*n*	%	*n*	%	*n*	%	
Program administrator	4	11.4	17	48.6	12	34.3	2	5.7	35
Superintendent	18	18.2	45	51.1	25	28.4	2	2.3	88

Table 4.5 depicts the year in which each represented district began its virtual program. Most indicated that their programs were created after 2019. This included 55.6% of program administrators (*N* = 36) and 62.5% of superintendents (*N* = 80).

Table 4.5

Year Virtual Program or School Began

Role	Before 2010		Between 2010 and 2015		Between 2015 and 2019		After 2019		*N*
	N	%	*n*	%	*n*	%	*n*	%	
Program administrator	2	5.6	10	27.8	4	11.1	20	55.6	36
Superintendent	3	3.8	17	21.3	10	12.5	50	62.5	80

Finally, Table 4.6 indicates the status of virtual education in each superintendent's school corporation. Of superintendents responding (*N* = 96), 87.5% indicated that their district currently had some form of virtual education.

Table 4.6

Descriptor of District's Virtual Program

Role	Currently offer some form of virtual education		Not offering and not considering virtual education		Not offering, but considering virtual education		Offered virtual education in the past, but not currently		*N*
	n	%	*n*	%	*n*	%	*n*	%	
Superintendents	84	87.5	4	4.2	2	2.1	6	6.3	96

Quantitative Results

Once collected, the survey responses were analyzed to address each research question. The first six questions were quantitative in nature.

What Factor(s) Influence an Indiana District's Decision to Adopt a Virtual Education Program in School?

Superintendents were asked their opinions of the importance of certain factors in impacting their district's decision to adopt a virtual education program. The frequency and percentage of answers were calculated to determine the significance of each factor. Most respondents indicated that parental concerns about the COVID-19 pandemic influenced the district's decision to adopt a virtual education program. Among these superintendents, 85.7% (*n* = 66) indicated that this factor was "important" or "very important" in the decision to adopt a virtual education program.

A need for credit recovery options for high school students was also cited by the majority of participants as a factor considered when deciding to adopt a virtual education program. Of the respondents, 70.7% (*n* = 53) indicated that the need for credit recovery was either “important'' or “very important” to their districts’ decisions. Finally, a desire to develop innovative instructional practices was identified as “important” or “very important” by superintendents (62.7%, *n* = 47).

Superintendents indicated three items were the least influential in the district’s decision to adopt a virtual education program. The factor identified least was the desire to replicate other districts’ programs. Among these educators, 68% (*n* = 51) said that replication of other districts’ programs was not considered, unimportant, or somewhat unimportant. Among superintendents, 63.5% (*n* = 47) indicated that recruitment of homeschoolers was not considered, was unimportant, or was somewhat unimportant. This was followed by the desire to raise district enrollment. This item was declared not considered, unimportant, or somewhat unimportant by 54.67% (*n* = 41) of superintendents. Table 4.7 details the superintendents’ responses to this survey item.

Table 4.7

Factors Considered in Adoption of Virtual Program

Item	Unimportant/not considered		Somewhat unimportant		Important		Very Important		*N*
	N	%	*n*	%	*n*	%	*n*	%	
Increase enrollment	29	38.67	12	16	14	18.67	20	26.67	75
Increase revenue	29	38.2	11	14.5	18	23.7	18	23.7	76
Develop innovative instructional practice	15	20	13	17.3	23	30.7	24	32	75
Recruit homeschool students	31	41.9	16	21.6	15	20.3	12	16.2	74
Replicate other districts' use of virtual education	34	45.3	17	22.7	17	22.7	7	9.3	75
Alternative for children with mental or physical health concerns	20	27	10	13.5	19	25.7	25	33.8	74
Alternative for children with behavioral concerns	27	37	12	16.4	16	21.9	18	24.7	73
Increased graduation rates	22	29.7	9	12.2	22	29.7	21	28.4	74
Credit recovery for high school Students	16	21.3	6	8	17	22.7	36	48	75
Parental concerns about the COVID-19 pandemic	10	13	1	1.3	5	6.5	61	79.2	77

Because virtual program administrators may not be aware of the initial reasons why their school corporation started a virtual program, they were asked a similar question to gauge the importance of maintaining a virtual program in their district. In this case, they rated each item on a seven-point Likert scale ranging from "strongly disagree" to "strongly agree." When presented with the statement "Virtual education is important in our district because it provides an option for parents who are concerned about the COVID-19 pandemic," all respondents (*N* = 33) indicated that they somewhat agreed, agreed, or strongly agreed with the statement. The following most popular statement was, "Virtual education is

important in our district because it provides an avenue for credit recovery for high school students." Within this question, 88.5% of respondents (*n* = 31) indicated that they somewhat agreed, agreed, or strongly agreed with the statement. The third-most-popular statement was, "Virtual education is important in our district because it provides an alternative option for children with mental or physical health concerns" (79.9%, *n* = 28).

Three statements were the most disagreed with among program administrators. The highest number of participants indicated that they strongly disagreed, disagreed, or somewhat disagreed with the statement for these items. The most disagreed with statement was "Virtual education is important in our district because it provides an alternative option for children with behavioral concerns" (20%, *n* = 7). Next was "Virtual education is important in our district because it is a way to recruit homeschool students to our district" (14.7%, *n* = 5). This statement was followed closely by "Virtual education is important in our district because other districts have successful virtual education programs" (11.7%, *n* = 4). Table 4.8 details the program administrators' answers to this question.

Table 4.8

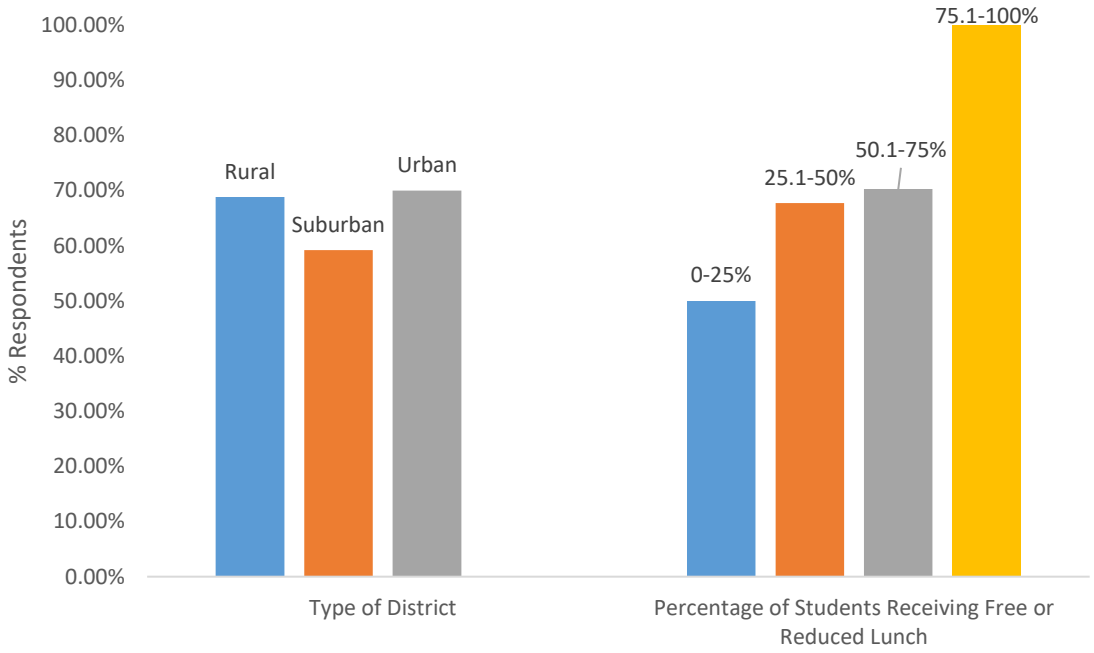
Motivating Factors to Maintain a Virtual Program

Item	Strongly disagree/ disagree		Somewhat disagree		Neither agree nor disagree		Somewhat agree		Agree/strongly agree		*N*
	n	%	*n*	%	*n*	%	*n*	%	*n*	%	
It increases enrollment.	2	5.71	1	2.86	7	20	10	28.57	15	42.86	35
It increases revenue.	2	5.7	2	5.7	9	25.7	8	22.9	14	40	35
It is an innovative instructional practice.	1	2.9	2	5.9	8	23.5	10	29.4	13	38.3	34
It is a way to recruit homeschool students to our district.	3	8.82	2	5.88	6	17.65	12	35.29	11	32.35	34
Other districts have successful virtual education programs.	3	8.8	1	2.9	10	29.4	7	20.6	13	38.3	34
It provides an alternative option for children with mental or physical health concerns.	1	2.9	1	2.9	5	14.3	11	31.4	17	48.5	35
It provides an alternative option for children with behavioral concerns.	3	8.6	4	11.4	3	8.6	12	34.3	13	37.1	35
It increases graduation rates.	3	8.6	1	2.9	7	20	6	17.1	18	51.4	35
It provides an avenue for credit recovery for high school students.	2	5.8	0	0	2	5.7	4	11.4	27	77.1	35
It provides an option for parents who are concerned about the COVID-19 pandemic.	0	0	0	0	0	0	5	15.2	28	84.8	33

As previously mentioned, both program administrators and superintendents indicated that the top two reasons for choosing to adopt or maintain a virtual program were a need to respond to the COVID-19 pandemic and a way to offer credit recovery for high school students. In reviewing combined subgroup data for both surveys, it was found that the need for credit recovery was expressed in similar proportions regardless of district type. Among rural educators (*n* = 77), 68.83% identified a need for credit recovery, while 59.26% of suburban educators (*n* = 27) and 70% of urban educators (*n* = 20) agreed. A review of subgroup data related to students receiving free or reduced-price lunch (FRPL) found that districts with a higher percentage of students in this category identified a need for credit recovery. Among districts with 0 – 25% of students receiving FRPL (*n* = 20), 50% identified a need for a credit recovery option. In districts with 25.1 – 50% of students receiving FRPL (*n* = 62), 67.74% indicated that this option was a need, while 70.27% of educators in districts with 50.1 – 75% of students receiving FRPL (*n* = 37) and 100% of districts with 75.1-100% of students receiving FRPL (*n* = 4) indicated the importance of a credit recovery option. Figure 4.1 illustrates these responses.

Figure 4.1

Importance of Credit Recovery Virtual Option Based on Subgroup

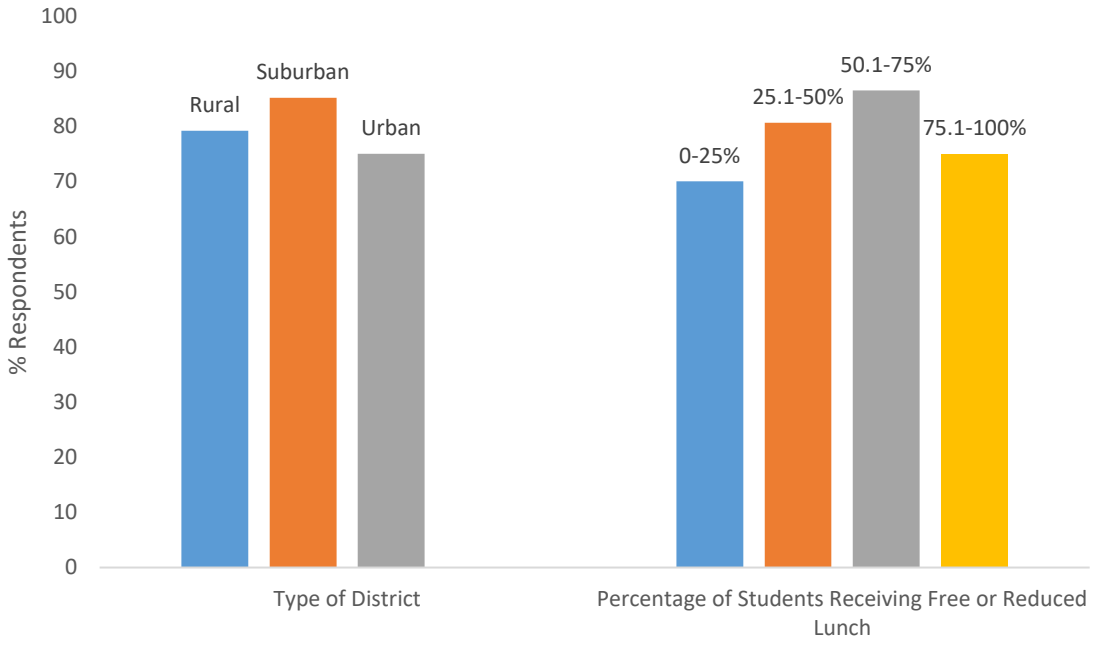


A review of the subgroup responses was conducted regarding the importance of an educational option during the COVID-19 pandemic. This review showed that most respondents in all subgroups believed that their program was either formed or maintained as a response to parent concerns about the pandemic. Among rural educators (*n* = 77), 79.22% identified this response, while 85.19% of suburban educators (*n* = 27) and 75% of urban educators (*n* = 20) agreed. A review of subgroup data related to students receiving free or reduced-price lunch (FRPL) found among districts with 0 – 25% of students receiving FRPL (*n* = 20), 70% identified a need for a response to parental concerns about the pandemic. In districts with 25.1 – 50% of students receiving FRPL (*n* = 62), 80.65% indicated that this option was a need, while 86.49% of educators in districts with 50.1 – 75% of students receiving FRPL (*n* =

37) and 75% of districts with 75.1-100% of students receiving FRPL (*n* = 4) indicated the importance of a response to parental concerns about COVID-19. Figure 4.2 illustrates these responses.

Figure 4.2

Importance of Response to Parental Concerns about COVID-19 Based on Subgroup



What Factor(s) Influence an Indiana District's Decision to Decline to Adopt a Virtual Education Program in School?

Superintendents were asked to indicate the status of virtual education in their district. Of the respondents, 12.5% (*n* = 12) indicated that their district was not currently offering virtual education. Of these, six respondents indicated that they had provided virtual education in the past but had discontinued the program.

Of those respondents whose corporations had previously offered virtual education, two indicated that they chose to discontinue due to a lack of district support. One superintendent cited a lack of community support. Two others said they discontinued the program because it did not meet their district's needs. Finally, one respondent wrote in an answer that indicated that they used virtual education during a COVID shut-down period but stopped the program when the schools reopened.

Four superintendents indicated that they are not offering virtual education and are not currently considering it. Two others indicated that they are not offering it but are considering offering it in the future. Two cited a lack of community support as the primary reason for not having a current virtual education program. Two superintendents cited a misalignment with the goals of the district. Two superintendents indicated that a lack of community support was a primary reason for not offering a virtual program. Finally, one superintendent indicated concerns about the effectiveness of virtual education.

Six other superintendents responded that they had offered virtual education in the past but did not currently offer a program. Two indicated a lack of district support, while one indicated a lack of community support and one mentioned a misalignment with district goals. Table 4.9 details these responses.

Table 4.9

District Factors to Decline to Adopt a Virtual Program

Item	*n*	%
Does not meet the goals of our district	4	38.36
Lack of community support	3	27.27
Lack of district support	3	27.27
Perceived ineffectiveness of virtual education	1	9.09
Other	1	9.09

What is the Difference in Perceived Benefits of Virtual Education in Indiana between Superintendents and Program Administrators?

Respondents were presented with a list of 17 potential benefits of virtual education and asked to select all that applied to their districts. Using SPSS, a chi-square test of independence was conducted between respondents' roles and perceived benefits of virtual education to determine the significance of the association. Except for two variables, all expected cell frequencies were greater than five: higher quality instruction than in traditional courses and maintaining enrollment during a pandemic. Cramer's *V* was also configured to determine effect size in each case. When reviewing Cramer's *V*, *V* = .10 indicates a small effect, *V* = .30 indicates a medium or moderate effect, and *V* = .50 indicates a large effect (Statology, 2020; Zaiontz, n.d.).

As seen in Table 4.10, both superintendents and program administrators most frequently cited the same three benefits: Maintaining enrollment during the pandemic, credit recovery for high school students, and learner convenience and flexibility. Most superintendents (90.1%, *n* = 73) and program administrators (88.6%, *n* = 31) indicated the benefit of maintaining enrollment during a pandemic. Credit recovery for high school students was seen as a benefit for 66.7% (*n*= 54) of superintendents and 77.1% (*n* = 27) of program administrators, while 61.7% (*n* = 50) of superintendents and 77.1% (*n*= 27) of program administrators perceived learner convenience and flexibility as a benefit of virtual education.

Table 4.10

Crosstabulation for Role and Perceived Benefits of Virtual Education

Benefit	Superintendent		Program Administrator		*N*
	n	%	*n*	%	
Financially efficient	25	30.9	18	51.4	43
Learner convenience and flexibility	50	61.7	27	77.1	77
Higher quality instruction	2	2.5	2	5.7	4
Offer difficult-to-staff courses	21	25.9	15	42.9	36
Accelerate students	32	39.5	21	60	53
Students with special needs	19	23.5	8	22.9	27
Expand course offerings	28	34.6	13	16	41
Enroll from outside district	23	28.4	17	48.6	40
Increase district enrollment	30	37	17	48.6	47
School choice option for in-district students	30	37	14	40	44
Access for rural learners	10	12.3	7	20	17
Student mental health concerns	31	38.2	18	51.4	49
Graduation rate	32	39.5	15	42.9	47
Student behavioral concerns	33	40.7	16	45.7	49
Credit recovery for high school students	54	66.7	27	77.1	81
Student physical health concerns	31	38.2	18	51.4	49
Enrollment during pandemic	73	90.1	31	88.6	104

Note. Superintendent *N* = 81; Program Administrator *N* = 35

The relationship between a respondent's role and the perceived benefits of virtual education was significant at the .05 level in three instances. There was a statistically significant association between the role and perception of virtual schooling as financially efficient, $X^2(1, N = 116) = 4.430$, $p =$

.035. In this case, the effect size was considered small to moderate (V = .20). There was also a statistically significant association between the participant's role and the perceived benefit of virtual education as an avenue to accelerate students and allow them to earn additional credits, $X^2(1, N = 116) = 4.137$, p = .042. This item also had an effect size considered small to moderate (V = .19). Finally, a statistically significant association was found between role and the belief in virtual education's benefit of allowing enrollment from outside the district, $X^2(1, N = 116) = 4.404$, p = .036. In this last instance, the effect size was considered small to moderate (V = .20).

There was no relationship between the respondent's role and other perceived benefits of virtual education. Table 4.11 contains the results of the chi-square test for independence for perceived benefits of virtual education.

Table 4.11

Chi-Square Results for Perceived Benefits of Virtual Education

Benefit	Pearson chi-square		
	Value	df	Asymptotic significance
Financially efficient	4.430a	1	0.035
Learner convenience and flexibility	2.602a	1	0.107
Higher quality instruction	.773c	1	0.379
Offer difficult-to-staff courses	3.273a	1	0.070
Accelerate students	4.137a	1	0.042
Students with special needs	.005a	1	0.944
Expand course offerings	.071a	1	0.790
Enroll from outside district	4.404a	1	0.036
Increase district enrollment	1.349a	1	0.245
School choice option for in-district students	.091a	1	0.763
Access for rural learners	1.145a	1	0.285
Student mental health concerns	1.734a	1	0.188
Graduation rate	.114a	1	0.736
Student behavioral concerns	.248a	1	0.619
Credit recovery for high school students	1.273a	1	0.259
Student physical health concerns	1.734a	1	0.188
Enrollment during pandemic	.063b	1	0.801

What is the Difference in Perceived Challenges of Virtual Education in Indiana Between Superintendents and Program Administrators?

Survey respondents were asked about their perceptions of challenges in virtual education. Using SPSS, a chi-square test of independence was conducted between respondents' roles and perceived challenges of virtual education to determine the strength of association. The following variables had expected cell frequencies of greater than five: staffing of virtual classes, student retention, excessive cost, professional development for staff, and ensuring the quality of curriculum and instruction. The remaining variables had either one or two cells with a frequency of less than five.

As seen in Table 4.12, three options (student engagement, ensuring the quality of curriculum and instruction, and staffing of virtual classes) were chosen most frequently by both superintendents and program administrators. Student engagement was seen as a challenge by 80.5% (*N* = 62) of superintendents and 97.1% (*N* = 33) of program administrators. Ensuring the quality of curriculum and instruction was designated as a challenge by 79.2% (*N* = 61) of superintendents and 85.3% (*N* = 29) of program administrators. Finally, 49.4% (*N* = 38) of superintendents and 50.5% (*N* = 17) of program administrators identified staffing of virtual classes as a challenge.

Table 4.12

Crosstabulation for Role and Perceived Challenges of Virtual Education

Challenges	Superintendent		Program administrator		*N*
	n	%	*n*	%	
Staffing virtual classes	38	49.4	17	50.5	55
State regulation and oversight	8	10.4	4	11.8	12
Lack of community support	3	3.9	5	14.7	8
Recruitment of new students	4	5.2	3	8.8	7
Student engagement	62	80.5	33	97.1	95
Student retention	26	33.8	8	23.5	34
Excessive cost	21	27.3	7	20.6	28
Professional development for staff	36	46.8	16	47.1	52
Staff retention	6	7.8	3	8.8	9
Ensuring quality of curriculum and Instruction	61	79.2	29	85.3	90

The relationship between a respondent's role and the perceived challenges of virtual education was significant at the .05 level in two instances. There was a statistically significant association between role and the perceived challenge of a lack of community support, $X^2(1, N = 8) = 4.121$, $p = .042$. In this case, the effect size was considered small to moderate ($V = .19$). There was also a statistically significant association between role and the perceived challenge of student engagement, $X^2(1, N = 95) = 5.230$, $p = .022$, with a small to moderate effect size ($V = .22$). There was no relationship between the respondent's role and other perceived challenges of virtual education. Table 4.4 illustrates the results of the chi-square test for independence.

Table 4.13

Chi-Square Results for Perceived Challenges of Virtual Education

Benefit	Pearson chi-square		
	Value	Df	Asymptotic significance
Staffing virtual classes	.004a	1	0.950
State regulation and oversight	.046b	1	0.830
Lack of community support	4.121b	1	0.042
Recruitment of new students	.526c	1	0.468
Student engagement	5.230b	1	0.022
Student retention	1.163a	1	0.281
Excessive cost	.559a	1	0.455
Professional development for staff	.001a	1	0.976
Staff retention	.034b	1	0.854
Ensuring quality of curriculum and instruction	.567a	1	0.451

In What Ways do Superintendents and Program Administrators Vary in Their Belief in the Strength of Traditional Schools or Virtual Schools to Achieve Commonly Stated Educational Goals?

Program administrators and superintendents were asked to rate the effectiveness of traditional and virtual schools in achieving commonly stated educational goals. These goals included: socialization opportunities for children, encouragement for students to participate in extracurricular activities, strong student-teacher relationships, high-quality academic preparation, and successful preparation for students in their future roles as adult citizens. Each goal was rated on a 5-point scale: 1 (ineffective), 2

(somewhat effective), 3 (effective), 4 (very effective), 5 (unsure). For the purpose of this study, the responses of 5 (unsure) were not taken into consideration.

When reviewed collectively, it was found that all participants, regardless of role, believed that traditional schools are at least somewhat effective in achieving all of the stated educational goals. Expressly, 100% of participants indicated a belief that traditional schools are effective or very effective in promoting the development of strong student-teacher relationships (*N* = 112) and providing high-quality academic preparation (*N* = 112). These findings are illustrated in Table 4.14 below.

Table 4.14

Respondents' Collective View of Traditional Schools and Educational Goals

Goal	Ineffective		Somewhat effective		Effective		Very effective		Unsure	
	n	%	*n*	%	*n*	%	*n*	%	*n*	%
Socialization opportunities for children	0	0	2	1.7	13	11.3	100	87	0	0
Encouragement for students to participate in extracurricular activities	0	0	1	0.9	18	15.9	94	83.2	0	0
Development of strong student/teacher relationships	0	0	0	0	19	17	93	83	0	0
High quality academic preparation	0	0	0	0	38	33.9	74	66.1	0	0
Successful preparation for students to be adult citizens	0	0	4	3.6	31	27.9	76	68.5	0	0

Frequency and percentages were calculated for program administrators' and superintendents' responses to this question. No participants identified traditional schools as ineffective in achieving any of the goals. Additionally, none of the participants selected "unsure" as their choice. Table 4.14 illustrates these findings for program administrators.

Table 4.15

*Program Administrators' View of Traditional Schools and Educational Goals (*N *= 35)*

Goal	Ineffective		Somewhat effective		Effective		Very effective		Unsure	
	n	%	*n*	%	*n*	%	*n*	%	*n*	%
Socialization opportunities for children	0	0	2	5.7	6	17.1	27	77.1	0	0
Encouragement for students to participate in extracurricular activities	0	0	1	2.9	11	31.4	23	65.7	0	0
Development of strong student/teacher relationships	0	0	0	0	10	28.6	25	71.4	0	0
High quality academic preparation	0	0	0	0	16	45.7	19	54.3	0	0
Successful preparation for students to be adult citizens	0	0	4	11.4	12	34.3	19	54.3	0	0

It is also worth noting that while some program administrators indicated that the strength of traditional schools might be somewhat effective, every superintendent indicated that traditional schools

were effective or highly effective in meeting every goal. Table 4.15 illustrates these findings for superintendents.

Table 4.16

Superintendents' View of Traditional Schools and Educational Goals

Goal	Ineffective		Somewhat effective		Effective		Very effective		Unsure		Total
	n	%	*n*	%	*n*	%	*N*	%	*N*	%	*N*
Socialization opportunities for children	0	0	0	0	7	8.8	73	91.3	0	0	80
Encouragement for students to participate in extracurricular activities	0	0	0	0	7	9	71	91	0	0	78
Development of strong student/teacher relationships	0	0	0	0	9	11.7	68	88.3	0	0	77
High quality academic preparation	0	0	0	0	22	28.6	55	71.4	0	0	77
Successful preparation for students to be adult citizens	0	0	0	0	19	25	57	75	0	0	76

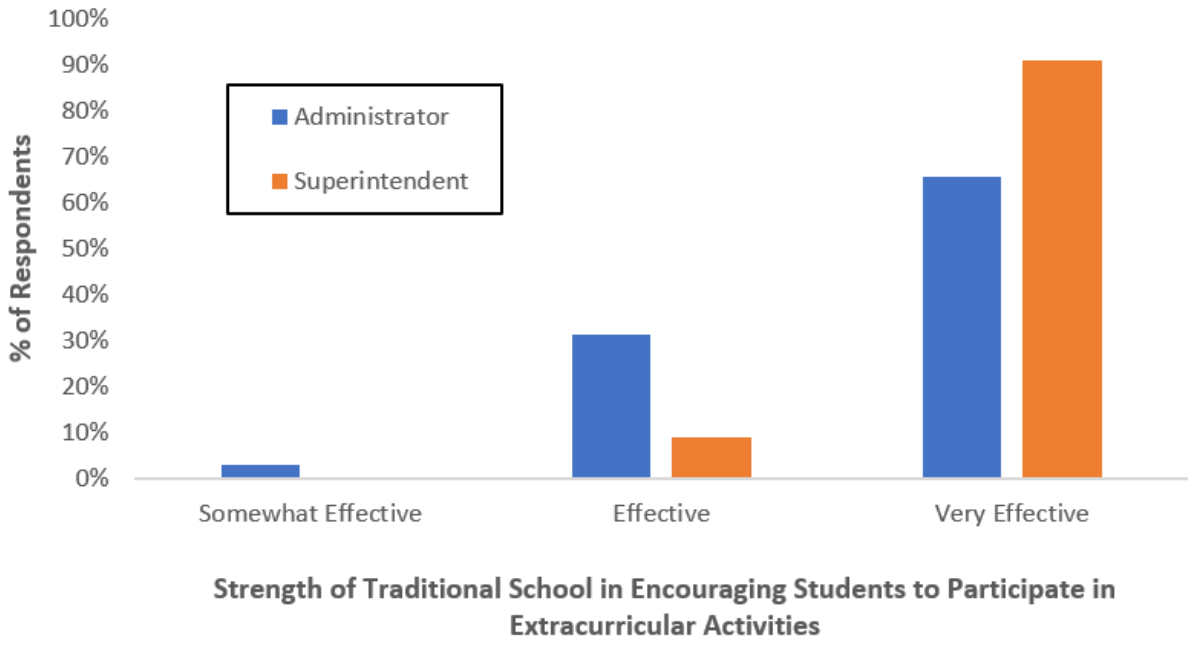
An independent sample *t*-test was conducted to compare the means of each group. The null hypothesis (H_0) was that there is no difference between the perceptions of the program administrators and the superintendents for the effectiveness of each goal to be met by traditional schools. In the case of each item, equality of variance was not assumed. The means of the groups for each goal indicated

that their belief in the strength of traditional schools to achieve these goals was “effective” to “highly effective.”

In two situations, the difference between the perceptions of program administrators and superintendents was significant at the .05 level. In the item related to encouragement for students to participate in extracurricular activities, there was a significant difference between the perceptions of program administrators (*N* = 35, M = 3.63, SD = 0.55) and superintendents (*N* = 78, M = 3.91, SD = 0.29); *t*(42.67) = 2.87, *p* = 0.006, Hedges’s *g* = 0.73. Figure 4.3 illustrates the perceptions of superintendents and program administrators for this item.

Figure 4.3

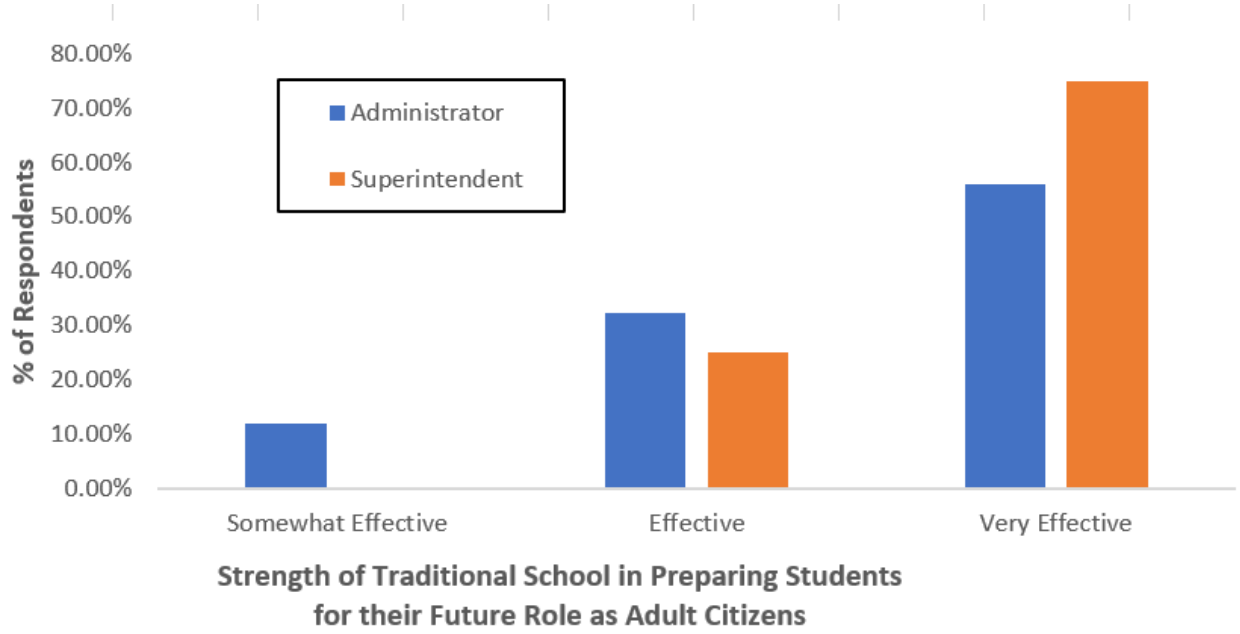
Traditional School Encouraging Participation in Extracurricular Activities



In the item indicating successful preparation for students in their role as adult citizens, there was a significant difference in the perceptions of program administrators (N = 35, M = 3.43, SD = 0.70) and superintendents (N = 76, M = 3.75, SD = 0.44); $t(46.62) = 2.51$, $p = 0.016$, Hedges's $g = 0.60$. Figure 4.4 illustrates the perceptions of superintendents and program administrators for this item.

Figure 4.4

Traditional School Preparing Students to Be Adult Citizens



In these two cases, the null hypothesis is rejected.

Hedges's g was calculated to determine effect size. This measurement is often used when the sample sizes of each group are different (National Institute of Standards and Technology, 2018). Typically, within the interpretation of Hedges's g, effect sizes are considered small (0.20), medium (0.50), or large (0.80). While these guidelines are not exact, one can satisfactorily determine the relative significance of the effect size (Lakens, 2013; National Institute of Standards and Technology, 2018). The

effect size was considered somewhat large in the item related to encouragement for students to participate in extracurricular activities (Hedges's g = 0.73). In the item indicating successful preparation for students in their role as adult citizens, the effect size was considered medium to large (Hedges's g = 0.60).

Three survey items were found to have no significant difference at the .05 level. Concerning the strength of a traditional school to provide socialization opportunities for children, there was not a significant difference in the perception of program administrators (N = 35, M = 3.71, SD = 0.57) and superintendents (N = 80, M = 3.91, SD = 0.28); $t(41.53) = 1.95$, $p = 0.058$, Hedges's g = 0.50. Likewise, the strength of a traditional school to develop strong student-teacher relationships did not indicate a significant difference in the perception of program administrators (N = 35, M = 3.71, SD = 0.46) and superintendents (N = 77, M = 3.88, SD = 0.32); $t(49.98) = 1.97$, $p = 0.055$, Hedges's g = 0.46. Finally, the strength of a traditional school to provide high-quality academic preparation also did not indicate a significant difference in the perception of program administrators (N = 35, M = 3.54, SD = 0.51) and superintendents (N = 77, M = 3.71, SD = 0.45); $t(59.99) = 1.72$, $p = 0.091$, Hedges's g = 0.36.

The participants were next asked about their belief in the strength of virtual schools to achieve each stated educational goal. When viewed collectively, regardless of the respondent's role, virtual education responses were more varied than those regarding traditional education. For example, 57.53% of all respondents (N = 113) indicated that virtual schools are ineffective in providing socialization opportunities for children. Additionally, 46.02% of respondents (N = 113) indicated that virtual schools are ineffective in encouraging students to participate in extracurricular activities. Unlike when asked about traditional schools, respondents indicated uncertainty about the ability of virtual schools to meet educational goals. For example, 4.46% of respondents (N = 5) indicated that they were unsure if virtual

schools can prepare students to be future adult citizens. These findings are illustrated in Table 4.17 below.

Table 4.17

Respondents' Collective View of Virtual Schools and Educational Goals

Goal	Ineffective		Somewhat effective		Effective		Very effective		Unsure	
	n	%	*n*	%	*n*	%	*n*	%	*n*	%
Socialization opportunities for children	65	57.5	36	31.9	9	8	1	.9	2	1.8
Encouragement for students to participate in extracurricular activities	52	46	38	33.6	16	14.2	5	4.4	2	1.8
Development of strong student/teacher relationships	23	20.5	51	45.5	26	23.2	10	8.9	2	1.8
High quality academic preparation	10	8.9	52	46.4	39	34.8	10	8.9	1	.9
Successful preparation for students to be adult citizens	24	21.4	44	39.3	32	28.6	7	6.3	5	4.5

Frequency and percentages were calculated for these questions. While program administrators rated traditional schools higher, they still indicated a belief in the ability of virtual schools to provide high-quality academic preparation and prepare students to be adult citizens. This is evidenced by 60% (*n = 21*) who rated virtual schools as effective or very effective in providing high-quality academic

preparation and the 54.2% (*n* = 19) who believe that virtual schools are effective or very effective in preparing students to be adult citizens. This data is illustrated in Table 4.18.

Table 4.18

*Program Administrators' View of Virtual Schools and Educational Goals (*N *= 35)*

Goal	Ineffective		Somewhat effective		Effective		Very effective		Unsure	
	n	%	*n*	%	*n*	%	*n*	%	*n*	%
Socialization opportunities for children	17	48.6	11	31.4	6	17.1	0	0	1	2.9
Encouragement for students to participate in extracurricular activities	13	37.1	12	34.3	5	14.3	4	11.4	1	2.9
Development of strong student/teacher relationships	5	14.3	10	28.6	11	31.4	7	20	2	5.7
High quality academic preparation	1	2.9	12	34.3	15	42.9	6	17.1	1	2.9
Successful preparation for students to be adult citizens	6	17.1	9	25.7	13	37.1	6	17.1	1	2.9

As illustrated in Table 4.19, superintendents had less confidence in the ability of virtual schools to achieve these educational goals. Only 36.4% (*n* = 28) believed that virtual schools are effective or highly effective in providing high-quality academic preparation for students. Likewise, only 26% (*n* = 20) believed that virtual schools could effectively or very effectively prepare students to be adult citizens.

Table 4.19

Superintendents' View of Virtual Schools and Educational Goals

Goal	Ineffective		Somewhat effective		Effective		Very effective		Unsure		Total
	n	%	*n*	%	*n*	%	*n*	%	*n*	%	*N*
Socialization opportunities for children	48	61.5	25	32.1	3	3.8	1	1.3	1	1.3	78
Encouragement for students to participate in extracurricular activities	39	50	26	33.3	11	14.1	1	1.3	1	1.3	78
Development of strong student/teacher relationships	18	23.4	41	53.2	15	19.5	3	3.9	0	0	77
High quality academic preparation	9	11.7	40	51.9	24	31.2	4	5.2	0	0	77
Successful preparation for students to be adult citizens	18	23.4	35	45.5	19	24.7	1	1.3	4	5.2	77

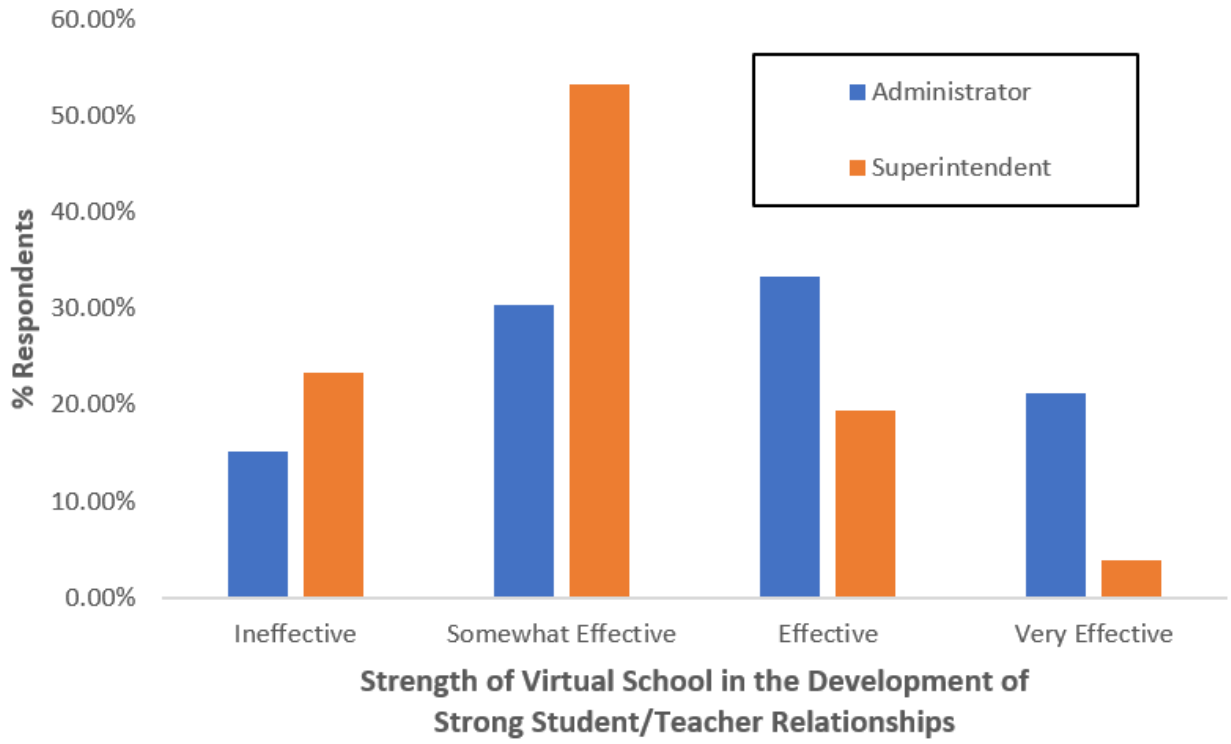
An independent sample *t*-test was conducted to compare the means of each group. The null hypothesis (H_o) was that there is no difference between the perceptions of the program administrators and the superintendents for the effectiveness of each goal to be met by virtual schools. Equality of variance was assumed for the following items: socialization opportunities for children, encouragement for students to participate in extracurricular activities, and high-quality academic preparation. Equality of variance was not assumed in the following items: development of strong student-teacher relationships and successful preparation for students in their future role as adult citizens. The mean for

the groups in each goal indicated that their belief in the strength of virtual schools to achieve these goals was “ineffective” to “somewhat effective.”

In three situations, the difference between the perceptions of program administrators and superintendents was significant at the .05 level. The item related to the development of strong student-teacher relationships displayed a statistically significant difference, with a medium to large effect size, between program administrators (*N* = 33, M = 2.61, SD = 1.00) and superintendents (*N = 77,* M = 2.04, SD = 0.77); *t*(49) = -2.915, *p* = 0.002, Hedges’s *g* = 0.67. Figure 4.5 illustrates the perceptions of superintendents and program administrators for this item.

Figure 4.5

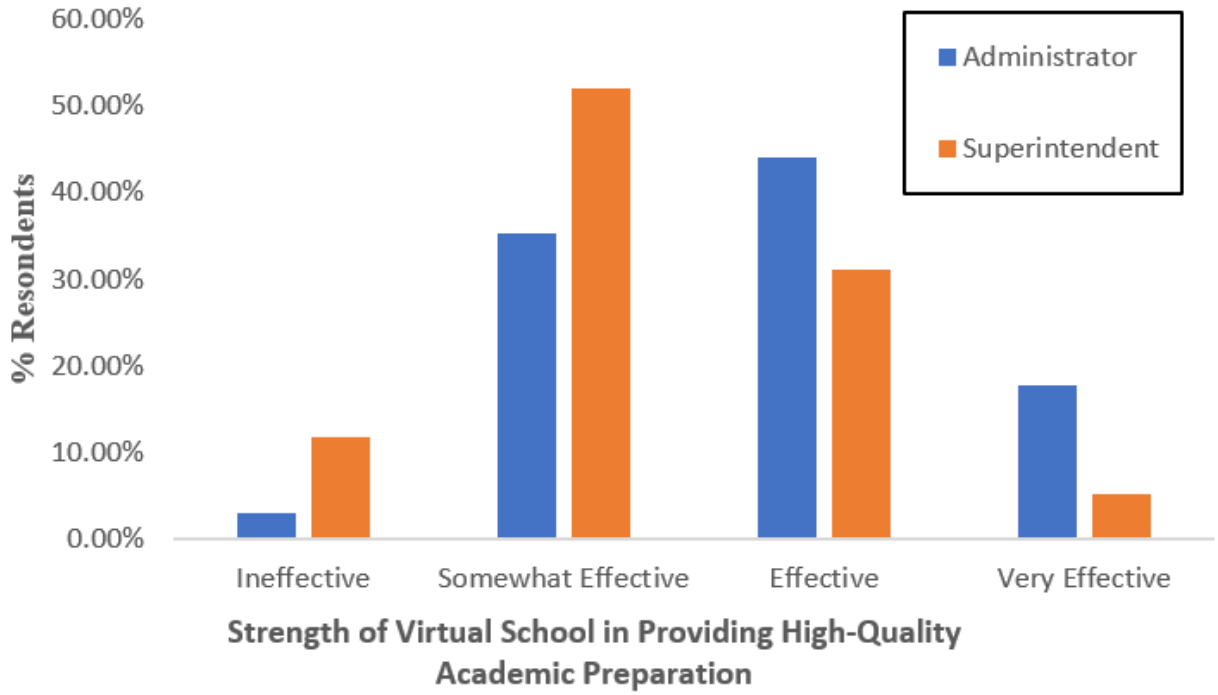
Virtual School Developing Strong Student/Teacher Relationships



The item indicating high-quality academic preparation also displayed a statistically significant difference at the .05 level, with a medium to large effect size, between program administrators (*N* = 34, M = 2.76, SD = 0.78) and superintendents (*N* = 77, M = 2.30, SD = 0.74); *t*(109) = -3.00, *p* = 0.003, Hedges's *g* = 0.62. Figure 4.6 illustrates the perceptions of superintendents and program administrators for this item.

Figure 4.6

Virtual School Providing High-Quality Academic Preparation

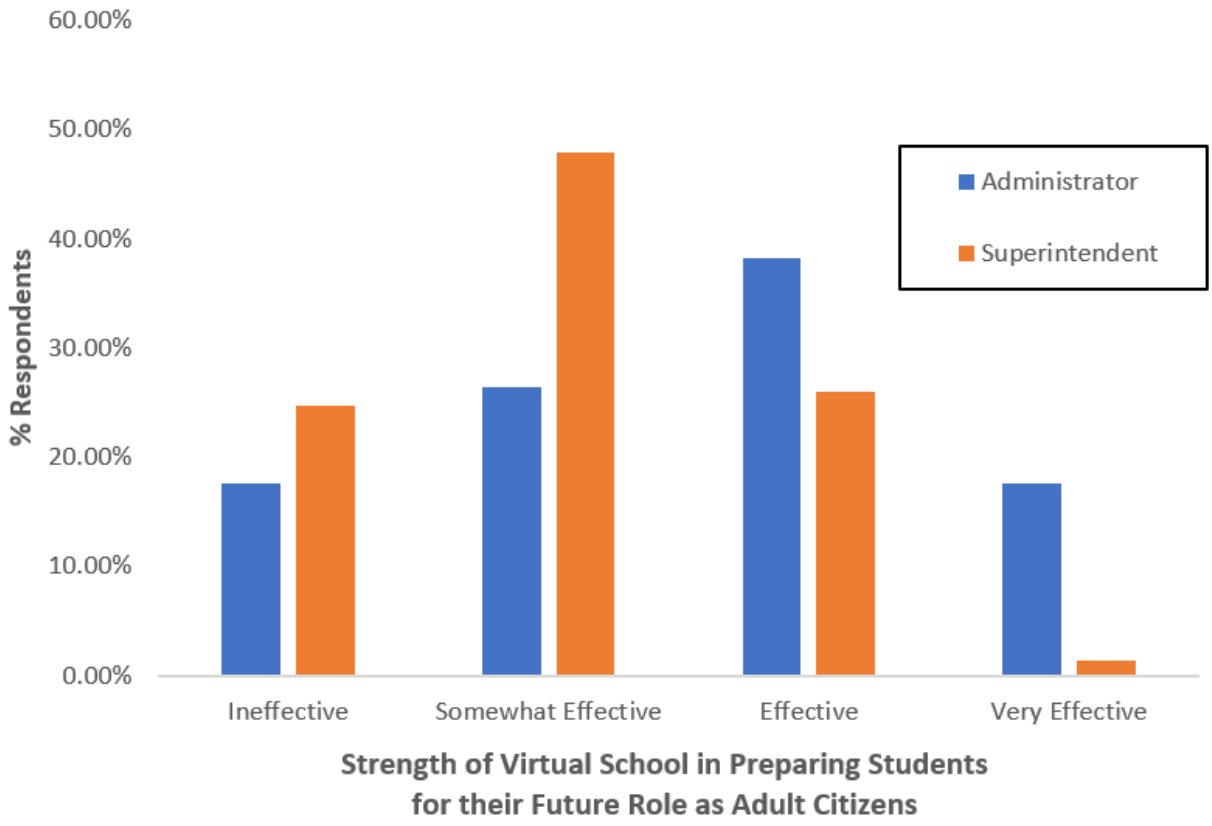


Finally, the item regarding successful preparation for students in their role as adult citizens yielded a statistically significant difference with a medium to large effect size between program

administrators (*N* = 34, M = 2.56, SD = 0.99) and superintendents (*N* = 73, M = 2.04, SD = 0.75) ; *t*(51.47) = -2.71, *p* = 0.009, Hedges's *g* = 0.62. In these three situations, the null hypothesis is rejected. Figure 4.7 illustrates the perceptions of superintendents and program administrators for this item.

Figure 4.7

Virtual School Preparing Students to Be Adult Citizens



Two survey items were found to have no significant difference at the .05 level. Concerning the strength of a virtual school to provide socialization opportunities for children, there was not a significant difference in the perception of program administrators (*N* = 34, M = 1.68, SD = 0.77) and superintendents (*N* = 77, M = 1.44, SD = 0.64); *t*(109) = -1.68, *p* = 0.096, Hedges's *g* = 0.35. Likewise, the

strength of a virtual school to encourage students to participate in extracurricular activities did not indicate a significant difference at the .05 level in the perception of program administrators (*N* = 34, M = 2.00, SD = 1.01) and superintendents (*N* = 77, M = 1.66, SD = 0.77); *t*(109) = -1.92, *p* = 0.057, Hedges's *g* = 0.40.

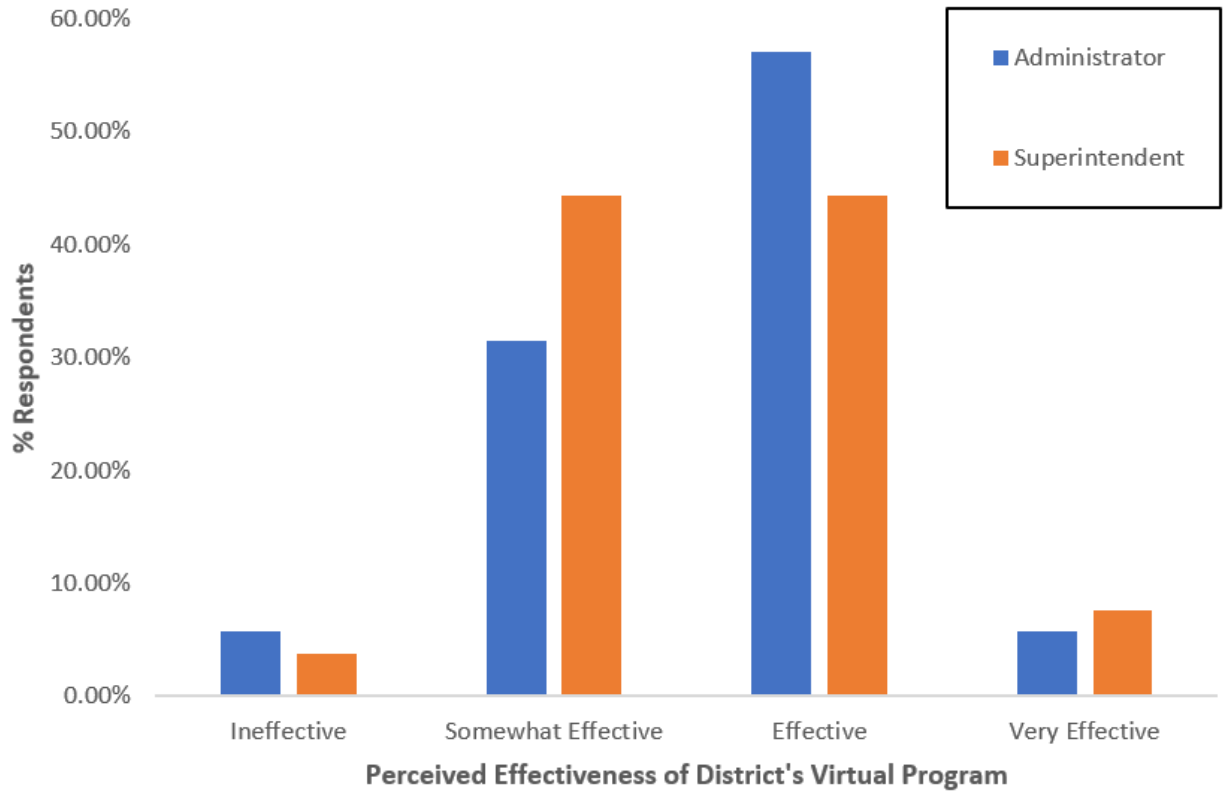
What is the Difference in the Perceived Effectiveness of Virtual Education Programs in Indiana Between Superintendents and Virtual Program Administrators?

Participants were asked to describe their perceptions regarding the effectiveness of their district's virtual education program. Seventy-nine superintendents and 35 program administrators responded. Their perceptions were rated on a four-point scale: 1 (ineffective), 2 (somewhat effective), 3 (effective), and 4 (very effective). A slightly higher percentage of program administrators (62.8%, *n*= 22) described their virtual programs as "effective" or "very effective" than superintendent participants (54.4%, *n* = 43). A higher percentage of program administrators also described their programs as "ineffective." This included 5.7% of program administrators (*n* = 2) as opposed to 3.8% of superintendents (*n* = 3).

An independent sample *t*-test was conducted to compare the means of each group. The null hypothesis (H_o) was that there is no difference between the perceptions of program administrators and superintendents regarding the effectiveness of their virtual programs. For this question, equality of variance is assumed. The program administrators perceived that the virtual programs in their districts are slightly more effective (M = 2.63, SD = 0.69) than superintendents (M = 2.56, SD = 0.69). The difference between these means was not statistically significant; *t*(-.51) = 112, *p* = .611. The effect size was also small (Hedges's *g* = 0.10). In this case, the null hypothesis is confirmed. Figure 4.8 illustrates the perceptions of superintendents and program administrators for this item.

Figure 4.8

Perceived Effectiveness of Virtual Program



Qualitative Results

The final research question was qualitative in nature. At the end of the survey, participants were asked if they would be willing to participate in a follow-up interview. These interviews were conducted during April 2021, with each session lasting approximately twenty minutes.

In What Ways Did the COVID-19 Pandemic Impact the Adoption and Perception of Virtual Programs?

Ten program administrators indicated that they would be willing to participate in interviews, while six of these participants scheduled an interview. Twelve superintendents agreed to participate, and five ultimately scheduled an interview. All interviews were conducted using Google Meet, an online

platform. The interviews were semi-structured. The researcher had a general list of questions that might be asked, although the interviews typically became a conversation about the participants' experiences during the 2020-21 school year. The conversations were primarily focused on the rapid expansion of their programs, the challenges that the participants witnessed during the year, and the successes they experienced. Finally, participants were asked whether virtual education met its desired purpose in their district.

Once completed, the interviews were transcribed and analyzed. Analysis began with the coding of the transcripts. Coding is the process of assigning a word or phrase that concisely describes or paraphrases a piece of data, allowing for the information to be sorted into categories or themes, to discover recurring patterns and identify the underlying concepts (Lichtman, 2013; Saldana, 2016). The researcher coded the transcripts in this study and found that categories naturally formed. Each of these categories identified a significant theme of the interviews: the impact of the COVID-19 pandemic on school corporations, its impact on teachers, and its impact on students.

Main topics were apparent within each theme. The first theme, the impact of the COVID-19 pandemic on school corporations, was composed of two major issues: changes in district plans and funding concerns. Several participants noted that while their district had a one-to-one initiative in which every student had access to their own electronic device, it changed drastically with the onset of the pandemic. One superintendent said, "We adopted a one-to-one initiative about six years ago and have struggled with implementation to a different degree. And then as the pandemic hit, we, you know, in many ways like others have been, (were) thrown into the deep end." Others discussed how their existing virtual programs changed during the pandemic. One program administrator noted, "Our virtual academy was never meant to be an elementary option, but with COVID, we made the decision to make

it a K-12 option." Participants also expressed concerns about diminished revenue caused by decreased enrollment during the pandemic. One superintendent remarked:

> You have, what, three or four virtual options through the state...and surrounding schools were offering the virtual options...We knew some parents were going to be hesitant to send their kids in person because of COVID. You know, we couldn't afford to lose a bunch of kids. So that's kind of what pushed at least us, and I think most districts, into that model.

The second theme, the impact of the COVID-19 pandemic on teachers, is evidenced in two separate topics: teacher stress and the growth of teacher technology skills. Many participants mentioned their perceived causes of teacher stress. Some participants identified the lack of teacher agency, or the ability to have a measure of control or input over the work that they do (Biesta et al., 2015) and a lack of professional development as a cause of stress. One superintendent said:

> Another factor, I think, is there's teacher stressors. No question. Nobody signed up for what we've been asking them to do. And I think in large part, they've done the best that they can. I think there's difficulties when teachers haven't had the type of professional development that they need not only to deliver the best instructional practice but then also assessment strategies.

One program administrator echoed these comments in saying:

> So a lot of our teachers were volun-told that they were going to be teaching this program because we had some interest from teachers over the summer that wanted to be in the program. But we had some who were pulled out of their classrooms- sometimes even three weeks into the school year- because of the way our program just

> exploded in the first few weeks. And so the teachers had a lot of adjustments to make with very little training.

While the COVID-19 pandemic caused teachers a certain amount of stress, interview participants were quick to note that the pandemic also moved the teachers to grow in their technology skills. One superintendent commented, “Our teachers have grown a lot. You know, I think it's forever changed how we'll approach e-learning... we've offered e-learning for years, but it looked a lot different...The teachers have grown a lot with our understanding and use of technology and blended learning.”

The final theme, the impact of the pandemic on students, was seen in three related interview topics: social-emotional learning, parental support, and student engagement. Some participants noted concerns about students’ mental health and the need for social-emotional support. One program administrator voiced concerns about a greater understanding of the importance of social-emotional learning. They stated:

> I think that the biggest thing that I'm seeing from that lens is that in virtual we're hyper-focused on academics everywhere and I keep trying to tell admin and teachers that are working with virtual families that you've got to look at it from a wider lens, like, I want you to look at it in school. How are we looking at behavioral things not writing a behavior plan? But look at it through a social-emotional lens. So I think that the biggest breakdown with virtual is that it's basically, we're providing a curriculum and then there's no connection to the holistic approach of a child.

Others mentioned the social-emotional struggles faced by students in a virtual environment. One superintendent commented, “What we're finding is that our secondary kids are really struggling

from a social-emotional standpoint and really having their world turned upside down and (we are) needing to provide those additional supports."

Participants also noted that the pandemic highlighted parental support. Participants agreed that parental support is key to student success in a virtual environment. One superintendent commented, "It's been relatively successful at the elementary level, right, in homes where there was the agency to support it. In homes where we don't get that type of parent or other type of support if it doesn't work well." One program administrator echoed this sentiment by saying, "If you didn't have a parent sitting with a child, especially in a primary grade, it doesn't work. You've got to have parents (who) almost have to be willing to homeschool as if this is a resource."

Another primary way the COVID-19 pandemic impacted students can be seen in their levels of engagement, with a specific focus on attendance. Participants mentioned their concern about students' lack of time management and self-discipline. One program administrator said, "For high school, it really is just about discipline, you know, and doing the homework, making sure that you have good time management." Another commented, "I'd say another issue is time management and being able to manage the tasks effectively in a different setting. We do as much virtual live as possible but the rest is self-paced, and being able to manage that time has been a struggle." One program administrator summed up many of the participants when they said:

> Certainly, the biggest problem is initiative and self-direction of the students. We have a whole lot of students who were doing just fine in the building. Some of them were even A-B students, but at the very least, they were passing classes and, and doing okay in the building. And then this year, going into virtual, they just did not do well academically and a lot of that was just attendance and engagement with the program.

Chapter 5: Conclusions

The purpose of this mixed-methods sequential explanatory study was to explore the factors that impacted Indiana K-12 public school corporations and their decisions whether or not to implement a virtual education program. This included the benefits and challenges of virtual education and the differences in perspective between program administrators and superintendents. Additionally, this study explored the impact of the COVID-19 pandemic on the formation and perceptions of these virtual programs.

The study was focused on seven research questions. The research design involved a population of 290 Indiana K-12 public school superintendents and 77 Indiana public school virtual program administrators. The educators were surveyed, and responses were collected using Qualtrics. In all, 38 program administrators and 96 superintendents responded to the survey. Six superintendents and five administrators participated in follow-up interviews.

Discussion

The findings of this study are presented through a summary of the results of each research question. For each question, the researcher will examine the outcome of the analysis and the connection with the current body of research.

What Factor(s) Influence an Indiana District's Decision to Adopt a Virtual Education Program in School?

The first research question provided a checklist from which the participants chose all items that described why their district decided to implement a virtual education program. Specifically, the superintendents were asked which items were considered during the decision-making process. In contrast, the program administrators were asked which factors motivated the maintenance of a virtual program in their district. When reviewing these findings, there was an explicit agreement between the

two groups regarding the two most-considered and three least-considered factors. The additional five factors were grouped closely together without significant differences.

Both groups overwhelmingly indicated that the ability to offer enrollment options during the COVID-19 pandemic was the most critical factor in choosing to have or maintain a virtual program. It should be noted that every program administrator who responded chose this option as an essential factor in maintaining a virtual education program in their district. While the COVID-19 pandemic is a relatively new crisis for communities, virtual education has long been considered a viable option for families of children with severe health concerns (Archambault & Kennedy, 2017; Martin, 2017). While researchers such as Martin (2017) highlighted the need for virtual education among special education students with health concerns, current research indicates that the COVID-19 pandemic only underlines this need for students and their families. Diliberti and Schwartz (2021) noted the exponential growth in virtual schools around the country since March 2020. They reported that 21% of district leaders surveyed indicated that parents were demanding they offer an entirely virtual educational option for the 2021-22 school year. Additionally, they found that 23% of schools surveyed were planning to continue fully virtual programs, which began after the pandemic (Diliberti & Schwartz, 2021). This research confirms the findings of this study that indicated that Indiana schools saw pandemic-related growth of virtual programs, as 82.9% of superintendents (*N* = 82) and 63.9% of program administrators (*N* = 36) indicated that their programs were created as a response to the health crisis.

When asked about factors that influenced the formation or maintenance of a virtual program, the second-most selected item among program administrators and superintendents was the need for credit recovery among high school students. The study confirmed this when the same participants were asked about perceived benefits of virtual education, and 77.1% of program administrators (*N* = 35) and 66.7% of superintendents (*N* = 81) chose it as a key benefit.

This finding is reflected in the current body of research. The desire to offer credit recovery options for struggling high school students has long been considered a benefit of virtual education due to the platform's flexibility. The results of this study were similar to others which identified credit recovery as an essential component of virtual education. Adams (2014) found that credit recovery was an important factor in the adoption of virtual programs in Kansas. In this case, she identified specific needs among both adult learners who were returning to school to finish their education, as well as current credit-deficient students. She found that the flexibility of the virtual platform was imperative to these groups. Borup and Kennedy (2017) identified several benefits that motivate stakeholders to consider virtual education. Among these was the opportunity for credit-deficient students to meet their graduation requirements.

When studying why school corporations chose to implement virtual education, it is important to examine the influencing factors they considered least important. In this study, both program administrators and superintendents indicated that the recruitment of homeschool students and a desire to mimic other districts were two of the least important factors. The current body of research identifies the recruitment of homeschooled students as a driving force behind some virtual education programs. Borup and Kennedy (2017) specifically identified a need for virtual education among homeschool parents who need support teaching their children a given subject area. In Kansas, Adams (2014) found that virtual program directors and superintendents overwhelmingly identified the need to recruit homeschool students to their districts through virtual programs. This is in stark contrast to the findings of this study, in which the recruitment of homeschooled students was considered a minor factor in school corporations' decisions to begin a virtual program. It is important to note that these studies were completed under very different circumstances in these cases. In Adams' 2014 study, educators in Kansas saw a large population of families who homeschool their children. This was not necessarily the case in

the current study, which was conducted during a pandemic in which educators' priorities were to meet the needs of their students during a health crisis.

The survey results of this study indicated that the need to mimic other districts' virtual programs was not a deciding factor in most corporations' decisions to implement virtual education. This finding was true among both program administrators and superintendents who responded to the survey. This finding was in contrast to other research that indicated this factor's importance. Adams (2014) found that educators in Kansas felt compelled to compete for students. They cited decreased educational funding in their state and the financial need to retain enrollment.

The findings of this study are also a divergence from research surrounding Institutional theory as a lens through which to examine the growth of virtual education. This theory examines how organizations, including educational institutions, adapt to change (Burch, 2007; Hanson, 2001: Meyer & Rowan, 2006). Institutional theorists posit that organizations can change in response to uncertain environments. When faced with a dilemma, organizations may look to similar entities to find solutions (DiMaggio & Powell, 1983; Lamb & Weiner, 2018). Organizations may also change in response to stakeholder expectations and the changes this causes in market demand (Meyer & Rowan, 1977; Meyer & Rowan, 2006). Each of these factors can feasibly be applied to the educational environment during the COVID-19 pandemic, in which school-mandated closings and parental demand caused a rise in the number of virtual schools (Molnar et al., 2021).

Finally, the survey results contrast this study's follow-up interviews with participants. The survey results indicated that a desire to increase revenue was the ninth most important factor for program administrators and the fifth most important factor for superintendents. Additionally, it is essential to remember that neither administrators nor superintendents chose a need to mimic successful districts as a reason to start or maintain a virtual program. However, during the interviews, participants mentioned

the need to retain students in a competitive environment. One superintendent summed up these responses by stating, “We have families that want this (virtual education). We have a legislature that continues to propose a model in which dollars follow the student, in which we're in competition for students, and if we don't provide it, then they go elsewhere to get it.”

It was evident in the interviews that this was an important factor, so it is somewhat surprising that this was not reflected in the survey results. This may lead to a conjecture that the question’s wording impacted participant answers on the surveys. While the question on the superintendent survey asked them to choose factors that led to the adoption of their virtual education program, it is feasible that there may have been different responses from those superintendents who were beginning new programs and those who were maintaining existing ones.

What Factor(s) Influence an Indiana District’s Decision to Decline to Adopt a Virtual Education Program in School?

Twelve superintendents indicated that their corporations did not currently have a virtual learning program. They were presented with a list of five factors and asked to choose all that applied to this decision. It is worth noting that the factors were somewhat related and left room for interpretation by the participants. For example, the option which stated that virtual education does not meet their district’s goals - the most commonly chosen factor - was selected by four superintendents. Without further clarification, it is impossible to determine which goals these superintendents had in mind. These goals may include higher graduation rates, often not seen in virtual schools (Molnar et al., 2019). The superintendents may also have been referring to a district’s goals of meeting the academic needs of students of poverty or special education students, neither of which group has historically experienced success in a virtual environment (Barbour, 2016; Woodward et al., 2015). A lack of community support

was selected by three superintendents, while three superintendents also chose a lack of district support.

Only one superintendent indicated that the lack of virtual education's effectiveness was a reason that their district chose not to have a virtual program. This outcome was surprising considering the amount of research dedicated to the lack of student success in a virtual environment. For the 2019-20 school year, The National Education Policy Center (NEPC) found that of 170 independent virtual schools across the country, only 36.2% were found to be rated as "acceptable" by their state. That study also found that virtual schools reported a 54.6% graduation rate in 2019-20, compared to the United States' national graduation rate of 85% (Molnar et al., 2021).

Virtual schools in Indiana have also demonstrated historically low federal and state accountability grades. In 2019, the last year in which Indiana schools received federal accountability ratings, only five virtual schools received ratings. Of these, four were found not to meet expectations (Indiana Department of Education, 2020b). When considering both national and state-specific evidence, it would be expected that district leaders would cite this lack of success when choosing not to implement a virtual program; instead, this factor was indicated by only one superintendent in this study.

What is the Difference in Perceived Benefits of Virtual Education in Indiana Between Superintendents and Program Administrators?

Participants were presented with a list of items and asked to select all they believed were benefits of virtual education. The relationship between a participant's role and perceived benefits was found to be significant in three instances: the perception of virtual schooling as financially efficient, the perceived benefit of virtual education as an avenue to accelerate students and allow them to earn additional credits, and the perceived benefit of allowing enrollment from outside the district. In each of

these cases, program administrators identified these as benefits at a greater rate than did superintendents.

It is of interest to note that program administrators identified nearly all of the other factors as a benefit more often than did superintendents. The only two exceptions were the potential benefits of expanded course offerings and the potential ability of virtual education to support students with special needs. This finding can lead to the inference that program administrators generally see more benefits to virtual education than the district superintendents. This would be expected since all program administrators work directly with virtual education daily, while some superintendents who responded do not currently have virtual programs in their districts.

Some of these results are supported by Adams' findings. First of all, Adams (2014) focused discussion of the benefits of virtual education on the program directors, rather than superintendents, in her state. She made this decision based on the fact that program directors have daily interaction with virtual education, while superintendents may not. This in itself makes it impossible to know how the superintendents' and program directors' roles may have influenced their decisions in the Adams study. However, that study did identify several student-centered benefits of virtual education, which are mirrored in the current study. This includes the need for credit recovery and an educational option for students with health concerns.

Within the current study, education during the COVID-19 pandemic and the need for credit recovery were the two most frequently chosen benefits by both program administrators and superintendents. This is expected since these groups also identified these as the two most prevalent factors contributing to adopting and maintaining a virtual education program. Learner convenience and flexibility was the third-most-identified factor by both groups. This finding is supported by a body of literature that identifies a need for student flexibility as a frequent benefit of virtual education (Adams,

2014). Archambault and Kennedy (2017) also identified several student-centered factors, including the need for credit recovery and students facing health-related issues. They posited that this underlies a demand for education that cannot be met in a traditional environment, but that is only possible through virtual learning.

The least chosen factor was that which identifies virtual education as a source of higher-quality instruction. This finding was to be expected. It could reflect the lack of success found nationwide and in Indiana's virtual schools (Indiana Department of Education, 2020b). It could also reflect some teachers' difficulties in adjusting to a virtual environment. Hawkins et al. (2012) found that teachers often struggle with the new role they play in a virtual classroom, defined as the difference between presenting information and teaching in a traditional setting, compared to the facilitator role they adopt in a virtual environment. Additionally, they found that teachers struggle with feeling disconnected from their students and disconnected from their colleagues. Finally, this finding may be indicative of the difficulty teachers have in motivating virtual students. Kim et al. (2015) reported the importance of motivation among virtual students, including the need for effort regulation and self-efficacy, which is often not seen in low-level learners.

What is the Difference in Perceived Challenges of Virtual Education in Indiana Between Superintendents and Program Administrators?

Participants were presented with a list of items and asked to select all that they believe are challenges of virtual education. The relationship between a participant's role and perceived challenges was found to be significant in two instances: the perceived challenges of a lack of community support and student engagement. It is expected that the lack of community support may be perceived differently based upon a participant's role in the district; however, this study found that superintendents were less likely to consider a lack of community support a challenge to virtual

education. This is surprising considering that superintendents are a school corporation's figurehead in the community (Weiss et al., 2014). For example, Zuckerman (2020) found a need for superintendents to serve as an intermediary between schools and outside influences, such as accountability measures, and as a liaison with the community due to the superintendents' more flexible schedules.

On the other hand, while both groups acknowledged a significant challenge in student engagement, program administrators found it more problematic than superintendents did. This is expected since program administrators have more direct contact with teachers and students.

It is interesting to note that the top five identified challenges were the same for both superintendents and program administrators when presented with ten potential challenges. These challenges included (in order of most frequently chosen): student engagement, ensuring the quality of curriculum and instruction, professional development for staff, student retention, and excessive cost. Both student engagement and quality of curriculum and instruction were cited by more than 79% of respondents, while the next most frequently chosen item, professional development for staff, as mentioned by 50% of respondents.

A large body of research supports these top concerns. The challenge of student engagement is noted frequently in the existing literature. Student engagement may be seen through their motivation, attendance, or sense of self-efficacy. For example, Shea and Bidjerano (2010) noted the connection between a student's motivation, self-efficacy, and effort regulation, any of which can impact student engagement and success. Adams (2014) also found that engaging and motivating students was challenging, which may be viewed in tandem with the challenge of ensuring and monitoring student attendance. The National Education Policy Center (NEPC) even challenged the notion that student engagement was easily defined, with different states choosing different metrics to gauge this factor, be it task completion, contact with a teacher, or another measure (Molnar et al., 2021).

Ensuring quality curriculum and instruction was the second-most selected challenge by survey participants. This was expected since participants also identified high-quality instruction as the least acknowledged benefit of virtual education. This is a concern expressed by others in this field. The NEPC cites the sheer amount of online curricula and providers as a challenge in ensuring the quality of materials chosen for virtual instruction (Molnar et al., 2021). The NEPC also expressed concerns with the preparation and qualifications of virtual teachers. They noted that the shift to online learning during the COVID-19 pandemic highlighted the fact that many teachers were unprepared to teach in a virtual environment. The NEPC also found that virtual schools across the country were staffed by part-time teachers at a greater rate than traditional schools. Finally, they noted that the difference between synchronous and asynchronous environments makes it difficult to adequately express the characteristics of an effective virtual teacher (Molnar et al., 2021).

In What Ways do Superintendents and Program Administrators Vary in Their Belief in the Strength of Traditional Schools or Virtual Schools to Achieve Commonly Stated Educational Goals?

Program administrators and superintendents were asked to rate the effectiveness of traditional and virtual schools in achieving these commonly stated educational goals: socialization opportunities for children, encouragement for students to participate in extracurricular activities, strong student-teacher relationships, high-quality academic preparation, and successful preparation for students in their future roles as adult citizens. The participants were first asked about the strength of traditional schools in meeting these goals.

When responses were reviewed based on the participant's role, the difference between the perceptions of program administrators and superintendents was significant in two situations: the strength of traditional schools in encouraging students to participate in extracurricular activities and successfully preparing students in their role as adult citizens.

Next, the participants were asked about the strength of virtual schools to achieve the same commonly stated educational goals. In three situations, the difference between the perceptions of program administrators and superintendents was significant: the strength of virtual schools to promote the development of strong student-teacher relationships, provide high-quality academic preparation, and successfully prepare students for their role as adult citizens.

When reviewed collectively, a strong tendency toward belief in the effectiveness of traditional schools is observed, regardless of the participant's role. Respondents indicated that traditional schools were somewhat effective, effective, or very effective in their ability to meet all of the educational goals listed. No participant indicated that they were unsure about the traditional schools' ability to meet these goals, nor did any participant indicate that traditional schools were ineffective in achieving the goals. Conversely, the body of participants showed less confidence in the ability of virtual schools to meet the educational goals. They felt most strongly about virtual schools' ability to provide high-quality academic preparation; however, only 43.75% of respondents believed that virtual schools are effective or very effective in these areas.

When the responses were disaggregated based on role, the results indicated that superintendents had more belief in the ability of traditional schools to meet student needs. At the same time, program administrators felt more strongly than the superintendents about the ability of virtual programs to meet them. This is not surprising, considering program administrators interact with virtual education every day and are focused on making virtual education solid and effective in their districts. Additionally, when previously asked about the perceived benefits of virtual education, the program administrators in this study consistently saw more advantages than did superintendents.

Overall, both program administrators and superintendents rated traditional schools higher than virtual schools in their ability to achieve educational goals. Program administrators, however, rated each

area higher for virtual schools than did the superintendents. This finding is similar to Adams' (2014), who reported that program directors also rated virtual schools higher than did the superintendents while noting that the program directors still rated virtual schools significantly lower than they did traditional schools.

What is the Difference in the Perceived Effectiveness of Virtual Education Programs in Indiana Between Superintendents and Virtual Program Administrators?

Survey participants were asked to describe their perceptions regarding the effectiveness of their own district's virtual education program. Although the difference between perceptions was not significant, the program administrators viewed the virtual programs in their districts as slightly more effective than did superintendents. In this case, it was found that the participant's role does not significantly impact their perception of the effectiveness of their virtual education program.

The current body of research indicates that virtual programs are typically somewhat ineffective (Ahn & McEachin, 2017; Hart et al., 2019; Miron et al., 2018). Molnar et al. (2021) found that during the 2019-90 school year, only 50.7% of district-run virtual schools nationwide received an acceptable score from their states' accountability ratings. While this is so, it is not surprising that Indiana program administrators and superintendents may still identify their programs as effective. In 2020, the Indiana Department of Education identified eleven virtual schools in the state. Of these, only three received a state accountability grade: two received a grade of C, and one received a grade of D (Indiana Department of Education, 2020a). The last year that federal accountability ratings were issued was 2019. Only one Indiana virtual school received the rating of "approaches expectations." Four schools received a rating of "Does Not Meet Expectations." The remaining schools were not rated. This is in stark contrast to the 53.7% of other Indiana public schools that received a federal rating of "meets expectations" or "exceeds expectations" (Indiana Department of Education, 2020b). The majority of

virtual programs in Indiana are not considered full, standalone schools; rather, they are programs contained within the district. If this is the case, the survey participants may not have identified themselves as failing while understanding that virtual schools, in general, may not meet student needs.

In What Ways Did the COVID-19 Pandemic Impact the Adoption and Perception of Virtual Programs?

Survey participants were invited to participate in a follow-up interview with the researcher. Six superintendents and five program administrators participated in interviews. All interviews were conducted in April 2020, near the end of the first full school year of the COVID pandemic. Throughout the interviews, it became apparent that COVID-19 had significantly impacted school districts and their approaches to virtual education. Each interview subject had insights into how the pandemic affected their views of virtual education and their district. Three significant themes surfaced during the interviews: the impact of the COVID-19 pandemic on school corporations, the impact of the COVID-19 pandemic on teachers, and the impact of the COVID-19 pandemic on students. In the spring of 2020, one may have expected these themes, as well as the insights they produced.

Participants discussed how the COVID-19 pandemic impacted their corporations, including the haste in which they changed their technology plans and virtual approaches. One superintendent commented, “The move to virtual for 20- 21 was pandemic specific, and I think we wanted to provide flexibility for our families to always have a choice. And I think that we've been able to do that.” This was a typical response by many participants. While some districts already had a one-to-one initiative in place in which all of their students had individual devices, others had to create such a program quickly. As one program administrator said, “Prior to COVID we were not even one-to-one yet. We were creating one-to-one. We quickly accelerated our one-to-one.” While the final tally of 2020-21 virtual schools in Indiana and the United States was not available at the time of this study, it is undisputed that school districts across the country experienced similar growth to that in Indiana. This is evidenced by a RAND

Corporation study which found that 26% of the districts they surveyed planned to have a virtual school for the 2021-22 school year. This is an increase from 3% of districts that had such a program before the pandemic (Diliberti & Schwartz, 2021).

Participants also discussed the economic importance of maintaining enrollment, which was more difficult during the pandemic. One program administrator noted:

> One of our biggest issues that we have is that we were already projected to have a declining enrollment within the district. And so now, due to COVID, I fear that if we don't keep it (virtual education) in some way shape or form, we're gonna lose some more students. Even if it's five or six more students, that's gonna be even, that's gonna be harder on us because we were already projected to lose. So even those five or six students are gonna have an impact.

The fear of losing students and the need to maintain the district's enrollment are not new for educators. While not amid a pandemic, Adams (2014) still found that superintendents and virtual program directors in Kansas expressed a similar concern. She noted the need for virtual programs to allow districts to compete in a market defined by decreased school funding in Kansas.

Even after the pandemic, some participants in the current study pointed out that there will still be a need to maintain a virtual program to vie for students. They noted that this is in response to the current political climate in Indiana. One superintendent said:

> We have a legislature that continues to propose a model in which dollars follow the student, in which we're in competition for students, and if we don't provide it, then they go elsewhere to get it. So, we feel that we're compelled to explore these options and see if we can deliver for our community.

One superintendent interviewed succinctly explained the formation of their district's virtual program during the pandemic and their perceived need to continue it. They said:

> The move to virtual for 20- 21 was pandemic specific and I think we wanted to provide flexibility for our families to always have a choice. And I think that we've been able to do that. So, from that standpoint, yes, I do think that we accomplished our goal. As we move forward and explore virtual options for 21-22 and beyond that, those are not pandemic-specific. That is based on the premise of school choice and personalization and options that they're looking for students, that whether or not we can deliver for our community.

In addition to the impact on school corporations themselves, interview participants also mentioned ways in which the teachers were affected by the pandemic. While there was a level of stress, there was also a sense of pride in the skills that teachers had gained. Several participants mentioned growth in their staff. One superintendent said, "The teachers have grown a lot with our understanding and use of technology and blended learning." Another pointed out that "teachers were able to be innovative, creative, adaptive, agile, all those things, and in terms of making it work."

While respondents mentioned the gains, they did point out the difficulties caused by a deficit in appropriate professional development. One program administrator noted, "The teachers had a lot of adjustments to make with very little training. Even the ones that have been in the full-time, and so we didn't get much training on the actual platform that we're using."

One superintendent said,

> When we implemented one-to-one or gave student devices...we did not spend ample time with professional development for teachers. We had not had a good established

> standardized, viable curriculum across grade levels. Everybody was doing something a little bit different in every classroom. And that's still the case to some degree.

These are sentiments echoed throughout the current body of research on virtual education (Adams, 2014). Molnar et al. (2021) identified several professional development topics that should be addressed with virtual teachers, including the ability to analyze data in a virtual environment, student assessment, and instructional differentiation, among others. They also assert that most virtual educators are ill-prepared to meet these challenges. Barbour et al. (2018) also addressed this issue while suggesting the need for a policy requiring professional development to train teachers effective strategies and models in a virtual environment. They further suggested that these measures be paired with an understanding of a virtual teacher's unique responsibilities and a subsequent adjustment of teacher evaluation tools.

The final theme that surfaced during the interviews dealt with the impact of the COVID-19 pandemic on students and their families. This included struggles with student attendance, engagement, and even time management. As one program administrator pointed out, students were "struggling with engagement or struggling with focus or struggling with having to multitask." Another virtual administrator mentioned that "Going into virtual, they just did not do well academically, and a lot of that was just attendance and engagement with the program."

Adams (2014) pointed to these challenges as well. She found that monitoring and ensuring student attendance were a challenge to virtual educators in Kansas, particularly those who taught in an asynchronous environment. Additionally, she noted that many of her study participants noticed that families with truancy issues were drawn to virtual education to avoid the consequences of their actions.

Participants in the current study noted the social-emotional challenges faced by students who entered virtual education during the pandemic. One program administrator noticed students' difficulty

in the absence of interaction with their classmates. They said, “They (the students) also struggle with being able to make those personal connections and being able to talk to their peers more in an unstructured setting.” Yet another superintendent simply said, “What we’re finding is that our secondary kids are really struggling from a social, emotional standpoint.”

The emotional health of virtual students is a long-standing concern of educators. Participants in Adams’ (2014) study noted the lack of social interaction among virtual students, causing a sense of isolation among these children. These educators also mentioned the difficulty in developing essential relationships between students and their teachers. Dikkers (2018) also noted the increased difficulty of creating these relationships within all virtual environments, especially those asynchronous. She underlines the need for intentional opportunities for students to interact not only with their teacher but also with one another.

A final frequently-mentioned, student-related topic was the need for parental involvement in a virtual environment. The sheer number of families involved in virtual education during the pandemic highlighted the importance of this support. One program administrator pointed to the academic consequences of a lack of parental involvement. They said, “It’s that issue of the students, especially the older students who maybe don’t have as many supports or the parents that are not keeping on top of them as much. There certainly is a huge number of them that are struggling academically.” Another superintendent said of their program, “It’s been relatively successful at the elementary level in homes where there was agency to support it. In homes where we don’t get that type of parent or other type of support, it doesn’t work well.” This was reiterated by a program director who said, “If you don’t have a parent sitting with the child, especially in a primary grade, it doesn’t work.”

The current body of research supports the issue of parental engagement. Borup and Kennedy (2017) addressed this concern by noting that virtual education provides an opportunity for parents to

engage with their children and their education in a way that is impossible in a traditional school. They acknowledged, however, that this is often difficult to achieve due to a parent's time constraints and their lack of familiarity with an online platform. Adams (2014) reiterated the importance of parental involvement as key to a student's success, yet noted that many parents fail to understand the structure of a virtual classroom and may believe that it is easier for students than a traditional school.

It should be noted that among all of the interviews conducted, one superintendent acknowledged that their district has never had a virtual program, and they have no intention of developing one. This superintendent came from a rural school district that could social distance their relatively small student population throughout the year. As a result, they remained in-person for the duration of the 2020-21 school year. When asked why this district would not consider a virtual education program, the superintendent cited many of the challenges seen in other interviews, such as difficulty building student-teacher relationships and increased teacher stress. They also simply stated that they did not feel that virtual education is as effective as face-to-face teaching. When asked about remaining open during the pandemic, they responded that they would remain face-to-face "if we can do it in any way that's defensible and is reasonable because we feel like that connection between the student and teacher in person is the most critical thing...It's about building relationships, and we're their biggest advocates. It's very hard to do that unless they're here with us." They also believed that a virtual classroom was subpar to a traditional environment. They said, "We don't believe that it's the same. There's not a replacement for this eye-to-eye. While it (virtual) closely approximates it (traditional), it doesn't replace it."

Notably, these interviews took place before the onset of the Delta variant of COVID-19. This variant caused cases to rise in schools across the country. By September 7, 2021, more than 17,000 student COVID cases had been reported for the 2021-22 school year (Herron, 2021), and by September

19, 2021, two thousand schools had closed down due to the variant (Young & Querolo, 2021). By October 25, 2021, 37,934 student cases had been reported, surpassing the total 35,774 student cases reported in Indiana for the entire 2020-21 school year (Slaby, 2021). With hindsight, it is apparent that COVID was not dying out at the end of the 2020-21 school year. It is reasonable to assume that the spike in cases may have caused many of these participants to change their plans around virtual education.

Limitations of the Study

Many of the study limitations came from the fact that the COVID-19 pandemic began after the study was designed. As a result of the pandemic, many school corporations in Indiana began new programs or accelerated the ones that had already been planned. This growth was exceptionally rapid and may or may not be maintained in the coming years.

One limitation of the study is that there is no comprehensive database of virtual programs in the state of Indiana. While there is a 2018 list of virtual schools, there is no database of districts with programs within traditional schools. Additionally, the newness of the COVID-related programs meant that districts had various understandings of the definition of a virtual program and may or may not have had a dedicated program director in place.

Other limitations derived from the population which responded to the survey and interview request. For example, a disproportionate number of respondents were from rural districts. The National Center for Education Statistics reported that 27.9% of students were enrolled in rural schools during the 2015-16 school year, the year in which the most recent statistics are available (Selected statistics, n.d). Conversely, 62.09% of respondents to this study (N = 124) indicated that they are located in a rural district. This causes a disproportionate representation of the viewpoints of educators in rural areas while limiting the impact of those in urban or suburban areas. Additionally, 6.25% of superintendents indicated that their districts did not currently offer a virtual education program, while only one of these

individuals agreed to be interviewed for this study. As a result, the qualitative data garnered from the interviews include very little insight from those districts that do not offer virtual education.

A final limitation is the self-reported nature of the data. This could cause unintended bias in participants' answers and a lens of emotion that the participants may have felt at the end of a challenging school year. This was observed during the interviews when the conversation tended toward discussion of the impact of COVID on school districts. As such, an opportunity to explore non-COVID responses was missed.

Implications for Practitioners

Virtual education has grown considerably in recent years. The COVID-19 pandemic spurred the growth of virtual programs to levels never seen before in Indiana's public schools. As a result, this study has significant implications for practitioners, particularly public school superintendents and program administrators. First and foremost, this study examines the scope of virtual education during the 2020-21 school year. The excessive growth experienced during this time underlines the need to examine these programs and make them as effective as possible. The expansion also points to the need for legislation and policy to ensure the quality of both virtual programs and the educators that teach in them.

To better meet the needs of their students, practitioners must understand the factors behind the growth of virtual education and the reasons why schools need these. In the case of this study, health concerns surrounding the COVID-19 pandemic were the primary reason schools needed virtual programs. In understanding the reason behind the need, both superintendents and program administrators can better design a program to support students and families. For instance, students enrolling in a virtual program because of a health crisis may not be invested in the virtual program. They may lack the will to engage and the knowledge of the technology required for virtual school.

Understanding this will help practitioners gear their instructions and orientation toward this type of student.

This research identifies challenges that school districts must address in designing new programs. It supports the current body of literature, which indicates that long-held concerns about virtual education, such as student engagement and quality virtual curriculum and instruction, are justified. This study places a spotlight on these topics, allowing practitioners to address these concerns during evaluations of their programs or the development of new programs.

This study also indicates areas of need among virtual educators. Program administrators and school superintendents are uniquely situated to address these areas of need while assessing or developing their virtual programs. Both the survey and follow-up interviews indicated that teachers felt unprepared for the shift to a virtual classroom, causing a significant amount of stress and discomfort. Intentional efforts by program administrators and focused district-level professional development plans can address this need for teachers. While participants agreed that teachers performed well under the circumstances, this study verifies this essential need and provides administrators with a lens to comprehensively examine and address it.

In summary, this study features the benefits and challenges of virtual education, as well as the celebrations and concerns of the virtual program administrators and school superintendents who have lived it. The past two years have shown that no one can predict the future, especially not the future of education. There is a significant possibility that the reality that is virtual education will continue to grow throughout the country. This study has identified areas that will significantly impact school corporations should virtual enrollment remain strong. Once recognizing this need, it is appropriate for virtual program administrators and school superintendents to review their programs and shore up areas of concern and need.

Implications for Future Research

The COVID-19 pandemic caused an unprecedented spike in the number of virtual education programs in Indiana and nationwide. This naturally leads to a need for future research about the post-pandemic trends in virtual education and whether or not this growth is maintained. Regardless, virtual programs have changed the face of education, and educators must understand how to make this type of format as effective as possible. Since most Indiana districts' virtual programs grew significantly because of the pandemic, many more students are participating in this type of education. It behooves educators to understand better the characteristics that constitute an exemplary program to better meet the needs of this increased number of students.

Further areas of research should focus on meeting the needs of students, families, and educators who participate in virtual education. While there is a body of research focused on the lack of success among virtual schools, there is a gap in the understanding of what factors constitute a successful virtual program. First of all, this should include research on the individuals who find success in a virtual environment. This should, first of all, include the traits of successful virtual students. These characteristics should not only include the student's academic background but also their social-emotional state and the types of support they are offered at home. The current study touched on these issues, but there needs to be a greater focus on understanding successful students in the future. This type of research will allow virtual schools to tailor their recruitment efforts and further develop their programs to provide support for students who may not meet the traditional criteria of a "successful" virtual student.

A second further area of research would focus on the characteristics of successful virtual educators. While there is some research about students, there is a gap in understanding the qualities found in educators who have managed to create engaging virtual classrooms that enrich their students

and meet their varied needs. This research should extend, more specifically, to the types of curriculum and instructional practices that lend themselves to student success. An understanding of these characteristics would be helpful as virtual administrators create professional development opportunities for virtual teachers. As the number of virtual students grows, the need for effective virtual educators will also rise. Research regarding the characteristics of a successful virtual educator would help define further hiring and professional development practices to strengthen both curriculum and instruction in a virtual environment.

Conclusion

When this study began, the intention was to contribute to the body of knowledge about the growth of virtual education in the state of Indiana. As sometimes happens, unforeseen events took place during the study, inevitably impacting the research outcome. In this case, the COVID-19 pandemic began during the research, and participants were surveyed and interviewed during the first full year of this health crisis. While other factors may have contributed to the growth of virtual programs, it is apparent that COVID-19 was a primary cause of the change during the 2020-21 school year. This rapid expansion significantly impacted school corporations, teachers, and students.

During this research, virtual program administrators and public school superintendents were surveyed and interviewed. The study found that the participant's role provides a minimum impact on their perception of virtual education in many instances. Specifically, program administrators tend to have more faith in the value and strength of virtual education than do the superintendents. However, superintendents and program administrators tended to agree on topics impacting virtual education broadly. For example, most participants tended to understand that virtual education was unsuccessful for many children; however, they thought that their programs were effective and met the needs of their

students. These findings are confirmed by triangulation of the current body of research, the study's surveys, and interviews, all of which point to the same challenges and benefits of virtual education.

This study provides a snapshot of the state of virtual education in Indiana, including the perceptions held by school administrators. Because the study took place during the COVID-19 pandemic of the 2020-21 school year, it provides a specific understanding of the impact of the COVID-19 pandemic on the growth of virtual education in Indiana. However, it is important to note that the benefits and challenges experienced by educators and learners during that school year are reflective of those encountered by schools in non-pandemic times. Only time and future research will tell how COVID-19 permanently changed the face of education and if the growth of virtual education was sustained post-pandemic.

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Appendix A: Growth of Virtual Education in Indiana (Program Administrator Survey)

Appendix A

Q1 How many years have you served in your current role
- o 1-5 years
- o 6-10 years
- o 11-15 years
- o more than 15 years

Q2 Which word most closely describes your district?
- o Rural
- o Urban
- o Suburban

Q3 What was student enrollment for your district in the fall of 2020?
- o 1-500
- o 501-1000
- o 1001-2500
- o 2501-5000
- o 5001-10000
- o 10001-15000
- o more than 15000

Q4 What percentage of students in your district received free or reduced price meals in the fall of 2020?
- o 0 - 25%
- o 25.1 - 50%
- o 50.1 - 75%
- o 75.1 - 100%

Q5 In what year did your district's virtual education program/school begin?
- o Before 2010
- o Between 2010 and 2015
- o After 2015

Q6 Which of the following best describes your district's virtual education program? (choose all that apply)
- ▢ Available for students in grades K-8
- ▢ Available for high school students
- ▢ Options for students to attend a traditional school and take one or more classes on-line
- ▢ Full-time on-line enrollment (students attend all classes virtually)
- ▢ Blended instruction (on-line content is supplemented with face-to-face instruction)

Q7 What are the motivating factors in maintaining a virtual education program in your district? "Virtual education is important in our district because....."

	Strongly Disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
It increases enrollment	o	o	o	o	o	o	o
It increases revenue	o	o	o	o	o	o	o
It is an innovative instructional practice	o	o	o	o	o	o	o
It is a way to recruit homeschool students to our district	o	o	o	o	o	o	o
Other districts have successful virtual education programs	o	o	o	o	o	o	o
It provides an alternative option for children with mental or physical health concerns	o	o	o	o	o	o	o
It provides an alternative option for children with behavioral concerns	o	o	o	o	o	o	o
It increases graduation rates	o	o	o	o	o	o	o

It provides an avenue for credit recovery for high school students	o	o	o	o	o	o	o
Other	o	o	o	o	o	o	o

Q8 Indicate the strength of TRADITIONAL SCHOOL in achieving these commonly stated educational goals.

	Ineffective	Somewhat Effective	Effective	Very Effective	Unsure
Socialization opportunities for children	o	o	o	o	o
Encouragement for students to participate in extracurricular activities	o	o	o	o	o
Development of strong student/teacher relationships	o	o	o	o	o
High quality academic preparation	o	o	o	o	o
Successful preparation for students in their future role as adult citizens	o	o	o	o	o

Q9 Indicate the strength of VIRTUAL SCHOOL in achieving these commonly stated educational goals.

	Ineffective	Somewhat Effective	Effective	Very Effective	Unsure
Socialization opportunities for children	o	o	o	o	o
Encouragement for students to participate in extracurricular activities	o	o	o	o	o
Development of strong student/teacher relationships	o	o	o	o	o
High quality academic preparation	o	o	o	o	o
Successful preparation for students in their future role as adult citizens	o	o	o	o	o

Q10 Indicate any of the following as perceived benefits of virtual education for your district. (Choose all that apply)

- ▢ Financially efficient to educate in a virtual setting
- ▢ Convenience and flexibility for learners
- ▢ Higher quality instruction than in traditional schools
- ▢ Offer courses that are difficult to staff in a traditional school setting
- ▢ Students can accelerate and earn additional credits
- ▢ Support students with special needs
- ▢ Expanded course offerings
- ▢ Ability to enroll students from outside the district
- ▢ Increasing district enrollment
- ▢ Offer school choice option to in-district students
- ▢ Expanded access to rural learners
- ▢ Alternative education option for children with mental health concerns
- ▢ Increased graduation rate
- ▢ Alternative education option for children with behavioral concerns
- ▢ Credit recovery for high school students
- ▢ Alternative education option for children with physical health concerns

Q11 Which best describes the perceived effectiveness of your district's virtual educational program.

o Ineffective
o Somewhat Effective
o Effective
o Very Effective

Q12 Explain the perceived effectiveness of your district's virtual education program.

_____

Q13 From your perspective, what are the challenges of operating a virtual education program? (Choose all that apply)

▢ Staffing of virtual classes
▢ State regulation and oversight
▢ Lack of community support
▢ Recruitment of new students
▢ Student engagement
▢ Student retention
▢ Excessive cost
▢ Professional development for staff
▢ Staff retention
▢ Ensuring quality of curriculum and instruction
▢ Other _____

Q14 Would you be interested in participating in a brief interview used to gain more insight about your perceptions and opinions of virtual education? If so, please include contact information below.

o Yes (1)
o No (2)

Q15 If so, please include your name and contact information below.

o Name _____
o District _____
o Email address _____
o Phone _____

Appendix B: Growth of Virtual Education in Indiana (Superintendent Survey)

Q1 How many years have you served in your current role?

- o 1-5 years
- o 6-10 years
- o 11-15 years
- o more than 15 years

Q2 Which word most closely describes your district?

- o Rural
- o Urban
- o Suburban

Q3 What was student enrollment for your district in the fall of 2020?

- o 1-500
- o 501-1000
- o 1001-2500
- o 2501-5000
- o 5001-10000
- o 10001-15000
- o more than 15000

Q4 What percentage of students in your district received free or reduced price meals in the fall of 2020?

- o 0 - 25%
- o 25.1 - 50%
- o 50.1 - 75%
- o 75.1 - 100%

Q17 Select the descriptor that fits your district.

- o Currently offer some form of virtual education
- o Offered virtual education in the past, but not currently
- o Not currently offering, but considering virtual education
- o Not currently offering and not considering virtual education

Q5 In what year did your district's virtual education program/school begin?

- o Before 2010
- o Between 2010 and 2015
- o After 2015

Q6 Which of the following best describes your district's virtual education program? (choose all that apply)

- ☐ Available for students in grades K-8
- ☐ Available for high school students
- ☐ Options for students to attend a traditional school and take one or more classes on-line
- ☐ Full-time on-line enrollment (students attend all classes virtually)
- ☐ Blended instruction (on-line content is supplemented with face-to-face instruction)

[Display This Question:
If Select the descriptor that fits your district. = Currently offer some form of virtual education
And Select the descriptor that fits your district. = Offered virtual education in the past, but not currently]

Q7 Indicate your perception of the importance of the following that led to the adoption of a virtual education program in your district.

	Unimportant	Somewhat Unimportant	Important	Very Important	Not Considered
Increase enrollment	o	o	o	o	o
Increase revenue	o	o	o	o	o
Develop innovative instructional practice	o	o	o	o	o
Recruit homeschool students to our district	o	o	o	o	o
Replicate other districts' use of virtual education	o	o	o	o	o
Alternative education option for children with mental or physical health concerns	o	o	o	o	o
Alternative education option for children with behavioral concerns	o	o	o	o	o
Increased graduation rates	o	o	o	o	o
Credit recovery for high school students	o	o	o	o	o
Other	o	o	o	o	o

[Display This Question:
If Select the descriptor that fits your district. = Not currently offering, but considering virtual education]

Q19 Indicate your perception of the importance of the following factors leading to the consideration of a virtual education program in your district.

	Unimportant	Somewhat Unimportant	Important	Very Important	Not Considered
Increase enrollment	o	o	o	o	o
Increase revenue	o	o	o	o	o
Develop innovative instructional practice	o	o	o	o	o
Recruit homeschool students to our district	o	o	o	o	o
Replicate other districts' use of virtual education	o	o	o	o	o
Alternative education option for children with mental or physical health concerns	o	o	o	o	o
Alternative education option for children with behavioral concerns	o	o	o	o	o
Increased graduation rates	o	o	o	o	o
Credit recovery for high school students	o	o	o	o	o
Other	o	o	o	o	o

[Display This Question: If Select the descriptor that fits your district. = Currently offer some form of virtual education]

Q10 Indicate any of the following as perceived benefits of virtual education for your district. (Choose all that apply)

- ☐ Financially efficient to educate in a virtual setting
- ☐ Convenience and flexibility for learners
- ☐ Higher quality instruction than in traditional schools
- ☐ Offer courses that are difficult to staff in a traditional school setting
- ☐ Students can accelerate and earn additional credits
- ☐ Support students with special needs
- ☐ Expanded course offerings
- ☐ Ability to enroll students from outside the district
- ☐ Increasing district enrollment
- ☐ Offer school choice option to in-district students
- ☐ Expanded access to rural learners
- ☐ Alternative education option for children with mental health concerns
- ☐ Increased graduation rate
- ☐ Alternative education option for children with behavioral concerns
- ☐ Credit recovery for high school students
- ☐ Alternative education option for children with physical health concerns
- ☐ Other (17) _____

[*Display This Question: If Select the descriptor that fits your district. = Currently offer some form of virtual education]*

Q11 Which best describes the perceived effectiveness of your district's virtual educational program.

- o Ineffective
- o Somewhat Effective
- o Effective
- o Very Effective

Q12 Explain the perceived effectiveness of your district's virtual education program.

_____

[Display This Question:
If Select the descriptor that fits your district. = Currently offer some form of virtual education
And Select the descriptor that fits your district. = Offered virtual education in the past, but not currently
And Select the descriptor that fits your district. = Not currently offering, but considering virtual education
And Select the descriptor that fits your district. = Not currently offering and not considering virtual education]

Q13 From your perspective, what are the challenges of operating a virtual education program? (all that apply)

- ☐ Staffing of virtual classes
- ☐ State regulation and oversight
- ☐ Lack of community support
- ☐ Recruitment of new students
- ☐ Student engagement
- ☐ Student retention
- ☐ Excessive cost
- ☐ Professional development for staff
- ☐ Staff retention
- ☐ Ensuring quality of curriculum and instruction
- ☐ Other _____

[*Display This Question: If Select the descriptor that fits your district. = Offered virtual education in the past, but not currently]*

Q18 Why did your district choose to discontinue virtual education programming?

- ☐ Lack of district support
- ☐ Lack of community support
- ☐ Perceived ineffectiveness of virtual education
- ☐ Financial considerations
- ☐ Does not meet the goals of our district
- ☐ Other_____

[Display This Question:
If Select the descriptor that fits your district. = Not currently offering, but considering virtual education And Select the descriptor that fits your district. = Not currently offering and not considering virtual education]

Q20 Why has your district refrained from offering a virtual education program in the past?

- ☐ Lack of district support
- ☐ Lack of community support
- ☐ Perceived ineffectiveness of virtual education
- ☐ Financial considerations
- ☐ Does not meet the goals of our district
- ☐ Other _____

[Display This Question: If Select the descriptor that fits your district. = Currently offer some form of virtual education; And Select the descriptor that fits your district. = Offered virtual education in the past, but not currently; And Select the descriptor that fits your district. = Not currently offering, but considering virtual education; And Select the descriptor that fits your district. = Not currently offering and not considering virtual education]

Q8 Indicate the strength of TRADITIONAL SCHOOL in achieving these commonly stated educational goals.

	Ineffective	Somewhat Effective	Effective	Very Effective	Unsure
Socialization opportunities for children	o	o	o	o	o
Encouragement for students to participate in extracurricular activities	o	o	o	o	o
Development of strong student/teacher relationships	o	o	o	o	o
High quality academic preparation	o	o	o	o	o
Successful preparation for students in their future role as adult citizens	o	o	o	o	o

[Display This Question: If Select the descriptor that fits your district. = Currently offer some form of virtual education; And Select the descriptor that fits your district. = Offered virtual education in the past, but not currently; And Select the descriptor that fits your district. = Not currently offering, but considering virtual education; And Select the descriptor that fits your district. = Not currently offering and not considering virtual education]

Q9 Indicate the strength of VIRTUAL SCHOOL in achieving these commonly stated educational goals.

	Ineffective	Somewhat Effective	Effective	Very Effective	Unsure
Socialization opportunities for children	o	o	o	o	o
Encouragement for students to participate in extracurricular activities	o	o	o	o	o

Development of strong student/teacher relationships	o	o	o	o	o
High quality academic preparation	o	o	o	o	o
Successful preparation for students in their future role as adult citizens	o	o	o	o	o

Q21 Would you be interested in participating in a brief interview used to gain more insight about your perceptions and opinions of virtual education? If so, please include contact information below.

- o Yes (1)
- o No (2)

Q22 If yes, please include your name and contact information below:

- o Name (1) _____
- o District (2) _____
- o Email Address (3) _____
- o Phone (4) _____