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Do Virtual Schools Meet Students' and Families' Expectations? An Investigation of a Fully-Online High School in Arkansas

Christopher L. Davis
Arkansas Tech University

DO VIRTUAL SCHOOLS MEET STUDENTS' AND FAMILIES' EXPECTATIONS?
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Christopher Lee Davis

Bachelor of Music Education, Arkansas Tech University, 2007
Master of Science in Education, Arkansas State University, 2011
Educational Specialist, Arkansas State University, 2015

Dissertation Approval

This dissertation, "Do Virtual Schools Meet Students' and Families' Expectations? An Investigation of a Fully-Online High School in Arkansas," by Christopher L. Davis, is approved by:

Dissertation Co-Chairs:

John A. Freeman
Professor and Interim Department Head
Center for Leadership and Learning
Arkansas Tech University

Christopher E. Trombly
Assistant Professor of Educational Leadership
Southern Connecticut State University

Dissertation Committee:

Mohamed Ibrahim
Associate Professor, Curriculum and Instruction
Arkansas Tech University

Program Director:

John A. Freeman
Professor and Interim Department Head
Center for Leadership and Learning

Graduate College Dean:

Jeff Robertson
Professor and Interim Dean

Abstract

High school has evolved significantly over the last several decades. What was once a choice between public school and private school is now a decision that includes homeschools, magnet schools, charter schools, and virtual schools, to name a few. This was a mixed-methods case study that investigated students' and families' satisfaction with their decision to attend high school virtually. The study examined a fully online virtual high school in the state of Arkansas to answer the following research questions:

1. What factors best predict students' interest in enrolling in a fully online virtual school in Arkansas?

2. Is there a statistically significant relationship between students' satisfaction, positive experience, and enrollment duration and attending fully online virtual school in Arkansas?

3. Are there statistically significant differences in the satisfaction between students attending a fully online virtual school in Arkansas and their parents?

4. Are there statistically significant differences in the level of students' satisfaction with a fully online virtual school in Arkansas based on their eligibility for Special Education services?

5. To what degree has a fully online virtual school in Arkansas satisfied students' and families' reasons for having selected it over a traditional brick-and-mortar school?

The case study of the virtual school in Arkansas was assembled from data collected through a survey of students and families currently attending the virtual school along with semi-structured interviews with fourteen selected participants. The

investigation found that there were four major themes that surrounded students' and families' decisions to attend a virtual high school: social and behavioral issues (either personally or with peers), a desire for more flexibility, negative experiences with teachers and administrators, and academic motives. This study confirmed the existing literature regarding students' and families' reasons for attending a virtual high school. The investigation also found that virtual school students requiring special education services were more satisfied with their decision to attend this particular virtual school than their counterparts who did not require special education services. Finally, the study found that parents of a particular virtual school studied were more satisfied than the students.

Dedication

Dedicated to my sons,

Landon and Logan.

Dream big.

Acknowledgments

The completion of the doctoral program at Arkansas Tech University would have been impossible if it not for my family and friends. I would like to take this opportunity to thank you for your support and encouragement. I could not have completed this journey without you.

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Chapter One: Introduction

Over one million students fail to graduate from high school with their peers each year (Gray, 2012; Legters & Balfanz, 2010). This equates to two and a half students dropping out of high school every minute, of every day. Educators, researchers, and policy-makers point in many different directions regarding possible solutions to this multifaceted dilemma. One direction points to academic initiatives providing additional resources for schools and districts to meet the growing demands of a changing student population (DePaoli, Balfanz, Bridgeland, Atwell, & Ingram, 2017; Every Student Succeeds Act [ESSA], 2015). While other researchers argued that financial resources are poorly distributed and inefficiently utilized, leading to declining student achievement (DePaoli et al., 2017; Morgan, 2015).

With the newly implemented Every Student Succeeds Act [ESSA] (2015), the focus of educational funding was placed on a more individualized approach to education rather than a one-size-fits-all approach. This has allowed educational institutions to branch out and develop more innovative ways to address student learning. A recent study recommended policy-makers further explore alternatives to traditional brick-and-mortar schools as a possible avenue to improve the high school graduation rate for the general student population as well as at-risk student populations (DePaoli et al., 2017). These alternatives include voucher programs for private school attendance, open-enrollment public charter schools, virtual schools, and other school choice options.

For the purpose of this study, the researcher chose to focus on the public options, in particular, virtual schools as a subcategory of charter schools. Charter schools were conceived to allow families to match their students' needs with the appropriate learning

environment regardless of individual school attendance zones, or the affluence of a given locale. Opponents of charter schools believed that the school choice option fosters racial and class segregation, places a financial strain on traditional public schools and was designed to benefit only a few students (Gray, 2012). If charter school enrollment continues to rise, as it is projected to do, these demographic trends are expected to increase proportionally.

A charter school is an autonomous educational entity that operates under a separate contract, or charter, that relaxes the rules and regulations enforced by local and state educational authorities (Bulkley, 2011). Examples of relaxed rules and regulations for charter school could be in the form of few licensure requirements, a reduction in the required courses to be taught, or a reduction in the number of course minutes per day to name a few. These modified rules and regulations are designed to provide schools with more flexibility to meet the academic, social, and emotional needs of students who were previously underserved by traditional public school options.

Underneath the charter school umbrella, there is another public option for students and families—virtual schools, a rapidly growing subcategory of charter schools that deliver instruction through web-based computer applications. These applications provide instruction through videos, live chats, and blogs to name a few (Center for Research on Educational Outcomes [CREDO], 2015; Green, 2013; National Forum on Education Statistics [NFES], 2015). The purpose is to provide differentiation and flexibility to meet various students' individual needs that were not currently being served through more traditional learning environments.

Statement of the Problem

Nearly 16% of high school students did not graduate with their four-year high school cohort in 2016 (National Center for Education Statistics [NCES], 2017a). Failure to graduate presents problems not only for students and their families but also for communities and society in general. Students consider dropping out of school due to difficult family situations, financial instability, and unexpected life events, to name a few possible reasons. Because of this, alternative forms of education are provided as an option to attempt to meet their individual needs. The alternatives for the purpose of this study are charter schools with an emphasis on students and families who have chosen to attend high school virtually.

As a form of charter school, virtual schools originated to serve students and families who were not adequately served by the traditional school format. By providing flexibility in terms of time, location, and course selection, virtual schools allow students who either had difficulty with traditional schools or were unable to attend altogether an avenue to attend school an earn a high school diploma. One of the most important factors related to virtual schools, especially for demographics traditionally underserved, is they are public school options that are provided at no cost to students or families.

Purpose of the Study

The purpose of this study is to determine how virtual high schools are meeting the needs of students and their families and the possible implications for traditional brick-and-mortar public high schools. The study will include a survey of current virtual high school students to gather information about their reasons for attending high school virtually. It also consists of previous and current graduation rates and student

achievement data among student populations for traditional brick-and-mortar high school students, as well as those attending virtual high schools in Arkansas. This information was used to determine why virtual high schools are an effective avenue for students to attain a high school diploma, and how they differ from traditional brick-and-mortar high schools. In order to gain insight into the effectiveness of current practices, a mixed-methods case study was conducted to determine how the needs of students are being met.

Research Questions

This study examined the following questions related to virtual schools and the students and families they serve:

1. What factors best predict students' interest in enrolling in a fully online virtual school in Arkansas?

2. Is there a statistically significant relationship between students' satisfaction, positive experience, and enrollment duration and attending fully online virtual school in Arkansas?

3. Are there statistically significant differences in the satisfaction between students attending a fully online virtual school in Arkansas and their parents?

4. Are there statistically significant differences in the level of students' satisfaction with a fully online virtual school in Arkansas based on their eligibility for Special Education services?

5. To what degree has a fully online virtual school in Arkansas satisfied students' and families' reasons for having selected it over a traditional brick-and-mortar school?

The researcher gathered data from students and their families with regard to their satisfaction with the chosen method of educational delivery. The data were collected in a mixed-method research design through surveys and semi-structured interviews in order to gain a holistic view of how students' needs are being met by an open-enrollment virtual high school in Arkansas. In addition, student demographic and achievement data were compared with data collected statewide in order to pinpoint any existing trends.

Significance of the Study

Although 84% of high school students graduating with their four-year cohort, certain subgroups of students are still being left behind (DePaoli et al., 2017; Legters & Balfanz, 2010; Messacar & Oreopoulos, 2013; Montgomery, 2014). As the graduation rate becomes a more significant aspect of school accountability due to ESSA (2015), educational stakeholders must ensure interventions are in place to serve at-risk students and provide equitable opportunities for all students to graduate from high school. Charter schools and virtual schools are included as alternatives to the traditional brick-and-mortar high school for the purpose of graduation.

Charter schools and virtual schools were designed to provide flexibility in order to meet the individual needs of diverse student learners. The flexibility provided by these initiatives allows for more innovation and differentiation for individual students (Blazer, 2010). They provide students and parents with a choice pertaining to where the child will attend school. Because many students are unable to attend costly private schools, charter schools, and virtual schools provide equitable access to what was once only for more affluent students.

This study strived not only to answer the questions of whether a fully online virtual school in Arkansas is meeting the needs of students and families but also provide recommendations for all schools regarding what students' and their families' desire in a quality education. The answers to these questions will provide virtual schools with the opportunity to reflect and grow as well as public schools with data to implement changes to better meet the needs of 21st-century learners. These changes are necessary in order to ensure all students are provided with a high quality, individualized pathway to high school graduation.

Definition of Terms

The following terms are defined to provide clarity and understanding for the readers of this study:

Asynchronous [online] Instruction: Learning that occurs when students' complete assignments and learn on their own time and schedule without live interaction with a teacher (CREDO, 2015).

At-Risk Students: Students at-risk of educational failure, who are possibly living in poverty, who attend high-minority schools, who are far below grade level, who have left school before receiving a regular high school diploma, who are at risk of not graduating with a diploma on time, who are homeless, who are in foster care, who have been incarcerated, who have disabilities, or who are English Language Learners (ELL) (Powell, Roberts, & Patrick, 2015).

*Brick-and-Mortar Schools***:** A public school operated by a traditional school district which uses standard in-person learning as its primary means of curriculum delivery (CREDO, 2015).

English Language Learners (ELL): A national-origin-minority student who is limited-English-proficient (Arkansas Department of Education, n.d.).

Four-Year Adjusted Cohort Graduation Rate (ACGR): The four-year ACGR is the number of students who graduate from high school in four years with a regular high school diploma (Arkansas Department of Education, 2015).

High School Dropout: A student who leaves school for any reason before they earn a high school diploma without transferring to another secondary school (National Center for Education Evaluation, 2017).

Online Course: An online course is a full course education experience in which instruction takes place primarily over the Internet, using an online delivery system to provide access to course content. It may be accessed from multiple settings (Evergreen Education Group, 2015).

Open-Enrollment Public Charter School: Charter schools provide free, publicly funded elementary and secondary education to eligible students under a specific charter granted by state-designated charter authorizers or an appropriate authority (Evergreen Education Group, 2015).

Socio-Economic Status (SES): Socioeconomic status encompasses not only income, but also educational attainment, financial security, and subjective perceptions of social status and social class (American Psychological Association, n.d.).

Statewide Information System (SIS): The Statewide Information System (SIS) is a web-based system developed by the Arkansas Department of Education's Research and Technology Division to enable school districts to submit and certify data to the state (Arkansas Department of Education, 2015).

Synchronous [online] Instruction: Learning that occurs with all students in a class receiving instruction and completing work at the same time. Students do not necessarily have to be in the same location for synchronous work (CREDO, 2015).

Targeted Achievement Gap Group (TAGG): The TAGG consists of students economically disadvantaged, ELLs, or students with disabilities subgroups (Arkansas Department of Education, n.d).

Virtual School: Virtual Schools are full-time online schools, which do not serve students at a physical facility. Teachers and students are geographically remote from one another, and all, or most of the instruction is provided online (Evergreen Education Group, 2015).

Limitations of the Study

The researcher conducted a mixed-methods case study of a fully online high school in the state of Arkansas utilizing a sequential explanatory methodology. The very nature of a case study is limited by the fact that it is the study of a single case over a period of time (Creswell, 2009). It cannot be assumed that the study of the Virtual High School is representative of virtual schools as a whole, but that the findings of the study represent the students and families within the context of this case. However, this does not mean the results of the study will not be applicable in other settings; it simply means the reader must ascertain what is relevant within other applications. Another limitation of the study was the participants' ability to self-report information. The results of the study are based on student and parent participants' self-selection of demographic information, as well as their special education requirements and free and reduced-price lunch enrollment.

Summary

This study represents a mixed-methods investigation of a fully online virtual school in Arkansas, and to what degree students and their families are satisfied with the learning environment it provides. Chapter Two presents relevant literature surrounding both charter schools and virtual schools, and the research pertaining to their effectiveness. Chapter Three discusses the methodology for the study, as well as information regarding the sample and the instruments used to gather data. Finally, Chapters Four and Five will detail the data analysis and the findings as a result of the study.

Chapter Two: Review of the Literature

In the United States, the size of the education industry exceeds $1.4 trillion with spending on K-12 education topping $670 billion in 2015. With massive spending comes increased expectations and accountability, and currently, these gains do not keep up with the growing accountability initiatives designed to monitor educational spending. Because of slow gains and high spending, a GradNation Report recommended that policy-makers further explore and fund alternatives to traditional brick-and-mortar schools, as a possible avenue to improve the high school graduation rate (DePaoli et al., 2017). These alternatives include charter schools, virtual schools, and other school choice options that provide students and parent's flexibility in their educational decisions (DePaoli et al., 2017).

The purpose of this review was to survey the existing literature on the topic of effective alternative forms of education to meet the needs of students and their families in order to address the following questions:

1. What factors best predict students' interest in enrolling in a fully online virtual school in Arkansas?

2. Is there a statistically significant relationship between students' satisfaction, positive experience, and enrollment duration and attending fully online virtual school in Arkansas?

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In particular, this review examines student subpopulations such as ethnic minorities, students living in poverty, and students with disabilities. Included in the literature review are research studies on previous practices for student graduation interventions, alternative methods to traditional brick-and-mortar high school learning environments (charter schools and virtual schools), and the impact virtual schools are currently having on the students' and families' they serve.

High School Dropout Rate

High school graduation is an important aspect of any student's academic progress. It not only determines future pathways for individual students but also has a profound impact on society as a whole. In 1995, the United States high school graduation rate was 71%. Since the 2010-2011 school year, the graduation rate is up more than 12 percentage points, rising to a record high of 83.2% in 2015 (DePaoli et al., 2017). Over this five-year period, graduation rates increased in almost every state and for almost every subgroup as indicated in Figures 1 and 2 (National Center of Education Statistics, 2018). In part, these increases are due to interventions in place that ensure at-risk students are met at every level with academic, emotional, and social support.
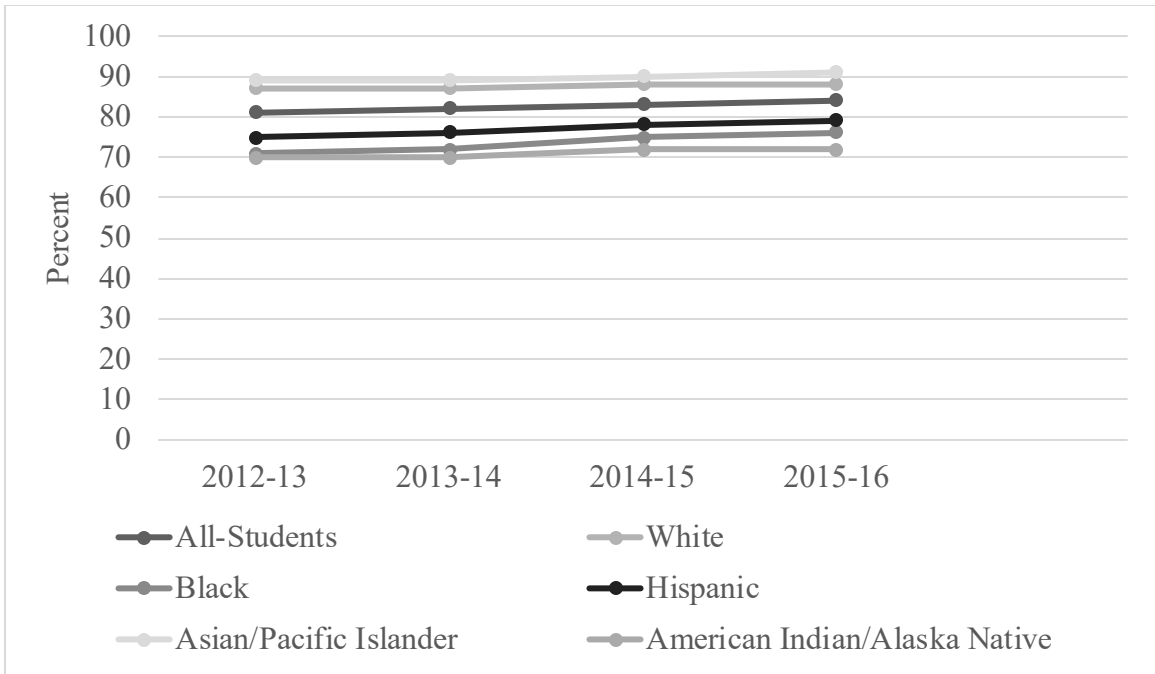
Figure 1. Public School 4-Year Adjusted Cohort Graduation Rate by Ethnic Group. The figure includes public high school graduation rates (National Center for Education Statistics [NCES], 2018).
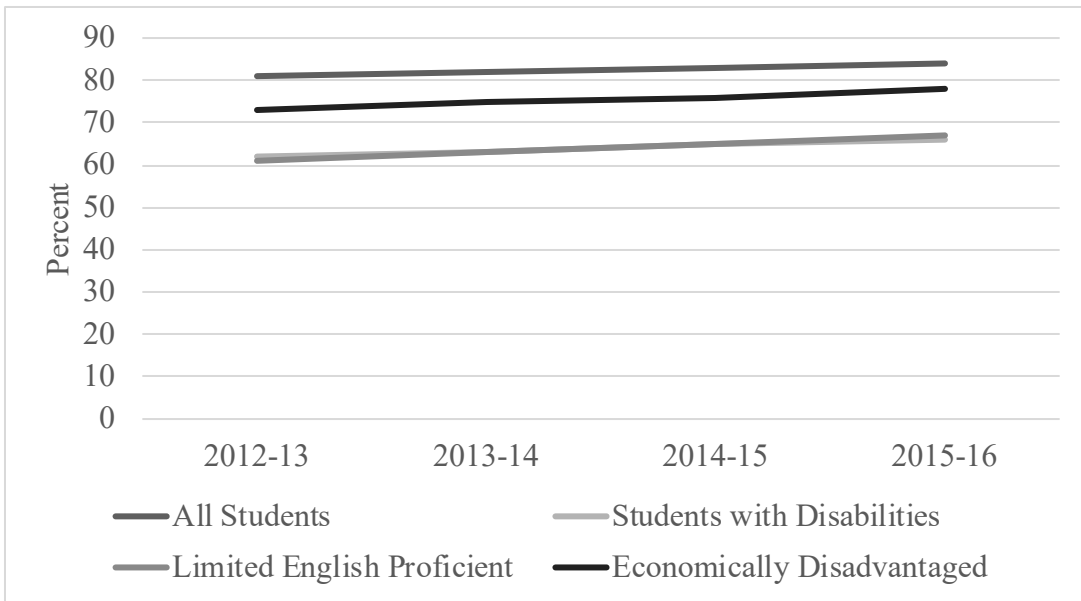
Figure 2. Public School 4-Year Adjusted Cohort Graduation Rate by Characteristic. The figure includes public high school graduation rates (NCES, 2018).

The recent implementation of ESSA (2015), the most recent iteration of the Elementary and Secondary Education Act (ESEA), significant responsibility shifted from the federal government to individual states and school districts. States were tasked with increased accountability to implement interventions to close student achievement and graduation rate gaps among at-risk student subgroups in order to meet grade-level learning targets. In Arkansas, the graduation rate average increased from 80.7% in 2011 to 84.9% in 2015 (Arkansas Department of Education [ADE], 2015). The Arkansas four-year cohort graduation rate for 2014-2015 was two percentage points ahead of the national average (DePaoli et al., 2017). Even though these statistics are moving in the right direction, issues such as graduation rate gaps for minority and at-risk student subgroups and the significant number of students attending low-graduation-rate high schools (those schools with graduation rates of 50% or less), cast a daunting shadow over the positive gains. Figure 3 illustrates the dropout rate gaps among white students and non-white students (NCES, 2017a). Based on the ESSA (2015) definition of low-graduation-rate high schools, there were 2,249 underperforming high schools in the United States in 2015. The long-term societal implications noted by researchers regarding high school dropouts were lower wages for American workers and a decline in economic productivity, among others (Gray, 2012).
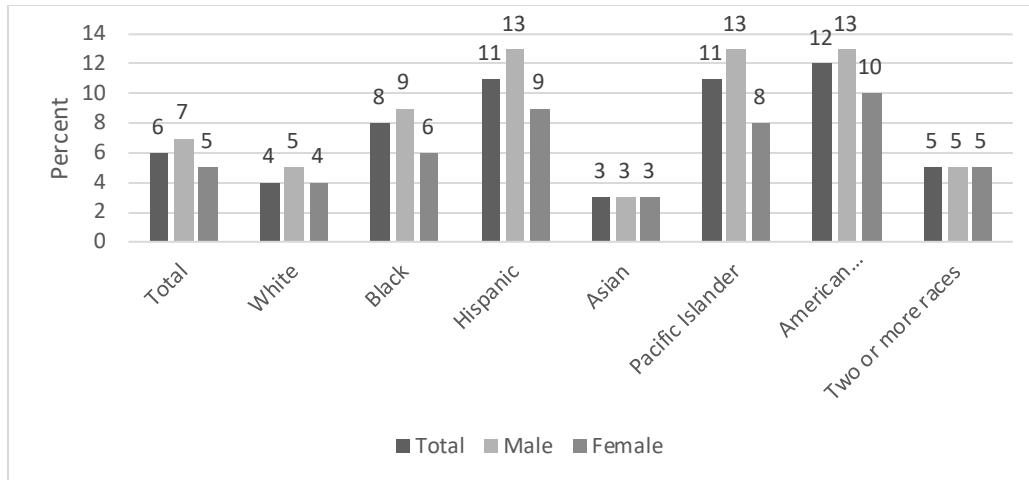
Figure 3. Dropout Rates of 16-to-24-Year-Olds, 2014. The figure presents high school dropout rates by gender and race (NCES, 2017).

Public implications. Research indicated that a student who fails to complete the requirements for a high school diploma earns less money, is more likely to be in jail, is less healthy, is less likely to be married, and are generally unhappier than their high school graduate counterparts (Gray, 2012; Legters & Balfanz, 2010; Messacar & Oreopoulos, 2013; Montgomery, 2014). Adults who dropped out of high school almost universally expressed regret that they were unable to obtain a diploma. In one study, 74% of adults admitted they would have stayed in school if they could make the same decision again (Messacar & Oreopoulos, 2013). These ramifications not only negatively impact individual students but also significantly decrease the desirability of communities with higher percentages of high school dropouts. Several studies link the proportion of high school dropouts in a particular community to its overall prosperity with higher wages and increased civic engagement in locations with fewer dropouts (Fall & Roberts, 2012; Jimerson, Patterson, Stein, & Babcock, 2016; Messacar & Oreopoulos, 2013; Rumberger, 2013).

Skills and educational attainment are increasingly important in today's global economy, and individuals with the least education and fewest skills are falling behind. According to a recent study among students who recently dropped out of high school, an average of 16% of students were unemployed, and 32% were living below the poverty line. High school dropouts who are employed earn an average of only $12.75 per hour, with most jobs found in construction and the unskilled labor market (Messacar & Oreopoulos, 2013).

Implications for at-risk students. Of the over one million students who fail to graduate from high school with their four-year cohort annually, 40% of those are minority students (Legters & Balfanz, 2010; Messacar & Oreopoulos, 2013). Also, dropping out of high school disproportionately affects low-income students and those with disabilities. Traditionally, students consider dropping out of school because of difficult family situations, financial instability, unexpected pregnancies, lack of interest in school, social issues, and being over-aged to name a few (Montgomery, 2014). Given this information, one must understand that dropping out of school is not a single event, but a series of events that often occurs long before the student finally decides to stop coming to class (Messacar & Oreopoulos, 2013).

With ESSA (2015), Congress dedicated financial resources and supports for at-risk students –including students with disabilities, English Language Learners (ELL), and delinquent and at-risk children. This legislation obligated states and districts to continue the work to ensure that all students—including students from low-income families, minority students, and students with disabilities—have equitable access to adequate educational support until graduation. Through ESSA (2015), states and districts are

responsible for allocating financial and physical resources into initiatives and interventions to help students who fall behind academically, with a particular focus on students who are in danger of dropping out of high school. These resources were designed to empower local decision-makers to develop their own strategies to support school improvement.

The intent of the ESSA (2015) legislation was to move away from a one-size-fits-all approach to accountability and ensure that local decision-makers undertake reforms in their lowest-performing schools. Through the development, early interventions such as strong relationships between adults and students, the individualization of instruction, and engaging learning opportunities, at-risk students who are falling behind had a greater chance of getting back on track for graduation. The legislation stated that these interventions should be at the core of any school or program, particularly those serving vulnerable student populations (ESSA, 2015).

Economic impact. The economic impact of an undereducated public creates a great cause for concern. Policy-makers, educators, and researchers are constantly looking for answers regarding educator professional development, student interventions, and alternative models of education to close the graduation gap among at-risk student populations. By converting high school dropouts into graduates for one graduating class of students, states could see increases in their economies ranging from hundreds of millions of dollars in small states to billions in larger states (Legters & Balfanz, 2010). According to one researcher's estimates, the United States could recover $45 billion in lost tax revenues, healthcare expenses, and social service expenses over the lifetime of a single cohort of students by reducing the number of high school dropouts by

only 50% (Legters & Balfanz, 2010). The public ramifications for high percentages of high school dropouts supersede the classroom walls and reach to numerous aspects of public operations.

This impact was further exacerbated by the 2014 changes to the General Education Diploma (GED). What was once a viable option for students who were unable to complete the graduation requirements for a high school diploma, became less of a reality with the changes instituted nationwide. Those changes included the switch from a paper-based exam to a computer-based exam, multiple choice questions were replaced with constructed-response questions, and an increase in price from $75 to $120 in most states. These changes made it significantly more difficult for individuals to schedule the tests, as well as achieve passing scores (Larson, Gaeta, & Sager, 2016). In Arkansas, the fees for the GED ranged from $16 to $120 depending on the subsidies and voucher programs that were available to certain individuals (Arkansas Department of Career Education - Adult Education, 2016). In Table 1, Allen Chen (2017) and the Bureau of Labor Statistics noted, the unemployment rate for individuals with less than a high school diploma was nearly double that of the average of all workers at 7.4%.

Table 1

Earnings and Unemployment Rates by Educational Attainment, 2016

Education Attained	Unemployment Rate in 2016 (Percentage)
Some college, no degree	4.4
High school diploma	5.2
Less than a high school diploma	7.4
All workers	4.0

Note. Data are for persons age 25 and over. Earnings are for full-time wage and salary workers (Chen, 2017; U.S. Bureau of Labor Statistics, 2016).

The changes made to the GED program make the attainment of the credential less likely for individuals who were unable able to meet the requirements of a high school diploma, while at the same time placing further strains on communities and their economies.

Open Enrollment Public Charter Schools

Of the alternatives to traditional brick-and-mortar high schools, open-enrollment public charter schools (charter schools) were specifically designed to meet the needs of diverse student populations. The idea of the charter school was originally conceptualized by Ray Budde, a former teacher, and principal. In 1974, this idea came as a response to a significant academic decline and the drastic pendulum swings in educational reform at the time (Budde, 1988; Kolderie, 2005). The charter school concept was further realized in the 1980s when *A Nation at Risk*, the landmark 1983 study from President Reagan's National Commission on Excellence in Education, began to challenge the status quo of the American educational system (United States National Commission on Excellence in Education [US NCEE], 1983). Albert Shanker, former president of the American Federation of Teachers, brought further attention to the charter school concept when he endorsed charter schools as a viable school choice option (Henig, 2008).

The school choice option, rather than students being assigned a public school based on his or her address, became a popular idea during this time period. However, the notion of school choice predated even Budde and Shanker. It was presented in Milton Friedman's (1955) work concerning the role of government in education. Friedman (1955) concluded that the government, preferably the local government, would provide students a specified dollar amount to be used toward paying for his or her general education; the parents would be free to spend this money at a school of their choice. In

return, the student would be obligated to return a portion of their earnings to the government as repayment (Friedman, 1955). More recently, school choice options have taken on a myriad of forms including inter- and intra-district traditional public school choice, magnet schools, vouchers, and charter schools (Gray, 2012).

As charter schools began to gain popularity, the first law allowing their establishment was passed in Minnesota in 1991, and the first charter school opened there in 1992 (National Alliance for Public Charter Schools [NAPCS], 2014). Charter schools are similar to public schools in that they are publicly funded, locally governed, and students must still participate in all state-mandated testing; however, they are considered schools of choice, which means parents have the choice to enroll their students in those particular schools. Although the first charter school opened its doors 26 years ago, there is still ongoing debate regarding whether, or not they provide better educational opportunities than those of traditional brick-and-mortar public schools (Blazer, 2010). Since 2005, most of the new charter schools opened in six states across the U.S. (California, Florida, Georgia, Ohio, Texas, and Wisconsin). These states are leading the way with regard to student access to public charter schools. According to the national average, the time a charter school has been operational is only over six years, with 30% of charter schools opening less than two years. Only 2% of charter schools across the nation have been open for longer than fifteen years (Blazer, 2010).

Effectiveness. Research is abundant regarding the perceived effectiveness or ineffectiveness of charter schools the opinions are dependent upon the specific platform of the researcher or organization (Blazer, 2010; Gray, 2012; Kamienski, 2011; Mills, 2013). The charter debate centers on two topics: the effects that charter schools have on

their students' academic performance and the effects that students moving between schools have on other students. The latter mostly represents the effect on the students remaining in the traditional public school setting (Mills, 2013). Charter school advocates contend that charter schools expand the number and variety of school choice options available to students, increase academic innovation, improve student achievement, and promote healthy competition with traditional brick-and-mortar public schools (Gray, 2012; Kamienski, 2011; Legters & Balfanz, 2010; Mills, 2013).

While schools can influence a number of student outcomes (academic, social, and emotional), the student effect debate traditionally focuses on student academic achievement and noncognitive engagement. Research supported the importance placed on noncognitive skills among charter schools and the effects on academic outcomes (Mills, 2013). Deming (2011) stated that academic achievement and noncognitive skill development has an important role in predicting crime rates, noting that only 35% of inmates have a high school diploma or higher. Betts and Tang (2011) noted that charter schools appear to improve the likelihood of educational attainment.

Proponents agree that a major advantage of charter schools is smaller classes and a greater opportunity to personalize the learning to meet students' individual needs. To achieve differentiation, charter schools use creative lesson design and instructional delivery, teach nontraditional curricula, and have the flexibility to hire faculty based on his or her ability rather than licensure in order to attract and retain selected students (Kamienski, 2011). This flexibility and less restrictive funding are at the core of charter school policies and legislation as well as the cornerstone to the debate between charter schools and traditional public schools.

On the contrary, major opponents of charter schools point to the lack of consistent research on academic outcomes and graduation rate. Researchers have been unable to determine consistently and repeatedly if charter school performance compares favorably to traditional public schools with regard to student achievement or graduation rate. Evidence was found that supports academic achievement among charter school students is greater than, less than, and statistically insignificant when compared to traditional brick-and-mortar public schools (Kamienski, 2011). In general, charter schools have a national average graduation rate of 70%, which is 15 percentage points below traditional high schools (DePaoli et al., 2017). Studies also revealed that charter schools had higher rates of student attrition, meaning students ceased to attend their current school at a higher rate than traditional public schools. Most studies concluded that charter school faculty members have less teaching experience and have less certification than traditional brick-and-mortar public school teachers (Blazer, 2010). This is due to the relaxed certification requirements of some charter school districts.

In research conducted by Coulson (2009), the results of 80 different studies focused on academic achievement were disaggregated, and it was concluded that charter schools outperformed traditional brick-and-mortar public schools in approximately 55% of the studies. Additionally, traditional public schools outperformed charter schools in approximately 33% of the studies with the balance being statistically insignificant (Kamienski, 2011). In Gleason, Clark, Tuttle, Dwoyer, and Silverberg's (2010) large-scale randomized trial, the results indicated that overall, charter schools were no more successful than nearby traditional public schools in raising student achievement. Numerous other studies found that charter schools produce achievement gains that are at

or slightly lower than most traditional public schools; although, there are a few studies that concluded charter schools had a slightly positive effect on student achievement (Blazer, 2010; Rapa, 2018).

Cost efficiency. Society places enormous emphasis on public education; it is the lifeblood thriving economy. As a nation, the U.S. spends billions of dollars to educate K-12 students (Gray, 2012). The federal budget allocated, and ESSA (2015) authorized $270 million for the 2017 and 2018 school years and $300 million, for the 2019 and 2020 school years for the continued implementation and operation of open-enrollment public charter schools (ESSA, 2015). Educational reformers cited increases in spending with little noticeable gains in test scores or graduation rate, coupled with the realization that American students were outperformed by their foreign counterparts on standardized tests, as the significant problem with legislative policy (Gray, 2012).

The primary theoretical framework that supports charter school policies is the belief that markets with higher levels of competition have greater incentives to produce more efficiently, than those non-competitive markets (Kamienski, 2011). Because there is a lack of research supporting a substantial connection between financial resources received and school quality, policymakers and educational researchers examined a large number of potential educational reforms that go beyond altering funding levels (Gray, 2012). Free-market concepts of efficiency and school choice in educational markets are traced back to economists such as Charles Tiebout (1954) and Milton Friedman (1955). This thought process concluded that competition among schools equates to an increase in classroom innovation, efficiency, and ultimately student achievement (Kamienski, 2011).

Demographics served by charter schools. The number of students enrolled in open-enrollment public charter schools increased by 1.8 million students in a ten-year period, while the number of students attending traditional brick-and-mortar public schools decreased by four-hundred thousand in the same period. Also, during this timeframe, the percentage of public school students who later chose to attend a charter school increased from two to five percentage points (NCES, 2017b). Consistent numbers such as these alarm proponents of traditional brick-and-mortar public schools. Advocates for traditional public schools believed that the increased presence of charter schools might result in further racial and socioeconomic enrollment discrepancies and reduced public school funding, while at the same time pointing to research that indicated no substantive improvement in student achievement (Blazer, 2010).

Charter school advocates argued that most charter schools serve roughly the same proportion of students living in poverty, students with disabilities, and racial minority students as do larger urban school districts found in the same locations (Christensen, Meijer-Irons, & Lake, 2010). However, studies indicated a discrepancy in the number of charter school students who attended low socioeconomic schools, schools in which more than 75% of students qualify for free, or reduced-price lunch under the National School Lunch Program (Montgomery, 2014). Additionally, most studies concluded that charter schools serve significantly fewer number of students with disabilities and English Language Learners (ELL) than traditional brick-and-mortar public schools. The Center for Urban and Multicultural Education (2010) at Indiana University stated the following regarding charter schools:

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When coupled with the inconclusive evidence on student achievement in charter schools, these issues raise more questions about the long-term benefits of charter schools, their economic impact on traditional public schools, and the overall direction of public education. (p. 4)

Charter school advocates believed that the policies and practices that allow families to match their students with the appropriate schools would enhance learning; furthermore, it would produce academic gains leading to increased graduation rate (Gray, 2012). Opponents fear that those same policies foster greater class segregation, drain the financial resources from traditional brick-and-mortar public schools, and benefit only a few students. As charter school enrollment continues to rise, these demographic trends are expected to increase proportionally (Gray, 2012).

Virtual Schools

Virtual schools are a rapidly growing subcategory of education. A virtual school is a school that provides classes (except athletics, PE, band, or similar elective) to students primarily through online delivery. These classes can take place synchronously or asynchronously. Synchronous classes are those that have specified meeting times and are typically classes where the teacher is providing direct instruction to the entire class at a specified time. Asynchronous classes are more self-paced and do not rely on specified meeting times; rather they are typically designed around deadlines for the completion of specified modules units of study. Through an online platform, lessons may consist of videos, live chat, blogs, or any other common means of digital communication (CREDO, 2015; Green, 2013; National Forum on Education Statistics [NFES], 2015). Continued advancements in cell phones, mobile applications

(apps), and social media have provided increased accessibility and available to students as they seek new educational opportunities and resources (NFES, 2015).

In many circumstances, virtual education allows students and teachers to access otherwise unavailable expertise, information, and experiences. According to a study completed by the National Forum on Education Statistics (2015),

- Offering coursework not otherwise possible

- Presenting instructional material in a format better suited to some students' learning needs

- Maximizing educational opportunities beyond traditional school hours, and

- Offering instruction to hospitalized, incarcerated, homebound, and other students physically unable to travel to a school site represents the most prominent reasons one might choose virtual education

Advancements and growth in the realm of digital education for both virtual school students and traditional brick-and-mortar public school students have provided local school districts, educators, and students with multiple avenues for incorporating virtual experiences in teaching and learning. However, informed decisions about virtual education require an understanding of the impact of technological innovations and necessary changes to education policies (NFES, 2015).

In the mid-1990s, the virtual high school concept began in Canada to provide education services to students in extremely rural settings. In the United States, the first fully online virtual high school (Florida Virtual School) opened in 1997-1998 (Clark, 2007). According to research conducted by Corry and Stella (2012), between 2007 and 2009, the number of students in virtual schools nearly doubled. A Harvard University

study predicted that by 2019, half of all high school students would complete, at least, some of their high school coursework online (Morgan, 2015). Currently, students may enroll in virtual school programs through private programs, or virtual public charter schools in most states. Virtual schools have the potential to outpace traditional brick-and-mortar public schools due to a lack of concern with location, greater access for individuals, and significantly fewer requirements for physical space. This further elevated the level of concern to ensure virtual schools demonstrate positive advances in student achievement before being made available widespread as a public school option (Green, 2013).

Virtual education is an integral part of the K-12 arena, whether through incorporation in traditional classes, a virtual school program, or a blend of both, technological advancements continue to provide students with greater educational opportunities. In some cases, local and state agencies work with private virtual school service providers, such as K12 and Connections Academy, to provide the student-learning platform and to develop and maintain policies and practices that determine logistical responsibilities for each institution. Local and state educational agencies in conjunction with virtual service providers collectively determine who is responsible for student data, teacher assignments, and how grades and credits are assigned (NFES, 2015). This provides a more streamlined approach for parents and students when accessing the education platform and fewer discrepancies between the local school, the state department of education, and the service provider.

Challenges associated with collecting, recording, and analyzing virtual school data included inconsistencies with the classes and content delivered by individual online

service providers, grade and credit assignments that are inconsistent with traditional brick-and-mortar public schools, and graduation requirements that follow both state and local policies. As federal and state legislators and policy-makers become more aware of the need to provide more flexible learning opportunities, technologies are making it easier to implement individualized, personalized, and differentiated educational learning opportunities for a diverse student population (NFES, 2015). Along with previously mentioned challenges, Sorenson (2012) studied parents of virtual school students and noted other challenges, such as the need to closely monitor their student's work and to ensure that their child stayed on track to complete classes and graduate on time. Of the concerns that traditional brick-and-mortar educators had regarding online instructional delivery, greater parental responsibility for students who are in the most at-risk subpopulations was the most alarming (Sorenson, 2012).

Demographics served. Virtual schools are the most rapidly growing sector of the education industry this decade (CREDO, 2015). The virtual schools within an 18-state CREDO (2015) study increased student enrollment from 35,000 in 2009-2010 to over 65,000 in 2012-2013. One of the major reason's parents choose virtual schools for their at-risk students was the adaptability of the educational setting (CREDO, 2015). For highly mobile or migrant students, or those in unstable homes, virtual schools provide a consistent setting for students to continue to gain high school academic credits toward graduation (CREDO, 2015). Virtual school advocates also agreed that students who learn at varied rates (both slower and faster) benefit from the self-paced nature of asynchronous online classes (CREDO, 2015).

Proponents of virtual schools also cited the flexibility for students with disabilities as a primary attribute of the program. The online delivery of instruction helps disabled learners use and adapt to new technologies that are attributive of 21st-century learning. Advocates contended that online learning promotes equity of access among all students. In some cases, students with disabilities in traditional brick-and-mortar public schools' study with fewer resources and inadequate access to instructional materials (Blazer, 2010).

Virtual school advocates indicated that virtual schools create opportunities for students with disabilities to take appropriate courses with highly qualified teachers. As with other areas related to virtual school data, there are inconsistencies among researchers regarding effectiveness for students with disabilities. One research study indicated that virtual schools offer certain advantages but may hinder the academic performance of students with disabilities (Blazer, 2010). In a study conducted by Repetto, Cavanaugh, Wayer, and Feng (2010), they found that virtual high schools showed an increase in to graduation rates among students with disabilities. However, the lack of consistent data on virtual instruction for special education students has not prevented many states from expanding this type of instruction (Morgan, 2015).

In a recent study in the state of South Carolina, one of the nation's leaders on the virtual high school front, graduation rates for low socio-economic students were significantly lower, than the graduation rates reported for the same group of students attending traditional brick-and-mortar high schools in the state (Montgomery, 2014). In this study, the data also revealed a significant discrepancy between the graduation rates of low socio-economic students attending virtual high schools compared to low socio-

economic students attending brick-and-mortar high schools (Montgomery, 2014). The evidence indicated that the virtual high schools in the state of South Carolina were not as effective in terms of graduating low socio-economic students from 2010 to 2013 (Montgomery, 2014).

This pattern of weaker growth remained consistent in terms of minority student subpopulations as well (CREDO, 2015). When compared to similar traditional brick-and-mortar high schools, the CREDO (2015) study suggested that virtual schools were significantly weaker academic growth for minority students. Only 2% of the virtual schools performed superior to their comparison brick-and-mortar high school. Virtual schools may be a good fit for some students, but the evidence suggested that they are currently underserving minority students that chose to attend virtual schools (CREDO, 2015). Virtual school proponents argued that many of the minority students they serve are at-risk students, who would have otherwise dropped out of school entirely. In general, advocates of virtual school's primary argument is that any educational gains are of benefit to those students and society in general (CREDO, 2015). At-risk students and their parents are drawn to the flexibility and accessibility of virtual high schools. In order to create more fully developed programs designed to serve at-risk students, awareness is a key factor and paramount for researchers and educators.

An example of the awareness of at-risk student populations and their individual needs were noted in a recent study of low-income students at the Arkansas Virtual Academy School, an open-enrollment virtual school in the state of Arkansas. Arkansas Virtual Academy made more progress in math and literacy as compared to their peers in traditional schools with regard to at-risk student subpopulations (Arkansas Department of

Education [ADE], 2016). Although well-designed virtual schools can create more opportunities, disadvantaged students traditionally benefit more from brick-and-mortar school with adults who can provide the emotional support these students often do not get at home (Morgan, 2015). Moving forward, it is important for educators and providers to realize the demographics that are taking advantage of virtual schools and develop a plan of study that encourages not only successful completion but also graduation.

Achievement. According to a 2015 report released by the University of Colorado Boulder, there were 400 full-time virtual schools nationwide that were serving more than 250,000 students. Though the overall number of virtual schools may seem small, many of these schools serve or have the potential to serve much larger numbers of students than traditional brick-and-mortar schools (DePaoli et al., 2017). Taking online courses allowed students to learn at their own pace, which provides flexible times to complete assignments (Morgan, 2015). However, studies were inconsistent on whether student achievement was higher for virtual high school students, and if they led students to graduation with a high school diploma.

According to a study by Barbour and Mulcahy (2008), virtual school students performed as well, or better than those enrolled in comparable traditional brick-and-mortar high schools. However, there were also numerous other studies that indicated the contrary. In the CREDO (2015) study of virtual high school students, the typical academic gains for math were the equivalent to 180 fewer days of instruction, and the equivalent of 72 fewer days for reading (CREDO, 2015; DePaoli et al., 2017; Morgan, 2015). The data showed that the majority of virtual school students had weaker academic

growth in both math and reading, as compared to traditional brick-and-mortar high school students.

According to the GradNation report, virtual high schools amounted to 10% of the low-graduation-rate high schools nationwide. Virtual schools also represented the highest percentage of low graduation schools with 87% (DePaoli et al., 2017). The national average graduation rate for virtual schools is 40%, with 22% of virtual school students returning to traditional brick-and-mortar high schools. Two years is the average length of time that a student spends in a virtual high school program (CREDO, 2015).

The Shachar and Neumann (2010) meta-analysis of over 125 studies compared virtual high schools to traditional brick-and-mortar high schools. The researchers concluded that 70% of the studies revealed achievement for virtual students to be better than that of brick-and-mortar students. Another study conducted by the United States Department of Education found that students in virtual schools performed better than those in brick-and-mortar schools. Although the case for virtual schools is strengthening, it is important to understand and anticipate the constant changes in education, and the continual advancements of technology to serve all students and provide pathways for at-risk students to achievement high school graduation (Brinson, 2015).

In 2015, 11 of the virtual schools in the CREDO (2015) report documented having graduating cohorts with more than 500 students, and five of those reported having more than 1,000 students. Of these eleven virtual schools, only two graduated more than 70% of students, while the other nine had graduation rates ranging from 16% to 58%. Virtual school programs appeared to lead towards poor academic achievement in some studies, not because of inherent problems with online instruction, but because of

poor implementation or lack of parental support. Stanford University analyzed the student achievement of eight virtual schools in Pennsylvania from 2007 to 2010 (CREDO, 2015). The researchers found that the students in brick-and-mortar public high schools outperformed these virtual high schools in every case (Morgan, 2015).

Summary

Currently, 84% of high school students are graduating on-time with their four-year cohort (DePaoli et al., 2017). This statistic continues to trend upward for the general population of students; however, certain subgroups of students are still being left behind (Legters & Balfanz, 2010; Messacar & Oreopoulos, 2013; Montgomery, 2014). Research indicated that dropping out of high school disproportionately affects minority students, low SES students, and students with disabilities (Montgomery, 2014). As graduation rate becomes a more significant aspect of school accountability, educational stakeholders must ensure that interventions are in place to serve at-risk students and provide equitable opportunities for all students to graduate from high school. Charter schools and virtual schools are included among these interventions as alternatives to the traditional brick-and-mortar high school.

Charter schools were designed to provide flexibility regarding curriculum, professional licensure, and required seat-time to meet the individual needs of diverse student learners. The flexibility that is provided by charter schools allows for more innovation and differentiation for individual students (Blazer, 2010). Charter schools also provide parents with a choice pertaining to where their child will attend school. Because many students are unable to attend costly private schools, charter schools provide equitable access to what was once only for more affluent students. The

federal government provides additional funding for the expansion of charter schools in areas that are found to consistently under-serve at-risk students. The research regarding charter school achievement data and the graduation rate is still very inconsistent and politically driven. As additional research is collected, stakeholders must continue to evaluate and make improvements that serve at-risk students.

Similar to charter schools, virtual schools were designed to provide students with additional flexibility, mainly in terms of the ability to complete coursework outside of a specified time and location (CREDO, 2015). This flexibility is advantageous for students in extremely rural locations to provide access to a rich and engaging academic curriculum. Virtual schools provide at-risk students with an alternative learning environment to complete schoolwork. A few reasons that might require an alternative learning environment include pregnancy, social and emotional issues, and students who might not be able to complete their academic studies (NFES, 2015). Data related to student achievement and graduation rate for virtual schools is still very scattered and dependent upon location and service provider. One consistent piece of evidence related to virtual schools is the lack of structure provided can be detrimental to certain at-risk student populations.

The findings of the literature review demonstrated the need for an in-depth, mixed-methods case study of an open-enrollment virtual charter school in order to provide recommendations for both policy-makers and other virtual schools with regard to providing academic, social, and emotional supports for all students in the virtual setting. This study included survey research of students and parents enrolled in a particular virtual school in Arkansas, as well an opportunity for those students and

parents to participate in semi-structured interviews to share individual thoughts about certain aspects that attracted them to the virtual school option, and what improvements can be made to better meet their needs. The purpose was to determine if virtual schools are a viable option for all students to complete the academic requirements for graduation from high school, and how improvements can be made to ensure the success of at-risk student subpopulations.

Chapter Three: Methodology

With the rapid growth of virtual education and online learning environments, there are a number of considerations that must be addressed before moving forward in order to ensure that students' academic, social, and emotional needs are met. The literature suggested that students and families were making the transition to virtual schools from traditional brick-and-mortar schools for a myriad of life-specific reasons (CREDO, 2015; DePaoli et al., 2017). These reasons included personal convenience, dissatisfaction with public schools, additional course offerings, and other life circumstances that prevented a student from attending a traditional brick-and-mortar school.

Quantitative data is still relatively scarce in Arkansas, as virtual high schools are still relatively new, and only recently began serving high school students full-time. However, with a growing population of open enrollment virtual high schools and district conversion charter virtual schools, it is necessary to investigate how participating students' and families' needs are being met, and to what extent these students are successfully graduating from high school. In order to further investigate the virtual school phenomenon in Arkansas, a mixed-methods case study of a virtual school was conducted using both quantitative and qualitative data.

Chapter Three will outline the methodology for the study, which was designed to answer the following questions:

1. What factors best predict students' interest in enrolling in a fully online virtual school in Arkansas?

2. Is there a statistically significant relationship between students' satisfaction, positive experience, and enrollment duration and attending fully online virtual school in Arkansas?

3. Are there statistically significant differences in the satisfaction between students attending a fully online virtual school in Arkansas and their parents?

4. Are there statistically significant differences in the level of students' satisfaction with a fully online virtual school in Arkansas based on their eligibility for Special Education services?

5. To what degree has a fully online virtual school in Arkansas satisfied students' and families' reasons for having selected it over a traditional brick-and-mortar school?

In this chapter, a description of the sample, as well as an explanation of the data collection and analysis, was explained in further detail. Finally, ethical considerations for the study and the treatment of the data was presented.

Research Design

The research design for this study was a mixed-methods sequential explanatory case study of a virtual school in the state of Arkansas. This two-phase design necessitated the collection of the quantitative data followed by the qualitative data to further explain the virtual school phenomenon (Creswell, 2013). Qualitative researcher, Robert K. Yin (2009), defined case study research as "An empirical inquiry that investigates a contemporary phenomenon within its real-life context; when the boundaries between phenomenon and context are not clearly evident; and in which

multiple sources of evidence are used" (p. 240). John Gerring (2017) quoted Franklin Giddings' 1924 textbook, in which he describes case study research:

> In the one, we follow the distribution of a particular trait, quality, habit or other phenomena as far as we can. In the other, we ascertain as completely as we can the number and variety of traits, qualities, habits, or what not, combined in a particular instance. The first of these procedures has long been known as the statistical method. The second procedure has almost as long been known as the case method. (p. 29)

Gerring (2017) further contended that the case study approach is defined as an intensive study of a single unit or units (the cases), for the purpose of understanding a larger population.

Within the framework of the mixed-methods design, case study research of the virtual school in Arkansas provided the structure for determining any phenomena that existed in the virtual setting for high school students. Through the lens of the sequential explanatory design, the study represented a quantitative look at students' and families' satisfaction with their decision to attend the virtual school, followed by an in-depth exploration of the school through interviews of students and parents (see Figure 4) (Creswell, 2013). In this case, a virtual high school in Arkansas was the focus as the researcher explored the reasons students and families chose virtual schools as a means to graduation.

Quantitative Data Collection
• Virtual School Survey Research

↓

Qualitative Data Collection
• Semi-structured Interviews

↓

Analysis
• **Data Integration**

↓

Recommendations
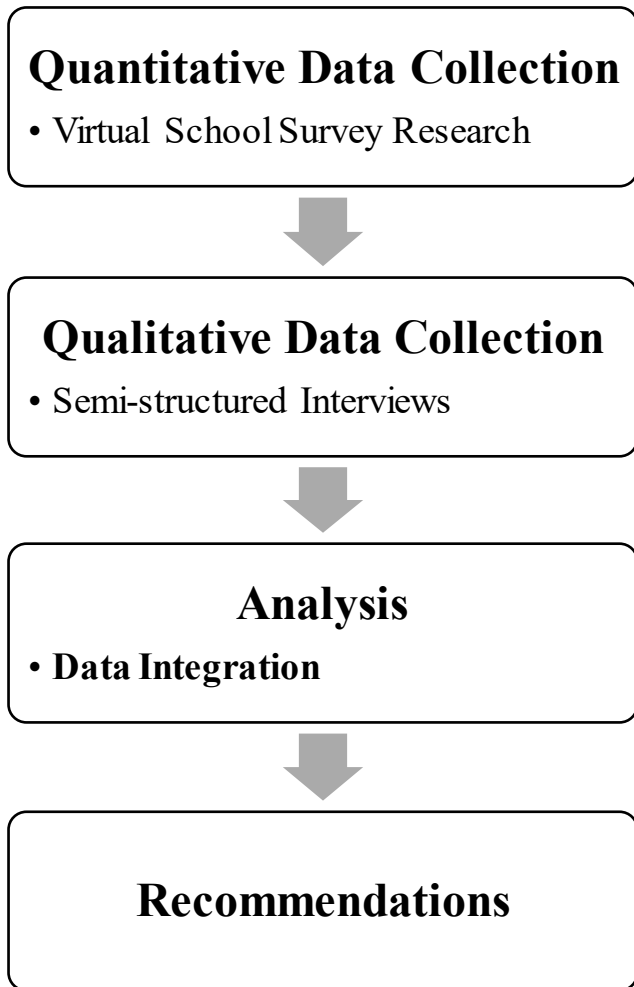
Figure 4. Sequential Explanatory Research Design.

The Sample

Online learning and virtual high schools are a relatively new, yet growing, sector of education in the state of Arkansas. The school selected for this study was Virtual High School in Arkansas, which is one of the most widely utilized online learning providers in the state. The learning platform of the Virtual High School is provided by K12™, which has a presence as an online virtual school provider in all 50 states, and the District of Columbia. K12™ delivers both tuition-free public virtual school options, as well as online private school options depending on the individual state and the choice of the

families. The Virtual High School is the longest running online virtual school in Arkansas and has a K-12 student enrollment of over 2,000 students.

The school consists of both a kindergarten through eighth-grade curriculum and a ninth through twelfth high school curriculum. Of the total enrollment, there were approximately 506 students enrolled in the Virtual High School for the 2018/2019 academic year, according to the October 1st Cycle Two Report. This report is submitted to the Arkansas Department of Education from every school district detailing student enrollment data, and free and reduced-price lunch eligibility. There were 78% Caucasian students, 12% African American students, and 6% Hispanic students. Approximately 349 (69%) students identified as economically disadvantaged, meaning they qualified for free, or reduced-priced lunch, and the Virtual High School provides special education services to 61 (13%) students.

The 2016-2017 school year was the inaugural year for graduates of the Virtual High School. The four-year cohort graduation rate for 2016-2017 was 79%, with 76% of those being Caucasian, 80% economically disadvantaged, and 80% representing the Targeted Achievement Gap Group (TAGG). A student was in the TAGG subgroup if he or she was in one of the following subgroups: Economically Disadvantaged, Students with Disabilities and English Language Learners (Arkansas Department of Education, n.d.). This four-year cohort rate was reflective of those students who began high school in the ninth grade and completed the graduation requirements within a four-year timespan. The Virtual High School has an 8% dropout rate, which was more than three times the state average. In this instance, a dropout is a student who ceased to attend

school and did not enroll elsewhere according to the state student information system (SIS). This dropout rate is likely due to the versatile nature of online enrollment.

For this study, the setting was chosen due to its prominence in Arkansas, as well as its longevity and demographic representation of the state. Of the students attending open-enrollment virtual schools in Arkansas, 85% of those students attend the Virtual High School. This provided a relevant platform to perform research in the state and investigate the reasons that students and families chose to attend virtual schools, rather than traditional brick-and-mortar public schools.

Data Collection

The researcher collected data through student and parent online surveys and semi-structured interviews. A letter was sent to the superintendent requesting permission to utilize an existing student/parent communication mechanism to recruit participants for the study (Appendix A). Once the superintendent's permission was granted, a recruitment email was sent to students and parents to request their participation (Appendix B). This recruitment email consisted of a survey to gather demographic and geographic information that was then used to determine the sample for the study. It also served as the instrument to gather large-scale data regarding student interest and satisfaction with the chosen learning environment. In addition, the e-mailed survey allowed each participant to indicate his or her willingness to participate in one of the follow-up interviews. Individual students' and parents' geographic locations were also used to select interview participants.

The interview protocol included questions suggested by the literature to determine why students chose to attend virtual high schools and why parents were supporting that

decision. The initial interview questions were adapted with permission from a previous study of virtual school students' and parents' satisfaction (Appendix C) (Gray, 2005). The researcher convened a pilot focus group of adults and students in order to test the reliability and validity of the instruments (Appendix F). At the conclusion of the pilot interviews, the instruments were revised to most accurately elicit appropriate responses. Revisions ensured that the questions were worded in a manner as not to assume positive or negative intent. Participants for the study represented a variety of different geographic locations; therefore, the interviews were conducted via *Zoom* online video conferencing. The information obtained from the interviews also assisted in determining appropriate follow-up questions.

Treatment of the Data

The individual responses to the online survey were compiled and analyzed to identify any recurring themes. These themes are reported in Chapter Four, along with the information from the interviews. Each of the interviews was video and audio recorded. Upon completion of each interview, the recordings were transcribed, and the participants were assigned pseudonyms in order to maintain their confidentiality. Only the researcher has information pertaining to the individual identities of the participants.

Also included in the study is information gathered from local and state sources regarding district-specific demographic information, accountability results, and other information that pertains to the school and its students. This information is also reported in Chapter Four, which paints a more complete picture of the school, and the students and families it serves.

Summary

Chapter Three provided a detailed description of the methods used in the mixed-methods case study of Virtual High School. The chapter presented the rationale for the study, and how it was implemented. The chapter also provided a study sample and how the data was collected and analyzed. In the following chapters, the researcher's findings will be reported, as well as the conclusions and recommendations of the study.

Chapter Four: Results

The purpose of the study was to determine what degree virtual high schools are meeting the needs of students and their families. The study included both surveys and interviews of current virtual high school students and their families to gather information about their reasons for attending high school virtually, and their subsequent satisfaction or dissatisfaction with that decision. This information was used to determine why virtual high schools are an effective avenue for some students to attain a high school diploma, as well as how such schools differ from traditional brick-and-mortar high schools. The following questions were used to guide this research:

1. What factors best predict students' interest in enrolling in a fully online virtual school in Arkansas?

2. Is there a statistically significant relationship between students' satisfaction, positive experience, and enrollment duration, and attending fully online virtual school in Arkansas?

3. Are there statistically significant differences in the satisfaction between students attending a fully online virtual school in Arkansas and that of their parents?

4. Are there statistically significant differences in the level of students' satisfaction with a fully online virtual school in Arkansas based on their eligibility for Special Education services?

5. To what degree has a fully online virtual school in Arkansas satisfied students' and families' reasons for having selected it over a traditional brick-and-mortar school?

To answer the first four research questions, the study utilized a digital survey, created using *QuestionPro* software, which was distributed to students and their families who had previously elected to participate in the research. The survey was distributed to 372 potential student participants and 372 potential family member participants. Of the 744 potential participants, the survey returned 253 entries. There were 57 entries that were excluded due to a lack of information provided in the survey responses for a total of 196 participants—126 student participants and 70 family member participants.

To answer research question five, the researcher conducted individual interviews with students and family members. The participants for the interviews were selected based on their interest in participating as indicated by their response to an invitation that was included in the survey instrument. The participants included six students and eight parents. The interviews were scheduled based on times that were selected by the participants and were conducted using the *Zoom* meeting platform. The instrument used for the interview portion of the study consisted of ten questions pertaining to students' and parents' reasons for choosing to attend high school virtually. The interviews were approximately 20 minutes in length and were recorded and transcribed for coding and analysis purposes. The software used for the analysis of the qualitative data was *Atlas.ti*. This software provided the common themes from the interviews regarding students' and families' reasons for selecting virtual school as a way to attend high school.

The data for this study were collected using two separate instruments in a mixed-methods research approach to answer the five research questions. For this study, the research questions were selected to build upon the previous and current literature regarding the viability of virtual schools as an option for students and their families.

Both the quantitative and qualitative data were collected from one fully online virtual school in the state of Arkansas.

Quantitative Data Analysis

Prior to the main quantitative analyses, the data were screened for systematic patterns of missing data (e.g., when no value was stored for the variable within variable sets) and found that the missing values were scattered evenly across variables and groups with a small number of cases, and no apparent patterns or clusters emerged.

Descriptive statistics. The participants of the study included both students and parents of students attending a virtual high school in the state of Arkansas. There were 126 student participants and 70 parent participants who completed the survey portion of the study. The ethnicity and free/reduced lunch distribution of participants were similar to the enrollment demographics of the academic intuition surveyed. The percentage of students receiving special education services was slightly lower than the overall demographics. In addition, the region associated with the participants was congruent to the virtual school demographics. The information in Table 2 represents the participant distribution for participant type, special education services required, participant ethnicity, participation in free or reduced-price lunch, the community type for the area in which the participants reside, and the participants' geographic location within the state of Arkansas. Additionally, the statistics for the participants' responses to the Likert-scale survey items are described in Tables 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, and 13.

Table 2

Descriptive Statistics

Demographics	Level	Counts	Total	Proportion	*p*
Parent Student	Student	126	196	0.643	< .001
	Parent	70	196	0.357	< .001
Special Ed	Yes	37	193	0.192	< .001
	No	140	193	0.725	< .001
	Prefer not to answer	16	193	0.083	< .001
Ethnicity	African American	11	197	0.056	< .001
	Hispanic	14	197	0.071	< .001
	Native American/Alaska Native	4	197	0.020	< .001
	White	162	197	0.822	< .001
	Prefer not to answer	6	197	0.030	< .001
Free Reduced	Yes	77	192	0.401	0.007
	No	96	192	0.500	1.000
	Prefer not to answer	19	192	0.099	< .001
Community	Rural	100	197	0.508	0.887
	Suburban	72	197	0.365	< .001
	Urban	25	197	0.127	< .001
Region	Northwest Arkansas	63	200	0.315	< .001
	North Central Arkansas	25	200	0.125	< .001
	Northeast Arkansas (Upper Delta)	19	200	0.095	< .001
	Central Arkansas	66	200	0.330	< .001
	Southeast Arkansas (Lower Delta)	11	200	0.055	< .001
	Southwest Arkansas	16	200	0.080	< .001

Note. Proportions tested against value: 0.5.

Table 3

Descriptive Statistics Question 7: I like the flexibility that virtual school offers to complete courses at (my/my child's) own pace.

Responses		Frequency	Percent	Valid Percent	Cumulative Percent
	Strongly Disagree	2	0.8	1.1	1.1
	Disagree	9	3.6	4.9	5.9
Valid	Neutral	22	8.7	11.9	17.8
	Agree	66	26.1	35.7	53.5
	Strongly Agree	86	34.0	46.5	100.0
	Total	185	73.1	100.0	
Missing		68	26.9		
Total		253	100.0		

Note. Participants include students and parents.

Table 4

Descriptive Statistics Question 8: I like that (I am/my child is) able to complete schoolwork from home or other convenient location.

Responses		Frequency	Percent	Valid Percent	Cumulative Percent
	Strongly Disagree	4	1.6	2.2	2.2
	Disagree	1	.4	.5	2.7
Valid	Neutral	10	4.0	5.4	8.1
	Agree	48	19.0	25.8	33.9
	Strongly Agree	123	48.6	66.1	100.0
	Total	186	73.5	100.0	
Missing		67	26.5		
Total		253	100.0		

Note. Participants include students and parents.

Table 5

Descriptive Statistics Question 9: (I have/My child has) fewer distractions compared to the previous school setting.

Responses		Frequency	Percent	Valid Percent	Cumulative Percent
	Strongly Disagree	10	4.0	5.4	5.4
	Disagree	15	5.9	8.1	13.5
Valid	Neutral	35	13.8	18.9	32.4
	Agree	59	23.3	31.9	64.3
	Strongly Agree	66	26.1	35.7	100.0
	Total	185	73.1	100.0	
Missing		68	26.9		
Total		253	100.0		

Note. Participants include students and parents.

Table 6

Descriptive Statistics Question 10: Q10-Virtual school provides classes that are tailored to meet (my/my child's) learning needs.

Responses		Frequency	Percent	Valid Percent	Cumulative Percent
	Strongly Disagree	9	3.6	4.9	4.9
	Disagree	5	2.0	2.7	7.6
Valid	Neutral	50	19.8	27.0	34.6
	Agree	73	28.9	39.5	74.1
	Strongly Agree	48	19.0	25.9	100.0
	Total	185	73.1	100.0	
Missing		68	26.9		
Total		253	100.0		

Note. Participants include students and parents.

Table 7

Descriptive Statistics Question 11: Because (I/my child) attend school virtually, (I have/my child has) few interactions with my peers.

Responses		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	13	5.1	7.0	7.0
	Disagree	41	16.2	22.2	29.2
	Neutral	30	11.9	16.2	45.4
	Agree	61	24.1	33.0	78.4
	Strongly Agree	40	15.8	21.6	100.0
	Total	185	73.1	100.0	
Missing		68	26.9		
Total		253	100.0		

Note. Participants include students and parents.

Table 8

Descriptive Statistics Question 12: I sometimes wish that (I/my child) had in-person interactions with the instructor.

Responses		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	13	5.1	7.0	7.0
	Disagree	49	19.4	26.5	33.5
	Neutral	66	26.1	35.7	69.2
	Agree	37	14.6	20.0	89.2
	Strongly Agree	20	7.9	10.8	100.0
	Total	185	73.1	100.0	
Missing		68	26.9		
Total		253	100.0		

Note. Participants include students and parents.

Table 9

Descriptive Statistics Question 13: (I am/My child is) more likely to fall behind with

virtual classes because (I/he/she) set(s) own pace.

Responses		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	51	20.2	27.6	27.6
	Disagree	50	19.8	27.0	54.6
	Neutral	38	15.0	20.5	75.1
	Agree	32	12.6	17.3	92.4
	Strongly Agree	14	5.5	7.6	100.0
	Total	185	73.1	100.0	
Missing		68	26.9		
Total		253	100.0		

Note. Participants include students and parents.

Table 10

Descriptive Statistics Question 14: (I am/My parents are) more engaged in my learning

now that (I am/my child is) taking classes online.

Responses		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	9	3.6	4.9	4.9
	Disagree	21	8.3	11.4	16.2
	Neutral	36	14.2	19.5	35.7
	Agree	74	29.2	40.0	75.7
	Strongly Agree	45	17.8	24.3	100.0
	Total	185	73.1	100.0	
Missing		68	26.9		
Total		253	100.0		

Note. Participants include students and parents.

Table 11

Descriptive Statistics Question 15: Virtual school provides (me/my child) with more courses than the previous school.

Responses		Frequency	Percent	Valid Percent	Cumulative Percent
	Strongly Disagree	13	5.1	7.0	7.0
	Disagree	33	13.0	17.8	24.9
Valid	Neutral	63	24.9	34.1	58.9
	Agree	39	15.4	21.1	80.0
	Strongly Agree	37	14.6	20.0	100.0
	Total	185	73.1	100.0	
Missing		68	26.9		
Total		253	100.0		

Note. Participants include students and parents.

Table 12

Descriptive Statistics Question 16: (I have had/My child has had) fewer negative experiences regarding school now that (I am/my child is) enrolled in virtual school.

Responses		Frequency	Percent	Valid Percent	Cumulative Percent
	Strongly Disagree	6	2.4	3.2	3.2
	Disagree	6	2.4	3.2	6.5
Valid	Neutral	36	14.2	19.5	25.9
	Agree	57	22.5	30.8	56.8
	Strongly Agree	80	31.6	43.2	100.0
	Total	185	73.1	100.0	
Missing		68	26.9		
Total		253	100.0		

Note. Participants include students and parents.

Table 13

Descriptive Statistics Question 17: How satisfied are you with (your/your child's)

decision to attend Virtual High School?

Responses		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Dissatisfied	6	2.4	3.2	3.2
	Dissatisfied	9	3.6	4.9	8.1
	Neutral	26	10.3	14.1	22.2
	Satisfied	62	24.5	33.5	55.7
	Very Satisfied	82	32.4	44.3	100.0
	Total	185	73.1	100.0	
Missing		68	26.9		
Total		253	100.0		

Note. Participants include students and parents.

Factor analysis. The researcher screened the relationships between the core survey questions to identify the items underlying the participants' opinions regarding attending the virtual school. Therefore, the researcher conducted a factor analysis to examine which survey items had similar patterns of responses and could be collapsed into a few interpretable factors. Initially, the factorability of the Likert-scale survey items was examined. Several well-recognized criteria for the factorability of a correlation were used. First, it was observed that all items correlated at least .3 with at least one other survey item, suggesting reasonable factorability. Secondly, the Kaiser-Meyer-Olkin measure of sampling adequacy was .848, above the commonly recommended value of .6, and Bartlett's test of sphericity was significant (Approx. Chi-Square $= 830.399$, $p < .001$) (see Table 14). The diagonals of the anti-image correlation matrix were also all over .5. Finally, the communalities were all above .3 (see Table 15); further confirming that each

item shared some common variance with other items. Given these overall indicators, factor analysis was deemed to be suitable with all 11 Likert-scale items.

Table 14

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.848
Bartlett's Test of Sphericity	Approx. Chi-Square	830.399
	df	55
	p	.000

Note. Significance at the *p* < 0.001 level

Table 15

Communalities Table for All 20 Questions

Question	Initial	Extraction
Individual pacing	1.000	.725
Convenient location	1.000	.655
Fewer distractions	1.000	.573
Classes tailored my learning needs	1.000	.672
Fewer negative experiences	1.000	.661
My parents more engaged in my learning	1.000	.434
Virtual school more courses	1.000	.678
Fewer interactions with my peers	1.000	.595
Missing in-person interactions with my instructor	1.000	.767
Likely to fall behind because I set my own pace	1.000	.576
Overall satisfaction with virtual school	1.000	.783

Note. Extraction Method: Principal Component Analysis.

A principal component analysis was used because the primary purpose was to identify and compute composite scores for the factors underlying the 11-item self-efficacy survey. Initial Eigenvalues indicated that the first two factors explained 42%, and 12% of the variance respectively, and the two-factor solution explained 54% of the variance. For the final stage, a principal component factor analysis of the 11-item survey, using varimax and oblimin rotations, was conducted, with two factors explaining 54% of the variance. An oblimin rotation provided the best-defined factor structure. All items in this analysis had primary loadings over .5. Internal consistency for each of the scales was examined using Cronbach's alpha. The alphas were large: .85 for The Virtual School's Positive Experience (5 items) (See Table 16).

Table 16

Reliability Statistics Table

Factor	Cronbach's Alpha	*N* of Items
The Virtual School Positive Experience	.895	5

Note. Correlation Cronbach's Alpha is large.

Overall, these analyses indicated that Virtual School Positive Experience was the one distinct factor underlying participants. An approximate normal distribution was evident for the composite score data in the current study; thus, the data were well suited for parametric statistical analyses.

Results. The purpose of the quantitative portion of the study was to investigate whether the fully online virtual school in the state of Arkansas was meeting the needs of students and their families, and any possible implications and recommendations for traditional brick-and-mortar public high schools. The investigation provided relevant

data pertaining to the study's research questions to determine what degree students and families are satisfied with the decision to attend school virtually.

More specifically, the quantitative data aimed to examine factors to best predict students' interest in continued enrollment in the virtual school. Further, the investigator examined if there was a significant relationship between students' satisfaction, positive experience, and their duration attending the virtual school. Finally, this study investigated if there were significant differences in the experience with the virtual school between students and their parents, as well as if there were significant differences in the level of students' satisfaction with the virtual school based on their enrollment in special education services.

Question one. What factors best predict students' interest in enrolling in a fully online virtual school in Arkansas?

Multiple regression assumptions. To address this question, the researcher conducted a Multiple Regression analysis. The regression descriptive statistics output was checked for multicollinearity assumptions between predictor variables and found that correlations between the variables were less than 0.7; therefore, none of the included predictors had multicollinearity. Further, all predictor variables correlated with the outcome variable (Satisfaction with the Virtual School) at a value greater than 0.3. The linear relationship between the independent variables and the dependent variable was checked through the probability plot and found that all points were following a straight line (see Figure 1). Next, a scatterplot was checked and found the regression standardized residual on the y-axis and the regression standardized predicted value on the x-axis were within -3 to 3.

Next, the residual statistics were checked through standard residual and found that there was a standard residual minimum of -3.975, and a maximum of 3.368. Finally, the Cooks Distance was checked and found that the minimum was .000, and the maximum was .267, and it was less than 1. The ANOVA table showed there was statistical significance; therefore, the researcher rejected the null hypothesis as the regression slope was 0. The researcher used the R-square (this research has an adequate sample size). Data diagnostics were conducted to ascertain whether assumptions underlying the validity of conclusions based on the regression analysis were met. A preliminary examination of histograms and normality plots suggested that all variables were normally distributed (see Figure 2). Subsequent analyses were conducted using the Kolmogorov-Smirnov test. The results of these tests confirmed that none of the variables differed from normality at the 0.05 significance level. Next, the researcher conducted a multiple regression analysis to identify the unique variance predicted by the independent variable.

Multiple regression analysis. Multiple linear regression analysis was conducted to develop a model predicting students' interest in continued enrollment in the virtual school in Arkansas. The predictor model was able to account for 68% of the variance in the dependent variable and was statistically significant at $p < .000$. The individual predictors were examined further, and the results indicated that the independent variables Virtual School Positive Experience and the Enrollment Duration for students who attended the virtual school were found to be a significant predictor of students' interest in continued enrollment in the virtual school in Arkansas (t = 18.451 and 4.230, $p = .001$).

Basic descriptive statistics and regression coefficients are summarized in Tables 17, 18, 19, 20 and Figure 5.

Table 17

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.826[a]	.683	.677	.586	.683	129.785	3	181	.000

Note. Sig. at $p < .001$ a. Predictors: (Constant), How long have you attended the virtual school, Community Type, Virtual School Positive Experience, b. Dependent Variable: Satisfaction with The Virtual School.

Table 18

ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
	Regression	133.690	3	44.563	129.785	.000[b]
1	Residual	62.148	181	.343		
	Total	195.838	184			

Note. Sig. at $p < .001$, a. Dependent Variable: Satisfaction with The Virtual School, b. Predictors: (Constant), How long have you attended virtual school, Community Type, Virtual School Positive Experience.

Table 19

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	*p*
		B	Std. Error	Beta		
1	(Constant)	-.337	.254		-1.329	.186
	Virtual School Positive Experience	.206	.011	.782	18.451	.000
	Community Type	-.078	.062	-.053	-1.260	.209

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How long have you attended Virtual School	.167	.039	.180	4.230	.000

Note. Sig. at $p < .001$, a. Dependent Variable: Satisfaction with virtual school.

Table 20

Residuals Statistics

Statistics	Minimum	Maximum	*M*	*SD*	*N*
Predicted Value	.99	5.40	4.11	.852	185
Std. Predicted Value	-3.662	1.513	.000	1.000	185
Standard Error of Predicted Value	.050	.170	.084	.021	185
Adjusted Predicted Value	.99	5.41	4.11	.855	185
Residual	-2.329	1.974	.000	.581	185
Std. Residual	-3.975	3.368	.000	.992	185
Stud. Residual	-3.997	3.511	.001	1.005	185
Deleted Residual	-2.354	2.145	.001	.597	185
Stud. Deleted Residual	-4.174	3.627	.001	1.016	185
Mahal. Distance	.344	14.453	2.984	2.322	185
Cook's Distance	.000	.267	.007	.028	185
Centered Leverage Value	.002	.079	.016	.013	185

Note. a. Dependent Variable: Satisfaction with the Virtual School.

Normal P-P Plot of Regression Standardized Residual

Dependent Variable: Satisfaction with The Virtual School
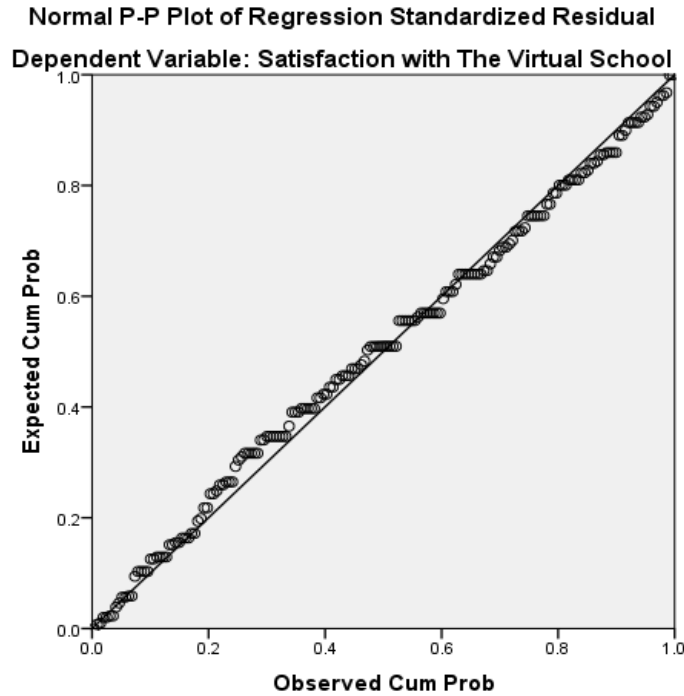
Figure 5. Normal P-P Plot of Regression Standardized Residual Dependent Variable: Satisfaction with The Virtual School.

Histogram

Dependent Variable: Satisfaction with The Virtual School
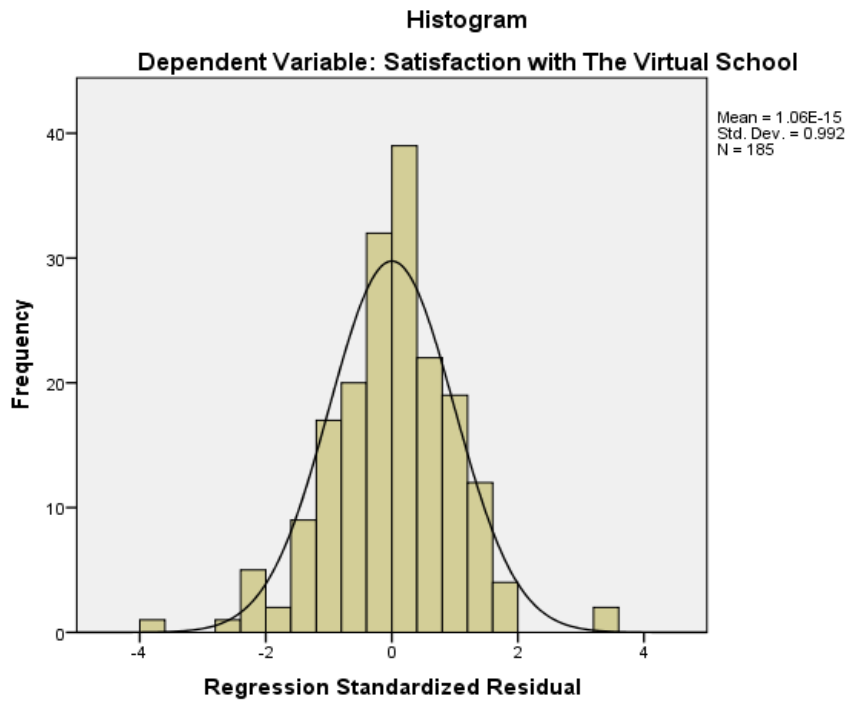
Figure 6. Histogram, Dependent Variable: Satisfaction with Virtual High School.

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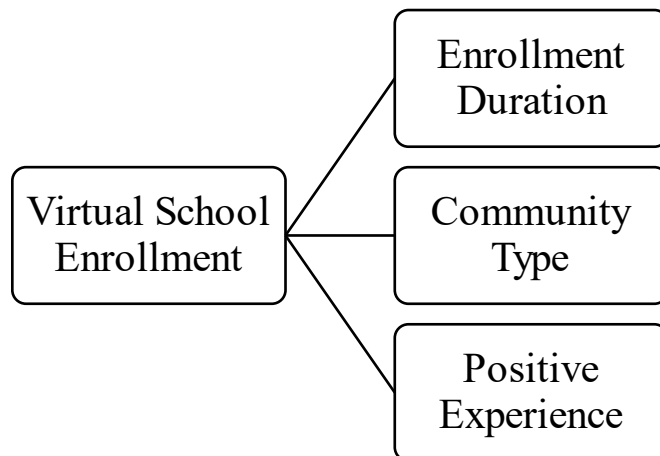
Figure 7. Factors Best Predict Students' Interest to Enroll in The Virtual School.

Question two. Is there a statistically significant relationship between students' satisfaction, positive experience, and enrollment duration and attending fully online virtual school in Arkansas?

To answer the second question, the researcher conducted a Pearson correlation coefficient to assess the relationship between the students' level of satisfaction with the virtual school, their positive experience, their retention in the virtual school, and the number of reasons they indicated to stay in the Arkansas virtual school.

The analysis showed that all variables correlated with participants' satisfaction to stay with the virtual school. The correlation was strong and positive between these variables, level of virtual school satisfaction ($M = 4.11$, $SD = 1.03$) r = .80, $p = < .001$, their own positive experience ($M = 20.56$, $SD = 4 .06$) r = .29, $p = < .001$, retention in the virtual school ($M = 2.17$, $SD = 1.113$) r = .80, $p = < .001$, and their reasons to attend virtual school ($M = 20.37$, $SD = 4.068$). Correlations coefficients are summarized in Table 21 and 22.

Table 21

Descriptive Statistics

Responses	*M*	*SD*	*N*
Satisfaction with The Virtual School	4.11	1.032	185
Positive Experience	20.37	4.068	186
Virtual School Attendance Duration	2.17	1.113	192
Reasons to attend Virtual School	20.37	4.068	186

Note. Participants include students and parents.

Table 22

Correlations Between Satisfaction with Virtual School, Experience, Time Attended

Virtual School and Reasons for Attending Virtual School

Responses		Satisfaction with Virtual School	Virtual School Positive Experience	How long have you attended Virtual School	Why Virtual School
Satisfaction with Virtual School	Pearson Correlation	1	.804**	.293**	.804**
	Sig. (2-tailed)		.000	.000	.000
	N	185	185	185	185
Virtual School Positive Experience	Pearson Correlation	.804**	1	.139	1.000**
	Sig. (2-tailed)	.000		.059	.000
	N	185	186	185	186
How long have you attended Virtual School	Pearson Correlation	.293**	.139	1	.139
	Sig. (2-tailed)	.000	.059		.059
	N	185	185	192	185
Why Virtual School	Pearson Correlation	.804**	1.000**	.139	1
	Sig. (2-tailed)	.000	.000	.059	
	N	185	186	185	186

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

Question three. Are there statistically significant differences in the satisfaction between students attending a fully online virtual school in Arkansas and their parents?

To answer this question, the researcher conducted a one-way between subjects' ANOVA to compare the mean difference between students and their parents Why Virtual School, Virtual School Positive Experience, and Satisfaction with Virtual School.

The results of the analysis indicated there was a significant difference between students and their parents on reasons for selecting Virtual School, Experience with Virtual School and Satisfaction with Virtual School at the $p < .001$ level. For reasons selecting virtual school: [$F (1, 184) = 12.584$, at $p < .001$ level, and for Experience with virtual school: [$F (1, 184) = 12.584$, at $p < .001$ level and for Satisfaction with virtual school [$F (1, 183) = 18.609$, at $p < .001$ level. Table 23, 24, 25, 26, and Figures 8 and 9 summarize the one-way between subject's ANOVA.

Table 23

Descriptive Statistics of One-Way Between-Subjects' ANOVA

| | | | | | | 95% Confidence Interval for Mean | | | |
| | | | | | Std. | Lower | Upper | | |
Responses		N	M	SD	Error	Bound	Bound	Minimum	Maximum
Why Virtual School	Student	124	19.65	4.154	.373	18.91	20.38	5	25
	Parent	62	21.82	3.490	.443	20.94	22.71	9	25
	Total	186	20.37	4.068	.298	19.78	20.96	5	25
Virtual School Positive Experience	Student	124	19.65	4.154	.373	18.91	20.38	5	25
	Parent	62	21.82	3.490	.443	20.94	22.71	9	25
	Total	186	20.37	4.068	.298	19.78	20.96	5	25
	Student	123	3.89	1.088	.098	3.69	4.08	1	5

					Std.	95% Confidence Interval for Mean			
Responses		N	M	SD	Error	Lower Bound	Upper Bound	Minimum	Maximum
Satisfaction with Virtual School	Parent	62	4.55	.739	.094	4.36	4.74	1	5
	Total	185	4.11	1.032	.076	3.96	4.26	1	5

Note. Participants include students and parents.

Table 24

Test of Homogeneity of Variances

Responses	Levene Statistic	df1	df2	Sig.
Why Virtual School	1.317	1	184	.253
Virtual School Positive Experience	1.317	1	184	.253
Satisfaction with Virtual School	9.118	1	183	.003

Note. Significant at the 0.05 level.

Table 25

Descriptive Statistics of One-Way Between-Subjects' ANOVA

Responses		Sum of Squares	df	Mean Square	F	Sig.
Why Virtual School	Between Groups	195.968	1	195.968	12.584	.000
	Within Groups	2865.435	184	15.573		
	Total	3061.403	185			
Virtual School Positive Experience	Between Groups	195.968	1	195.968	12.584	.000
	Within Groups	2865.435	184	15.573		
	Total	3061.403	185			

Responses		Sum of Squares	df	Mean Square	F	Sig.
Satisfaction with Virtual School	Between Groups	18.076	1	18.076	18.609	.000
	Within Groups	177.761	183	.971		
	Total	195.838	184			

Note. Significant at the 0.001 level.

Table 26

Descriptive Statistics of One-Way Between-Subjects' ANOVA

Responses	Test	Statistic[a]	df1	df2	Sig.
Why Virtual School	Brown-Forsythe	14.126	1	142.547	.000
Virtual School Positive Experience	Brown-Forsythe	14.126	1	142.547	.000
Satisfaction with Virtual School	Brown-Forsythe	23.778	1	167.208	.000

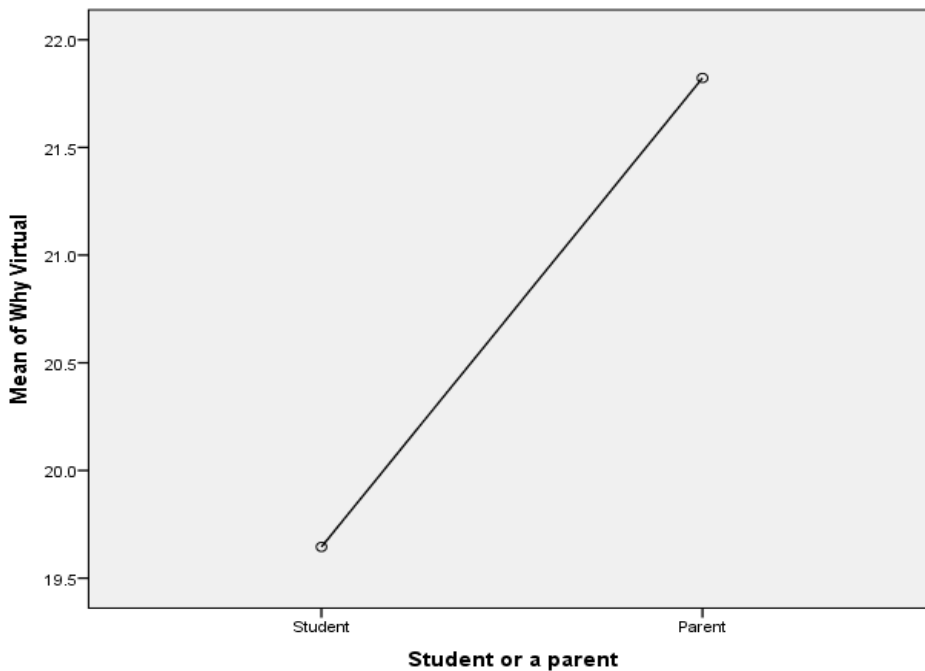*Note.* Significant at the 0.001 level. a. Asymptotically F distributed.

Figure 8. Comparison of Why Virtual School Means for Students and Parents

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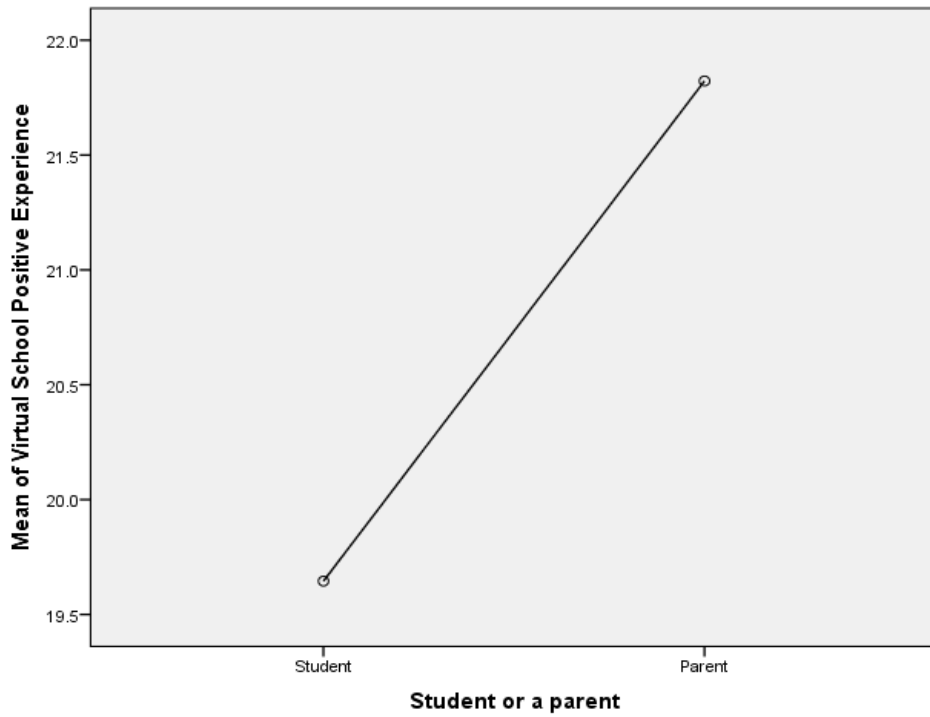
Figure 9. Comparison of Virtual School Positive Experience Means for Students and Parents
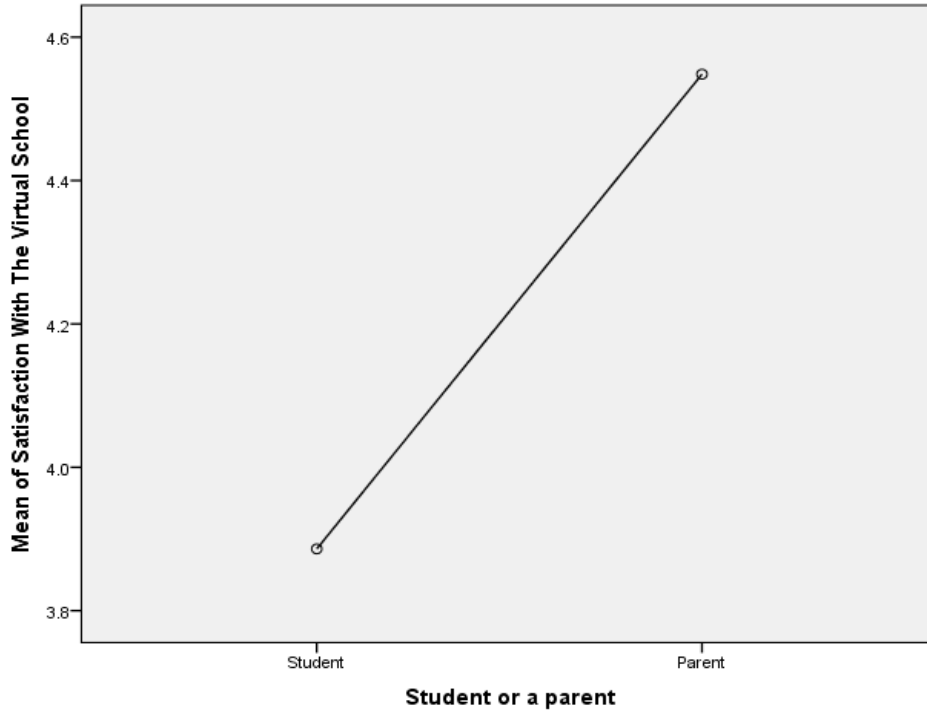
Figure 10. Comparison of Virtual School Satisfaction Means for Students and Parents

Question four. Are there statistically significant differences in the level of students' satisfaction with a fully online virtual school in Arkansas based on their eligibility for Special Education services?

To answer this question, the researcher conducted a one-way between subjects' ANOVA to compare the mean difference between students' satisfaction with the virtual school and reasons attending the virtual school based on enrollment in special education services.

The results of the analysis indicated that there was a significant difference between students based on enrollment in special education services at the $p < .001$ level. For Satisfaction with Virtual School: [F (2, 182) = 5.733, at $p < .004$ level, and Reasons Attending Virtual School: [F (2, 182) = 8.723, at $p < .001$ level.   Tables 27, 28, 29, 30 and Figures 11 and 12 summarize the one-way between subject's ANOVA.

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Table 27

Descriptive Statistics of One-Way Between-Subjects' ANOVA

Responses		N	M	SD	Std. Error	95% Confidence Interval for Mean		Min	Max
						Lower Bound	Upper Bound		
Satisfaction with Virtual School Total	Yes	37	.43	.694	.114	.20	.66	-2	1
	No	132	-.06	1.028	.089	-.24	.12	-3	2
	Prefer not to answer	16	-.48	1.075	.269	-1.05	.09	-2	1
	Total	185	.00	1.000	.074	-.15	.15	-3	2
Reasons attending Virtual School	Yes	37	22.62	2.498	.411	21.79	23.45	15	25
	No	132	20.07	3.979	.346	19.38	20.75	6	25
	Prefer not to answer	16	18.63	4.303	1.076	16.33	20.92	13	25
	Total	185	20.45	3.918	.288	19.89	21.02	6	25

Note. The analysis includes reasons for selecting virtual school and their Satisfaction with virtual school.

Table 28

Test of Homogeneity of Variances

Responses	Levene Statistic	df1	df2	Sig.
Satisfaction with VS total	2.196	2	182	.114
Why Virtual School	2.349	2	182	.098

Note. Significance at the 0.05 level.

Table 29

Descriptive Statistics of One-Way Between-Subjects' ANOVA

Responses		Sum of Squares	df	Mean Square	F	Sig.
Satisfaction with Virtual School Total	Between Groups	10.905	2	5.453	5.733	.004
	Within Groups	173.095	182	.951		
	Total	184.000	184			
Why Virtual School	Between Groups	247.020	2	123.510	8.723	.000
	Within Groups	2576.839	182	14.158		
	Total	2823.859	184			

Note. Significant at the 0.001 level.

Table 30

Between-Subjects' ANOVA Robust Tests of Equality of Means

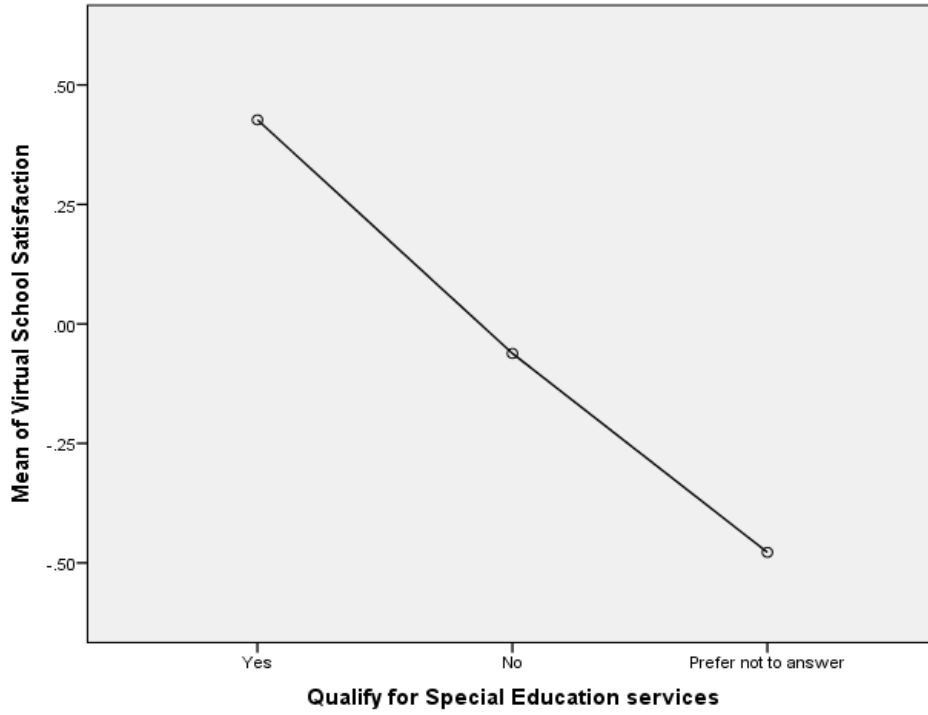| Responses		Statistic[a]	df1	df2	Sig.
Satisfaction with VS total	Welch	7.897	2	37.438	.001
Why Virtual School	Welch	13.607	2	37.516	.000

Note. a. Asymptotically F distributed.

Figure 11. Comparison of Virtual School Satisfaction Means and Special Education
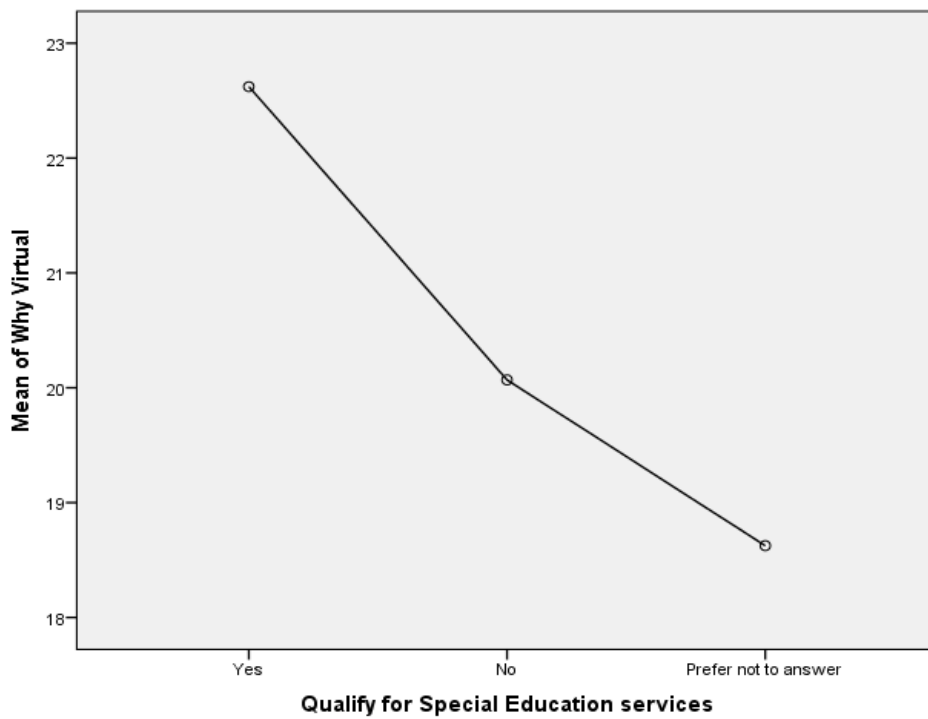

Figure 12. Comparison of Why Virtual Means and Special Education

Qualitative Data Analysis

To address the final research question, qualitative data were gathered through semi-structured interviews with students and parents of students who attended a fully online virtual school in the state of Arkansas. The participants were selected based on their stated interest, as indicated in the survey that was completed for the study. There were eight parent participants and six student participants in the interview portion of the study. The interviews were scheduled at a time and date convenient to the participants and were conducted utilizing the *Zoom* online meeting platform. During the interviews, the participants were asked ten questions pertaining to four central topics: overall satisfaction with the virtual school, disadvantages with participating in virtual school, improvement recommendations for virtual schools, and improvement recommendations for traditional brick-and-mortar schools.

Question 5. To what degree has a fully online virtual school in Arkansas satisfied students' and families' reasons for having selected it over a traditional brick-and-mortar school?

Virtual school satisfaction. The virtual school satisfaction portion of the interview yielded two distinct datasets: students' and families' overall satisfaction with their decision to attend a virtual school, and their initial reasons for having selected to attend. The interview questions used to gather data for these topics included:

Students:

- Why did you choose to attend high school online?

- Why did you to want to change the way you attend school?

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- In your mind, what is the biggest difference between your previous school and the online school you are currently attending?

- What do you like best about attending school online?

- What do you miss about attending a traditional school?

- Do you feel you are more or less successful in virtual school?

- Do you feel that your parents are more or less involved in your education, now that you are attending school virtually?

Parents:

- Why do you support your child's choice to attend school online?

- Were there specific issues regarding your child's previous school that led you to change?

- What specific aspects do you like about online school?

- What advantages do you feel there are to online education?

- Do you feel that online learning adequately prepares your child for success?

- What are the greatest challenges for your child in online education?

- Do you feel that you are more or less involved in your child's education now that he or she attends school virtually?

The transcripts for both the student responses and the parent responses were collected, transcribed, and coded to reveal the common themes throughout the interviews. The data collected for this section of the research revealed that all 14 participants in the interviews were completely satisfied with their decision to attend school virtually. The recurring themes regarding the reasons for having selected to attend a virtual school included academic advantages, flexibility and convenience, social and

behavioral issues, and negative experiences with teachers and administrators. These themes resounded throughout all of the interviews, and many of the participants expressed similar sentiments.

Academic advantages. Participants expressed that the academic advantages virtual school provided were in the areas of curriculum, learning environment, and support. On eight different occasions, participants indicated that the specific curriculum used by the virtual school was far superior to what they experienced at the traditional brick-and-mortar school. One participant indicated, "the curriculum is much more challenging than what I was used to with the brick-and-mortar school." At the same time, another participant mentioned: "the curriculum that we had at our brick-and-mortar school seemed outdated." Additionally, a student participant said, "I have gotten more real-world experiences through working online than in traditional school." That same student later indicated that she had the opportunity to present a project at the national DECA, Inc. competition. DECA Inc. is a student organization representing the fields of marketing, finance, hospitality, and management (DECA Inc., n.d.).

The learning environment was another academic advantage that participants expressed with regard to the virtual school. Parent participants indicated that knowing the learning environment that their students were in was a significant factor in having chosen the virtual school. One parent responded with "I know where my kids are and what they are learning – that is the best peace-of-mind." Another parent said that she appreciated "the one-on-one attention that their student received with the online teachers." The student participants also indicated they appreciated that the learning

environment was more conducive to productivity. A female student said, "[virtual] is a more comfortable environment – I learn best when I am comfortable."

Support was another facet of the academic advantages that were noted by participants. Both parental support and teacher support were mentioned by students and parents as being crucial to the success of virtual students. Support was mentioned on eight separate occasions by both parents and students. Support in terms of having parents around and available during the day to assist with academic issues, as well as having open lines of communication not only between teachers and students but also teachers and parents. One parent mentioned, "I see what is going on day-to-day and know what my child is learning" while another said, "I am involved and feel very connect to my child's teachers and education." A student also said, "my parents are able to talk to my teachers to see how they can help." Having open lines of communication for both students and parents was a significant advantage that was expressed by all participants. Regarding a previously attended brick-and-mortar school, one parent said, "I would struggle to be involved in a brick-and-mortar school, whereas now I am fully engaged."

Flexibility and convenience. Flexibility and convenience was another recurring theme throughout the interviews regarding students' and families' choice to attend a virtual school. Participants mentioned aspects of flexibility and convenience 69 different times throughout the interviews, ranging from instant access to curriculum and resources to individualized pacing. Convenience and flexibility were most notably mentioned with regard to time and space, program individualization, and ease of support. Interview participants stated that the flexibility of time and space were at the forefront of reasons

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for having chosen virtual school over traditional brick-and-mortar schools. Nine of the fourteen interview participants specifically mentioned that they liked the flexibility that the virtual school offered. One student who lived in a rural setting said, "I am able to work on our farm and still go to school" while another student from a more urban setting stated, "access to materials at any time was one of the most important reasons when we were considering virtual school." Another student mentioned, "I like that I am able to work ahead and choose what I want to work on for the day." Participants universally accepted that having the flexibility of when and where students complete their academic studies provides families with more opportunities to be engaged in the academic process.

Individualization was another topic of flexibility and convenience that was expressed by interview participants. For the participants of this study, individualization was in the form of the student's ability to work at his/her own pace, increased one-on-one attention from the instructor, and being able to manage schedules in a manner consistent with family needs, to name a few. All six of the student participants mentioned that the ability to work at an individual pace was important to them as a virtual student. One parent also stated, "I wanted my child to be able to work at his own pace – not the pace of 25 other students." Another parent mentioned that she appreciated that "my child understands how to schedule and manage her time because of virtual school." In addition to the benefits that were expressed by participants, one participant cautioned, "students must be self-disciplined in order to be successful in the virtual setting."

The ease of support was mentioned by both students and parents with regard to the flexibility and convenience of virtual school. Both participant groups indicated that it was easier to communicate with the instructor, and that feedback was delivered in a

timely manner. Student participants also mentioned that it was easier to involve their parents in the learning process. One student participant mentioned, "they [parents] are able to talk to my teachers to see how they can help." Fifty percent of the parent participants specifically mentioned that it was much easier to establish two-way communication with the instructors at the virtual school as compared to their previously attended brick-and-mortar school. "The instructors are able to meet virtually and explain what is happening in a particular unit and provide resources for us to help engage students" is what one parent participant shared about the parent-teacher communication. When parents were asked what they liked best about virtual school, seven out of eight participants mentioned ease of communication as a significant contributing factor.

Social and behavior issues. The third major theme that the data revealed to support students' and families' reasons for choosing to attend high school virtually was social and behavioral issues. Social and behavioral issues were not as significant as the previous key themes that were presented, having only been mentioned 32 times throughout all of the interviews; however, commonalities were expressed in terms of social anxiety, negative peer interactions, and distracting behaviors. Several participants mentioned that attending school virtually had significantly aided in dealing with social anxiety. A student participant mentioned that if virtual school were not an option, she would have needed to drop out of school entirely. Another student mentioned that his virtual school teachers were much more accommodating in terms of helping him deal with his social anxiety. He stated, "The teachers at my traditional school were not very helpful when it came to assisting me with my anxiety issues - in virtual it was not even an

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issue." One parent participant was so concerned about her student that she stated, "I had to get my child out of public school – the social anxiety was getting the best of her" while another said, "my daughter was having trouble in school, and her therapist recommended I look into a virtual school." Twenty-five percent of the parent participants indicated that at least one of their children was attending virtual school due to some form of anxiety issue.

Negative peer interactions were another contributing factor to social and behavioral issues which led participants to choose virtual school over traditional brick-and-mortar school. The negative peer interactions expressed included incidents such as bullying and not being able to fit in with peer groups. Of the 14 participants, 42% indicated that some form of bullying took place while they attended a traditional brick-and-mortar high school. A parent participant stated, "our son started having problems in public school with bullying, and when we realized that we could have a great curriculum without all of the social stressors, it was a no-brainer." The same sentiments were noted by two other parent participants, who mentioned that their students were bullied because of disabilities. One student stated, "I did not fit in with the other students in traditional school and found myself just doing my own thing without getting my school work done." Another student went on to say, "the teachers even started bullying me." The student and parent participants agreed that there were almost zero negative peer interactions with virtual school, due to the individual nature of the learning environment.

Distractions and distracting behavior were mentioned by a number of participants as a significant reason to transition to virtual school. These behaviors were mentioned on 18 separate occasions by participants. Behaviors such as significant discipline issues

within the classroom, and the sheer number of students in a particular room, were said to be distractions to students. One student said, "public school was just chaos, and I would get upset every day – if some kids were misbehaving, the whole class would be punished, and I could not get anything done in school." A parent stated about their son, who has been given a diagnosis of ADHD,

> We tried a local public school and for a year, it worked great. The next year with different teachers and different classes it did not work for his ADHD. We were told we needed to put him back on medicine and we did not want to do that.

In addition to the distracting behaviors of other students, participants also mentioned that the structure of the brick-and-mortar schools themselves also presented distractions. Students mentioned attending seven or eight different classes, chaos in the hallways and at lunch, and having classrooms with 25 to 30 students, all constituted distractions that students did not encounter in a virtual setting.

Racial disparity was mentioned by one of the parent participants of the study. Although an outlier, the researcher believed it was important to include due to the current social climate. The participant said that she chose her daughter to attend virtual school because she was multiracial. The mother stated, "the school district where we were was, it was mostly white kids, it's white flight basically, and we had to look at where she would be accepted." The participant gave no indication of negative experiences regarding race in her previous brick-and-mortar school; however, the participant mentioned that they had recently moved for personal reasons.

Negative experiences with teachers and administrators. The final theme for virtual school satisfaction, or lack thereof, was negative experiences with a teacher and

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administrator with the previous school setting. Although it was not mentioned as frequently as the other major components of the research, only 13 times, these negative experiences had a lasting impact on both the students and parents. Some of the comments by the students and parents included "I wish some of the teachers were not there anymore," "I felt like I was being targeted all the time," and "the younger teachers seem to get wrapped up in the social environment" to mention a few. In addition, one student noted, "I wish that my teachers would have handled discipline issues better so that there were fewer distractions" when asked what he wished were different about his brick-and-mortar school experience. Other comments related to negative experiences with teachers and administrators focused on wanting more training provided to teachers regarding bullying and managing student behavior in the classroom.

Disadvantages of attending virtual school. Along with the reasons for having selected to attend a virtual school, there were also a number of disadvantages that were indicated by the interview participants. Those disadvantages included academic, extracurricular opportunities, social engagement, and parental support. The interview questions that were used to gather data for this topic included:

Students:

- What disadvantages do you feel there are to attending virtual school?

Parents:

- What disadvantages do you feel there are to online education?

The analysis of this dataset indicated four areas where participants expressed dissatisfaction with the virtual school: academic, extracurricular offerings, social experiences, and parental support.

According to participants of the study, the academic disadvantages that a virtual school possessed ranged from not having a teacher present while working on assignments, to staying on task in a highly self-paced environment. Participants mentioned the academic disadvantages eight times during the interviews. A student participant said, "one disadvantage is there is not a teacher right there to help you with assignments – you have to send an email and wait for a response - but not long, though." Two other participants had the same concern about not having an instructor there to guide the learning process on a day-to-day basis. One parent stated, "a student who is not a strong reader, would not succeed in a virtual setting" indicating that much of the curriculum must be read by the student in order to fully comprehend the material. Another parent mentioned, "there is certainly a lack of guidance for students, and they must be independent thinkers to do virtual school." Academic concerns for the virtual school accounted for 40% of the disadvantages that were expressed by participants.

Another disadvantage of attending a virtual school noted by participants was the lack of extracurricular activities. While certain parents and students mentioned this as a disadvantage, they acknowledged the sacrifice they made by choosing to attend a virtual school. Two participants indicated this as a disadvantage and expressed that not having the extracurricular activities "was not a deal breaker." One participant said, "it would be nice, but I also understand the potential issues that could arise." Another participant stated, "I know that we can participate in extracurricular activities through local public schools; however, there would be issues there that I was dealing with in my previous school." Both participants affirmed that the lack of extracurricular activities was not a major concern, but one that must be considered.

Social engagement was also noted as a disadvantage for virtual school students. Forty-five percent of the concerns listed as disadvantages for virtual students pertained to social engagement opportunities. Participants agreed that the individualized nature of virtual learning necessitated having fewer social interactions; however, they indicated that providing more opportunities for students to engage with one another would be beneficial. One participant mentioned, "it would be nice if we could have a Class Connect where we could just discuss assignments or visit with each other about video games, anything really." All of the student participants mentioned that a lack of social interaction was a disadvantage of attending virtual school. Parent participants also expressed similar sentiments stating, "we had to overcome not having day-to-day social interaction."

Lack of support in real time was mentioned as a disadvantage for virtual school students. Participants indicated they still receive feedback and communicate with their instructors; however, having someone present to assist with work is missing from virtual education. Although participants understood that this disadvantage was unavoidable in virtual environments, they argued that virtual schools must make more concerted efforts to address the real-time needs of students and parents in order to provide point-in-time direction and instruction.

Virtual school improvements. In addition to participants providing information regarding the benefits to virtual learning and their experiences with attending high school virtually, the researcher asked questions pertaining to the recommendations for potential areas for growth. The data analysis revealed four areas of growth for the virtual school that were indicated by the research participants: academics, extracurricular opportunities,

flexibility, and social engagement. The questions used to gather data for this topic included:

Students:

- What would you change about your online school?

Parents:

- What would you change about online education?

The academic growth areas noted by participants ranged from virtual school instructors having too many students, to a desire for more timely feedback for students and parents on graded assignments. Academic growth was mentioned on four different occasions by different participants. One parent participant said, "I wish there was a smaller student to teacher ratio. I know that the numbers are going for the school and I think I am starting to see some of the growing pains. I am having difficulty getting in touch with a few of the teachers."

A student participant also mentioned that it would be helpful if feedback would happen on a more consistent basis. Also, in terms of academic growth, a student participant stated, "the work can sometimes get confusing when there is not a teacher right there to explain—I wish I could have a teacher there sometimes." In addition to feedback and the lack of a real-time teacher presence, increased Class Connects was the topic of discussion for academic disadvantages. One participant said, "they [the virtual school] are starting to increase the number of Class Connects because students are not doing their assignments. This was why we left the traditional school—do not make my daughter do more work because others are not doing what they should be."

Another area where participants expressed a need for growth with the virtual school was that of extracurricular activities. Two participants shared a desire to be able to participate in school activities outside the prescribed curriculum. One participant noted, "there do not seem to be extracurricular activities for girls" and another said, "I wish there were more opportunities for students to participate in clubs and extracurricular activities." Both participants also noted that this particular disadvantage was not so significant that they would consider leaving the virtual school.

Flexibility was another area for growth that was expressed by participants of the study. In both instances where flexibility was mentioned, it was noted that it was due to a loss of flexibility. The participants indicated that the virtual school expectations had changed significantly over the past year and a half. One participant said, "it seems that the flexibility is being sacrificed as we go along to make accommodations for other students." Another participant said, "my schedule was much less flexible than when I first enrolled with the virtual school." The participant mentioned that increases to the number of Class Connects and group assignments were what attributed to the decrease in flexibility.

Social engagement was the final area for growth that was noted by interview participants. On five separate occasions, participants stated that more social engagement opportunities would contribute to a more well-rounded learning environment. A student participant said, "I would like to see more interaction with my peers – maybe in the form of Class Connects where we can talk about assignments and work." Two other student participants also echoed the same sentiment with "I wish there were more opportunities for social interaction." A parent stated, "more social opportunities would be beneficial

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for my child." Of the four areas in which participants mentioned needing improvements, social engagement opportunities were the more recurring.

Traditional brick-and-mortar school improvements. In addition to providing improvement suggestions for virtual school, the researcher asked student and parent interview participants who were familiar with the traditional public school setting to provide suggestions for traditional schools. The following questions were used to gather data:

Students:

- What would you change about traditional schools to make them better?

Parents:

- What would you change about traditional schools to make them better?

The data analysis uncovered two primary areas for improvement for traditional brick-and-mortar schools: academic improvement and social and behavior improvements.

Participants mentioned on 11 different occasions the need for academic improvements in their previously attended brick-and-mortar school. Three participants recommended that traditional schools provide more opportunities for students to work at an individualized pace. A student participant stated, "I wish that the traditional school had allowed me to work at my own pace. I know we need deadlines; however, the flexibility to complete assignments and projects does not mean we cannot have deadlines. This would make us want to do the work if we knew we had a choice in the matter."

Another student participant echoed a similar statement, "I wish traditional schools would let students work at their own pace." Additionally, participants indicated that less rigidity to the school day would also aid in providing students with a more learning-

centered environment. A parent participant said, "Having seven or eight periods every day and students running to classes does not help students learn. Traditional schools need to think past the industrial revolution and create an educational environment that meets 21-century learning needs."

The participant further stated that students needed less chaos and a more flexible structure to produce higher quality results in the classroom. Both student and parent participants agreed that traditional schools could not operate at the same degree as virtual schools, but stressed that improvements could be made to provide a more relevant and authentic learning environment for all students.

The second area in need of growth for traditional schools indicated by interview participants included social and behavior improvements. Fifty-eight percent of all the responses on this topic were for social and behavioral improvements. Many of the participants mentioned that bullying was a key factor related to their responses. Parents and students alike recommended that teachers and administrators receive more in-depth training regarding bullying and identifying root causes. One participant stated, "it seemed as though teachers and administrators simply ignored that bullying even existed" and contended that steps needed to be taken in order to solve the problems "not sweep them under the rug." In addition to bullying, participants noted that disruptive behavior was another aspect of this issue that needed to be addressed by the traditional public school. A parent participant stated, "do not neglect the good students by only focusing on behavior issues in the classroom" and recommended that additional training be provided for teachers that needed assistance managing poor student behavior. She further

stated, "it is not fair that my child spends the entire time listening to other students disrupt the class."

Conclusions

The quantitative data collected from the study served to answer the questions regarding student and family satisfaction with virtual school, and the qualitative data provided an introspective look at the *why*. The study revealed four key findings as well as recommendations for improvements to be made for both virtual schools and traditional schools alike. The major findings of the quantitative research included: factors that best predict student interest in enrollment in a virtual school; the relationship between virtual school satisfaction, positive experiences, and student enrollment duration; the correlation between parent and student satisfaction; and the correlation between the satisfaction of students receiving special education services and students who are not receiving special education services.

Additionally, the qualitative data produced four themes surrounding the reasons students and families chose to attend a virtual school. Those themes were academic advantages, flexibility and convenience, social and behavioral issues, and negative experiences with teachers and administrators. Along with this data, recommendations for both virtual school improvements and traditional school improvements emerged. There were four areas where participants indicated a need for improvement with virtual schools. Those areas were academic growth, extracurricular opportunities, continued flexibility, and social engagement opportunities. Traditional school improvement recommendations included academic improvements and social and behavioral improvements.

Chapter Five: Conclusions

Due to the rapid emergence of alternatives forms of education and non-traditional approaches to the 21st-century learning environment, students and their families are tasked with unearthing the most advantageous pathway to success for their individual needs. Virtual schools have quickly become a response to an increased desire for flexibility and individualization, in addition to a more controlled learning environment. The purpose of the study was to determine to what degree virtual high schools are meeting the needs of the students and families who avail themselves to them and to gauge the satisfaction of those students and families with their decision.

The study included a survey of current virtual high school students and their families to gather information about their reasons for attending high school virtually. Additionally, students and parents were selected to participate in semi-structured interviews to gain a more holistic view of the reasons why they chose to leave the brick-and-mortar schools that they had previously attended, in order to attend a virtual school. The following research questions were used to guide the study:

1. What factors best predict students' interest in enrolling in a fully online virtual school in Arkansas?

2. Is there a statistically significant relationship between students' satisfaction, positive experience, and enrollment duration and attending fully online virtual school in Arkansas?

3. Are there statistically significant differences in the satisfaction between students attending a fully online virtual school in Arkansas and their parents?

4. Are there statistically significant differences in the level of students' satisfaction with a fully online virtual school in Arkansas based on their eligibility for Special Education services?

5. To what degree has a fully online virtual school in Arkansas satisfied students' and families' reasons for having selected it over a traditional brick-and-mortar school?

Summary of Findings

This study sought to elicit rich insights into students' and families' reasons for choosing to attend a virtual school rather than a traditional brick-and-mortar school and to ascertain their ultimate satisfaction with that decision. The mixed-methods research study gathered both quantitative and qualitative data. The quantitative data were collected via survey responses, and the qualitative data were collected via participant interviews, which yielded consistent data pertaining to the goals set forth by the study. The quantitative data collected allowed the researcher to gain a broader statistical sense of students' and families' insights into both traditional brick-and-mortar schools and the virtual school that was studied. Subsequently, the qualitative data yielded rich textual accounts students' and families' experiences with both traditional and virtual schools and the implications of those experiences.

In the convergence of the quantitative and qualitative data, four major themes arose to answer the question of why students and families chose to leave their previous brick-and-mortar schools. Those themes consisted of social and behavioral issues (either personally or with peers), a desire for more flexibility, negative experiences with teachers and administrators, and academic motives. Additionally, the study provided insights into

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the factors that best predicted student survey participants' interest in enrollment in a virtual school, the correlation between student participants' satisfaction with virtual school and enrollment duration, the relationship between student participants' and parent participants' overall satisfaction with virtual school, and the satisfaction of students receiving special education services and their families.

The first research question asked what factors best predict students' interest in enrolling in a fully online virtual school in Arkansas. Based on student participant responses to the survey instrument, there were three unique indicators that best predicted whether a student was interested in continued enrollment at the virtual school in Arkansas. Those indicators included the community type (rural, urban, or suburban) in which the student lived, the length of time they were enrolled in the virtual school, and the student's overall experience with the virtual school (see Figure 13). All three of the indicators were significant in determining not only the student's overall satisfaction but also the enrollment duration of the students as well. The study showed that the enrollment duration of a student combined with the community type in which the student resided and a positive experience with the virtual school, would likely predict continued enrollment in the virtual school.
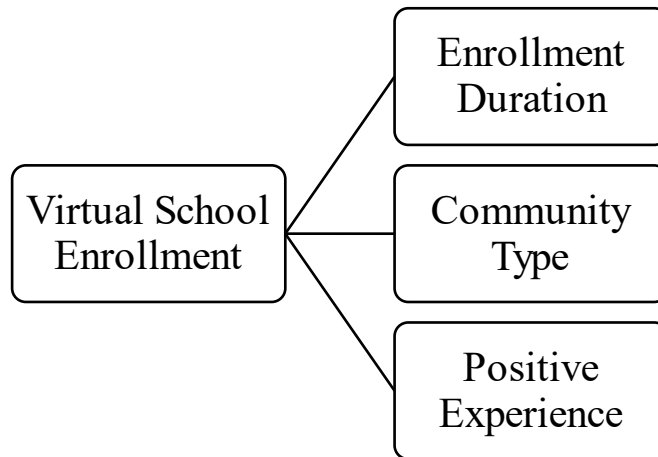
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                          │  Enrollment  │
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Figure 13. Predicting Factors for Student Enrollment Interest.

The purpose of research question two was to determine if there was a statistically significant relationship between students' overall satisfaction with virtual school and students' enrollment duration—meaning, whether satisfaction with the virtual school was an indicator for students and families to continue attending. The quantitative and qualitative data collected supported the assumption that the longer students and families were enrolled in the virtual school, the more likely they were to continue enrollment. This is important because it demonstrated that the students and families who were enrolled and satisfied with their decision; virtual schools are meeting their needs. The evidence for this assumption was found in both the quantitative analysis, as well as the interview data.

Additionally, the study sought to determine if there were differences between the satisfaction of students and the satisfaction of parents. The analysis of the survey responses indicated that there was a statistically significant difference between the satisfaction of student respondents and parent respondents. The means of the Positive Experience items of the survey and the Why Virtual items of the survey were both two-

percentage points higher for parent participants than student participants. The parent interview participants supported the quantitative data in that the parent participants spoke highly of their overall satisfaction with the decision to attend high school virtually. Participants stated, "my child understands how to schedule and manage her time", "I see what is going on day-to-day and know what my child is learning" and "I am involved and feel very connect to my child's teachers and education" all to affirm their positive satisfaction with their decision to attend the Virtual School. This information indicated that parent participants were more satisfied with the decision for their children to attend the virtual school than the students themselves.

Students requiring special education services was another aspect of the students' and families' satisfaction with their decision to attend virtual school. The purpose of research question four was to determine if there was a statistically significant difference in the level of satisfaction with the virtual school based on the student's eligibility for special education services. The data analysis indicated there was a positive correlation between students' eligibility for special education services and students' and family's satisfaction with the virtual school. Additionally, interview participants who either required special education services or whose student required special education services echoed the positive satisfaction with their decision to attend the Virtual School. One participant stated, "Previously, we had a child with special needs in virtual school, and it worked so well that we made the decision to go the same route with our youngest son. He has severe ADHD and needed the individualization and a more controlled learning environment." This data indicated that students who receive special education services,

their families were more satisfied with their decision to attend virtual school than those that do not require special education services.

Interpretation of Findings

The research study attempted to investigate students' and families' satisfaction with their decision to attend high school virtually. The conclusions drawn from this mixed-methods study indicated a statistically significant percentage of students and families who chose to attend virtual school were satisfied with their decision. Both the quantitative data and qualitative data supported this assumption and provided evidence not only statistically, but also contextually. The survey respondents, both parents and students, from all community types and socioeconomic backgrounds indicated that they were satisfied with their decision to attend high school virtually. Additionally, the triangulation of the quantitative and qualitative aspects of the study supported the notion that students and families who were selected to attend the virtual school, were satisfied with that decision. The longer students attended, the more satisfied both them and their families were with that decision.

The main research finding of this study regarding students' and families' desire for flexibility, academic advancement, and an escape from the negative experiences of their previously attended traditional brick-and-mortar high school is abundantly supported by the literature. The National Forum on Education Statistics (2015) stated that virtual schools allowed students and parents opportunities beyond the capabilities of the traditional brick-and-mortar school, offered coursework that was not otherwise possible, and offered an instructional environment that was better suited to some students' learning needs. Additionally, the CREDO (2015) and GradNation studies

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indicated that students and parents preferred the asynchronous instructionally delivery of virtual schools, rather than the rigid structure of the seven-hour traditional school day (DePaoli et al., 2017).

In the study, students' and families' satisfaction with the virtual school and enrollment duration demonstrated a positive correlation—meaning that the longer the students were enrolled, the higher the satisfaction was with students and parents. One interpretation of this finding was the virtual school ensured that students and families were fully aware of the challenges they would face by attending a school online and maintained an open and transparent line of communication between students, parents, teachers, and administrative staff. The finding of the present study was inconsistent with previous research on enrollment duration and the satisfaction and students and families. In a report by the National Education Policy Center, 25% to 50% of students dropped out of their fully online virtual school within the first year of attendance (Molnar, 2017). An interpretation of the inconsistency between the current study and the literature was that the virtual school in the study employed strategies to retain students that include face-to-face meetings with students, Class Connects (virtual meetings) with students and families, and education for students and families about virtual learning and attending an online high school.

Finally, the results of the study revealed that there was a positive correlation between satisfaction and receiving special education services—meaning the satisfaction of students and families who require special education services was higher than the satisfaction of students and parents who do not require special education services. It is important to note that participants self-selected their participation in special education.

The researcher had no way of knowing the nature of the students' disabilities, or to what extent the students' needs were being met through special education services. One interpretation of this finding was that students requiring special education services also require a certain amount of flexibility and individualization that is a result of attending a virtual school. This finding was also consistent with current literature pertaining to special education students, as well as other at-risk student populations that advocate for virtual learning; specifically, citing flexibility as a key component to the success of students with exceptionalities (Morgan, 2015). Additionally, another report stated that graduation rates for virtual high school students who require special education services had shown increases (Repetto et al., 2010).

Recommendations

There are two areas of recommendations based on the data collected and analyzed from this study on virtual schools, and how they are meeting students' and families' needs. The first includes recommendations for traditional brick-and-mortar schools in order to more effectively serve student populations that have traditionally gone underserved. The latter identifies recommendations for virtual schools, at large, regarding best practices in meeting students' and families' needs.

Traditional brick-and-mortar schools still the preponderance of K-12 students. Consequently, the policy-makers at the local and state level, as well as the faculty of these schools and their administrators must introspectively look at ways to better serve students and families. Based on the data collected from the study, traditional schools need to address concerns regarding behavioral and social issues with students as well as provide more opportunities to demonstrate flexibility. Regarding the concerns expressed

by survey and interview respondents over social and behavior issues of students, more training for teachers and administrators should be provided in terms of meeting the mental health needs of students (National Commission on Social, Emotional, and Academic Development, 2019). Additionally, teacher preparation programs must address the mental health concerns of students within the coursework. The coursework and training must consider the culturally diverse populations that are served by traditional public schools and provide teachers with best-practices for classroom management, addressing mental health within the classroom, and resources for teachers and administrators to better meet students' individual needs.

More opportunities for flexibility in the traditional brick-and-mortar school is another area to be explored in order to meet students' and families' needs. Changes at the policy level may include adjustments to the hours of operation for traditional schools to meet the needs of high school students who are working to support family members or their own families. Additionally, modifications to the ways in which graduation credits are granted would serve to provide an enhanced level of flexibility to students and families to further meet their needs. Such modifications include seat-time adjustments, waivers for non-academic credits (PE, Career-Focus electives, etc.), and state assessment administration flexibility to name a few possibilities. Changes made at the local level might include providing students with more flexibility with turning in assignments, allowing students to work with more technology inside and outside the classroom, providing instruction content digitally so that students and families have convenient access, and providing student choice in the types of assignments that are given so that the student is able to demonstrate learning in a manner consistent with his/her learning style.

Recommendations for the virtual school used in this study, as well as for virtual schools as a whole, including providing more authentic opportunities for students to engage with one another academically and socially, as well as ways to address students not having an instructor working with them face-to-face. According to study participants, the resounding theme of the disadvantages of attending a virtual school was the lack of social interaction for students. Although there are systems in place to address the need for socialization among students, the participants' responses indicated that there was a significant need for authentic levels of engagement. This engagement can take the form of student-initiated web conferencing in order to collaborate, as well as additional opportunities for students to gather regionally in order to participate in academic and social activities.

Addressing the challenge of not providing real-time feedback for students and families is another recommendation based on research participants' responses. This challenge may be addressed by incorporating the flipped classroom approach, where students rely on video tutorials and other exploratory learning strategies in order to understand what questions they might have when meeting with an instructor virtually. Another strategy would be to include scheduled web-based help sessions in which students can participate and receive point-in-time feedback on the learning goal.

Limitations

Due to the nature of case study research, the findings of this investigation are limited to the student and parent participants of this particular virtual school in the state of Arkansas. It cannot be assumed that the study of Virtual High School is representative of virtual schools as a whole, but that the findings of the study represented students and

families within the context of this case. However, this does not mean that the results of the study will not be applicable in other settings; it simply means that the reader must ascertain what is relevant within other applications. Approximately 34% of the eligible participants responded to the study, which limited the data collection to the selected participants. By gathering additional respondents from the chosen virtual school in Arkansas, it would have added greater depth to the study. Additionally, by including other students and families from other virtual schools, it would provide a basis for comparing multiple virtual schools in the state to further determine the relative benefits of specific virtual learning strategies.

Suggestions for Future Research

In order to fully understand students' and families' reasons for having selected to attend high school virtually, additional research is needed from a larger number of participants. By including a number of virtual schools in a given region of the country, it would provide an even larger scaled understanding of the virtual school phenomenon. The research study could also be repeated to include middle school student populations. Additionally, the study could be conducted in the same location within another three-to-five-year period to determine the degree in which the school that was the focus of this investigation is continuing to meet the diverse needs of students and families.

Another suggestion for additional research is in the area of special education and the virtual school's ability to meet students' needs. This research could include an in-depth investigation of students who require special education services and how virtual schools are meeting those needs, as well as comparisons of virtual schools and brick-and-mortar schools. This research would aid in understanding how the needs of special

education students are being met and how the learning environment can affect their achievement. Additionally, this research could provide greater details about the types of modifications that a virtual school are able to provide for students and how they are able to fully implement the requirements of their Individual Education Plan (IEP).

Conclusions

This mixed-methods research study contributed important information to the literature pertaining to virtual schools and how they are meeting students' and families' needs. The results of this study confirmed that students and families who selected to attend high school virtually were satisfied with that decision. Additionally, the study provided both traditional brick-and-mortar schools and virtual schools with recommendations for further improvement to meet the needs of a diverse population of learners. By providing students and families with flexibility and an environment free of behavior and social distractions, it will help serve to meet students' and families' expectations for a satisfactory high school learning environment.

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Appendix A

Email to the Superintendent of Virtual School

April 21, 2018

Dr. Scott Sides
Head of School
███████████████████
███████████████

I am Chris Davis, and I am a doctoral student at Arkansas Tech University as well as an administrator at Northside High School in Fort Smith, Arkansas. I am in the preliminary stages of designing a study for my dissertation on virtual schools and the students and families that they serve. Given that ████████████████ is established as a leader in the state for online learning, I am reaching out to see whether, when the time arrives, you would be willing to allow me to use whatever existing channels there are for communicating with families to invite them to participate in my study.

The study would examine such topics as why families from different regions and various backgrounds have elected online instructional delivery. It would also examine which aspects of online instructional delivery are superior to/inferior to/the same as families' experiences with other approaches to instructional delivery.

Naturally, I would not begin recruiting participants unless/until my proposal is approved by Arkansas Tech's Institutional Review Board, and unless/until I have obtained authorization from ████████████████. In addition, all participants' identities would be kept confidential, and the identity of ██████ - and even the state in which it is located - would be obscured.

It is my hope to bring to the forefront, the great things that are going on educationally and further explore the advances in high school instructional delivery. Any assistance you can provide would be greatly appreciated. If there is further information needed in order to make your decision, I would be happy to cooperate. Thank you for your consideration, and I hope that we can work together to provide greater learning opportunities for all students in Arkansas and beyond.

Sincerely,

Chris Davis

Appendix B

Approval from Virtual School to Conduct Research

W. Markham St. Suite 206

...where every student can achieve.

Little Rock, AR 72201
501-664-4225 phone
501-664-4226 fax
www.arva.org

October 16, 2018

To Whom It May Concern,

Upon approval of Arkansas Tech University's IRB, Chris Davis has been granted permission to conduct research with the ███████████. We look forward to the opportunity.

Sincerely,

Amy Johnson

Amy Johnson
Assistant Head of School for Academics
Academic Administrator
████████████

Appendix C

Permission from Author to Adapt Interview Questions

Re: Virtual School Information

David Gray <gray@mewebacademy.org>

Tue 8/21/2018 9:24 AM

To:christopher davis <cdavis2@atu.edu>;

Christopher, it would be my honor to support your efforts at advancing the research around virtual schools. Please feel free to adapt my questions in anyway that you desire. I would much appreciate seeing the results of your research/dissertation. Let me know if there are other supports you may need as you complete your program and finalize your research. I would also be interested in knowing how you found my dissertation that was written at least 14 years ago?

Best Regards,

David

David L. Gray, Ph.D.
Executive Director
Metro East Web Academy
1394 NW Civic Dr
Gresham, OR 97030
503-258-4790

Dr. David Gray

Executive Director

Metro East Web Academy

I am Chris Davis, and I am a doctoral student at Arkansas Tech University as well as an administrator at Northside High School in Fort Smith, Arkansas. I am in the preliminary stages of designing a study for my dissertation on virtual schools and the students and families that they serve. Through this work, I have become familiar with your dissertation and the topic of virtual students and their transition from the traditional setting. Given your expertise on the topic, I am reaching out to see whether, when the time arrives, you would be willing to allow me to adapt your interview questions to meet the needs of my study.

The study would examine such topics as why families from different regions of Arkansas and various backgrounds have elected online instructional delivery. It would also examine which aspects of online instructional delivery are superior to/inferior to/the same as families' experiences with other approaches to instructional delivery.

Any assistance you can provide would be greatly appreciated. If there is further information needed in order to make your decision, I would be happy to cooperate. Thank you for your consideration, and I hope that you will allow me the opportunity to adapt your interview questions so that we can have a better understanding of how to meet the needs of students attending high school in both the traditional and virtual settings.

Sincerely,

Chris Davis

Appendix D

Student Survey Instrument

Survey of Students and Families of ██████████████████

Hello: You are invited to participate in my survey for the students and families of
██████████████████. In this survey, approximately 50 people will be asked to
complete a survey that asks questions about how they became interested in the virtual-
education learning environment. It will take approximately ten minutes to complete the
questionnaire. Your participation in this study is completely voluntary. There are no
foreseeable risks associated with this project. However, if you feel uncomfortable
answering any questions, you can withdraw from the survey at any point. It is very
important for us to learn your opinions. Your survey responses will be strictly
confidential and data from this research will be reported only in the aggregate. Your
information will be coded and will remain confidential. If you have questions at any time
about the survey or the procedures, you may contact Christopher Davis at
cdavis2@atu.edu. Thank you very much for your time and support. Please start with the
survey now by clicking on the **Next** button below.

Informed Consent Form
Arkansas Tech University

Title of Project: Do Virtual Schools Meet Students' and Families' Expectations? An Investigation of a Fully-Online High School in Arkansas

Principal Investigator: Christopher Davis

I volunteer to participate in a research project conducted by Christopher Davis, as part of his research in pursuit of the degree of Doctor of Education from Arkansas Tech University under the direction of Dr. John Freeman (jfreeman44@atu.edu). I understand that the project is designed to gather information about my virtual school experience. I understand that all high school students and their families attending ███████ ███████ were given the opportunity to participate.

1. My participation in this survey is voluntary. I understand that I will not be paid for my participation. I may withdraw and discontinue participation at any time without penalty. If I decline to participate or withdraw from the study, no one in my district or at Arkansas Tech University will be told.
2. I understand that if I feel uncomfortable at any point in the completion of the survey, I have the right to decline to answer any question or to end my participation altogether.
3. I am aware that participants typically spend between 15 and 30 minutes completing the survey.
4. I understand that data collected during this survey will not be personally identifiable and no one, including the researcher, will have access to my personal responses to the survey. Further, data collected from this survey will be coded and protected via cloud-based, password-protected storage. Subsequent uses of records and data collected in this study will be subject to standard data use policies, which protect the anonymity of individuals and institutions.
5. Faculty and administrators will not have access to any individual survey or data that could be personally identifiable to any participant of this study. This precaution will prevent any comments from having any negative repercussions.
6. I understand that this research study has been reviewed and approved by the Institutional Review Board (IRB) for Studies Involving Human Subjects at Arkansas Tech University. For research problems or questions regarding subjects, the Institutional Review Board may be contacted on campus at mkuroki@atu.edu .
7. I have read and understand the explanation provided to me. I have had all my questions answered to my satisfaction, and I voluntarily agree to participate in this survey.
8. I have been given a copy of this consent form.

After reviewing this page, I understand that I am assenting to participate in this study by completing the attached survey.

In which region of Arkansas do you reside?
1. Northwest Arkansas
2. North Central Arkansas
3. Northeast Arkansas (Upper Delta)
4. Central Arkansas
5. Southeast Arkansas (Lower Delta)
6. Southwest Arkansas

How would you describe your community?
1. Rural
2. Suburban
3. Urban

What is your ethnicity?
1. African American
2. Asian/Pacific Island
3. Hispanic
4. Native American/Alaska Native
5. White
6. Prefer not to answer

Are you a student or a parent?
1. Student
2. Parent

Do you qualify for Special Education services?
1. Yes
2. No
3. Prefer not to answer

Do you qualify for free or reduced-price lunch?
1. Yes
2. No
3. Prefer not to answer

How long have you attended ███████████████████?
1. Less than 1 year
2. 1-2 years
3. 3-4 years
4. 5 years or longer

What type(s) of school(s) did you attend prior to ███████████████? (Select all that apply)
1. Traditional Public School
2. Private School
3. Traditional Charter School
4. Another Virtual School
5. Other _____

What was your reason(s) for leaving your previous school? (Select all that apply)
1. I was behind in credits and wanted to get caught up in order to graduate on time.
2. I wanted to get ahead in credits in order to graduate early.
3. I wanted more flexibility in order to learn at my own pace.
4. I struggled socially at my previous school and wanted to get away from negative peers.
5. I needed a learning environment where I could focus and avoid distractions.
6. I needed access to programs and/or classes that were not available at my previous school.
7. I had a negative experience with a teacher and/or administrator at my previous school.
8. Other _____

I like the flexibility that virtual school offers to complete courses at my own pace.
1. Strongly Disagree
2. Disagree
3. Neutral
4. Agree
5. Strongly Agree

I like that I am able to complete schoolwork from home or other convenient location.
1. Strongly Disagree
2. Disagree
3. Neutral
4. Agree
5. Strongly Agree

I have fewer distractions compared to my previous school setting.
1. Strongly Disagree
2. Disagree
3. Neutral
4. Agree
5. Strongly Agree

Virtual school provides classes that are tailored to meet my learning needs.
1. Strongly Disagree
2. Disagree

3. Neutral
4. Agree
5. Strongly Agree

Because I attend school virtually, I have few interactions with my peers.
1. Strongly Disagree
2. Disagree
3. Neutral
4. Agree
5. Strongly Agree

I sometimes wish that I had in-person interactions with my instructor.
1. Strongly Disagree
2. Disagree
3. Neutral
4. Agree
5. Strongly Agree

I am more likely to fall behind with virtual classes because I set my own pace.
1. Strongly Disagree
2. Disagree
3. Neutral
4. Agree
5. Strongly Agree

My parents are more engaged in my learning now that I am taking classes online.
1. Strongly Disagree
2. Disagree
3. Neutral
4. Agree
5. Strongly Agree

Virtual school provides me with more courses than my previous school.
1. Strongly Disagree
2. Disagree
3. Neutral
4. Agree
5. Strongly Agree

I have had fewer negative experiences regarding school now that I am enrolled in virtual school.
1. Strongly Disagree
2. Disagree
3. Neutral
4. Agree
5. Strongly Agree

How satisfied are you with your decision to attend ██████████████████?
1. Very Dissatisfied
2. Dissatisfied
3. Neutral
4. Satisfied
5. Very Satisfied

Would you be interested in participating in an online discussion to share your experiences with ██████████████████ and virtual learning?
1. Yes
2. No

Email Address

Appendix E

Parent Survey Instrument

Survey of Students and Families of █████████████████

Hello: You are invited to participate in my survey for the students and families of
████████████████. In this survey, approximately 300 people will be asked to
complete a survey that asks questions about how they became interested in the virtual-
education learning environment. It will take approximately ten minutes to complete the
questionnaire. Your participation in this study is completely voluntary. There are no
foreseeable risks associated with this project. However, if you feel uncomfortable
answering any questions, you can withdraw from the survey at any point. It is very
important for us to learn your opinions. Your survey responses will be strictly
confidential and data from this research will be reported only in the aggregate. Your
information will be coded and will remain confidential. If you have questions at any time
about the survey or the procedures, you may contact Christopher Davis at
cdavis2@atu.edu. Thank you very much for your time and support. Please start with the
survey now by clicking on the **Next** button below.

Informed Consent Form
Arkansas Tech University

Title of Project: Do Virtual Schools Meet Students' and Families' Expectations? An Investigation of a Fully-Online High School in Arkansas

Principal Investigator: Christopher Davis

I volunteer to participate in a research project conducted by Christopher Davis, as part of his research in pursuant of the degree of Doctorate of Educational from the Arkansas Tech University. I understand that the project is designed to gather information about my virtual school experience. I understand that all high school students and their families attending ████████████ were given the opportunity to participate.

1. My participation in this survey is voluntary. I understand that I will not be paid for my participation. I may withdraw and discontinue participation at any time without penalty. If I decline to participate or withdraw from the study, no one in my district or at Arkansas Tech University will be told.
2. I understand that if I feel uncomfortable at any point in the completion of the survey, I have the right to decline to answer any question or to end my participation altogether.
3. I am aware that participants typically spend between 15 and 30 minutes completing the survey.
4. I understand that data collected during this survey will not be personally identifiable and no one, including the researcher, will have access to my personal responses to the survey. Further, data collected from this survey will be coded and protected via cloud-based, password-protected storage. Subsequent uses of records and data collected in this study will be subject to standard data use policies, which protect the anonymity of individuals and institutions.
5. Faculty and administrators will not have access to any individual survey or data that could be personally identifiable to any participant of this study. This precaution will prevent any comments from having any negative repercussions.
6. I understand that this research study has been reviewed and approved by the Institutional Review Board (IRB) for Studies Involving Human Subjects at Arkansas Tech University. For research problems or questions regarding subjects, the Institutional Review Board may be contacted on campus.
7. I have read and understand the explanation provided to me. I have had all my questions answered to my satisfaction, and I voluntarily agree to participate in this survey.
8. I have been given a copy of this consent form.

In which region of Arkansas do you reside?
1. Northwest Arkansas
2. North Central Arkansas
3. Northeast Arkansas (Upper Delta)
4. Central Arkansas
5. Southeast Arkansas (Lower Delta)
6. Southwest Arkansas

How would you describe your community?
1. Rural
2. Suburban
3. Urban

What is your ethnicity?
1. African American
2. Asian/Pacific Island
3. Hispanic
4. Native American/Alaska Native
5. White
6. Prefer not to answer

Are you a student or a parent?
1. Student
2. Parent

Does your child qualify for Special Education services?
1. Yes
2. No
3. Prefer not to answer

Does your child qualify for free or reduced-price lunch?
1. Yes
2. No
3. Prefer not to answer

How long has your child attended ████████████████████?
1. Less than 1 year
2. 1-2 years
3. 3-4 years
4. 5 years or longer

What type(s) of school(s) did your child attend prior to ████████████████? (Select all that apply)
1. Traditional Public School
2. Private School
3. Traditional Charter School
4. Another Virtual School
5. Other _____

What was your child's reason(s) for leaving his/her previous school? (Select all that apply)
1. He/She was behind in credits and wanted to get caught up in order to graduate on time.
2. He/She wanted to get ahead in credits in order to graduate early.
3. He/She wanted more flexibility in order to learn at my own pace.
4. He/She struggled socially at my previous school and wanted to get away from negative peers.
5. He/She needed a learning environment where I could focus and avoid distractions.
6. He/She needed access to programs and/or classes that were not available at my previous school.
7. He/She had a negative experience with a teacher and/or administrator at my previous school.
8. Other _____

I like the flexibility that virtual school offers my child to complete courses at his/her own pace.
1. Strongly Disagree
2. Disagree
3. Neutral
4. Agree
5. Strongly Agree

I like that my child is able to complete schoolwork from home or other convenient location.
1. Strongly Disagree
2. Disagree
3. Neutral
4. Agree
5. Strongly Agree

My child has fewer distractions compared to his/her previous school setting.
1. Strongly Disagree
2. Disagree
3. Neutral
4. Agree
5. Strongly Agree

Virtual school provides classes that are tailored to meet my child's learning needs.
  1. Strongly Disagree
  2. Disagree
  3. Neutral
  4. Agree
  5. Strongly Agree

Because my child attends school virtually, he/she has few interactions with peers.
  1. Strongly Disagree
  2. Disagree
  3. Neutral
  4. Agree
  5. Strongly Agree

I sometimes wish that my child had in-person interactions with an instructor.
  1. Strongly Disagree
  2. Disagree
  3. Neutral
  4. Agree
  5. Strongly Agree

My child is more likely to fall behind with virtual classes because he/she sets his/her own pace.
  1. Strongly Disagree
  2. Disagree
  3. Neutral
  4. Agree
  5. Strongly Agree

I am more engaged in my child's learning now that he/she is taking classes online.
  1. Strongly Disagree
  2. Disagree
  3. Neutral
  4. Agree
  5. Strongly Agree

Virtual school provides my child with more courses than his/her previous school.
  1. Strongly Disagree
  2. Disagree
  3. Neutral
  4. Agree
  5. Strongly Agree

My child has had fewer negative experiences regarding school now that he/she is enrolled in virtual school.
1. Strongly Disagree
2. Disagree
3. Neutral
4. Agree
5. Strongly Agree

How satisfied are you with yours and/or your child's decision to attend ██████████ ██████?
1. Very Dissatisfied
2. Dissatisfied
3. Neutral
4. Satisfied
5. Very Satisfied

Would you be interested in participating in an online discussion to share yours and/or your child's experiences with ████████████████ and virtual learning?
1. Yes
2. No

Email Address

Appendix F

Student/Parent Interview Instrument

Informed Consent Form
Arkansas Tech University

Title of Project: Do Virtual Schools Meet Students' and Families' Expectations? An Investigation of a Fully-Online High School in Arkansas

Principal Investigator: Christopher Davis

I volunteer to participate in a research project conducted by Christopher Davis, as part of his research in pursuant of the degree of Doctorate of Educational from the Arkansas Tech University. I understand that the project is designed to gather information about my virtual school experience. I understand that all high school students and their families attending ██████████████ were given the opportunity to participate.

1. My participation in this interview protocol is strictly voluntary. I understand that I will not be paid for my participation. I may withdraw and discontinue participation at any time without penalty. If I decline to participate or withdraw from the study, no one in my school and/or district or at Arkansas Tech University will be told.
2. I understand that if I feel uncomfortable at any point in the completion of the interview, I have the right to decline to answer any question or to end my participation altogether.
3. I am aware that the interview will last approximately 30 minutes.
4. I understand that data collected during the interview will be video and audio recorded for transcription purposes. Once the interview has been transcribed, the researcher will obscure the names and identities of the participants. Only the researcher will have access to this information. Further, data collected from the interview will be coded and protected via cloud-based, password-protected storage. Subsequent uses of records and data collected in this study will be subject to standard data use policies, which protect the anonymity of individuals and institutions.
5. Faculty and administrators will not have access to any individual interview data that could be personally identifiable to any participant of this study. This precaution will prevent any comments from having any negative repercussions.
6. I understand that this research study has been reviewed and approved by the Institutional Review Board (IRB) for Studies Involving Human Subjects at Arkansas Tech University. For research problems or questions regarding subjects, the Institutional Review Board may be contacted on campus.
7. I have read and understand the explanation provided to me. I have had all my questions answered to my satisfaction, and I voluntarily agree to participate in this survey.
8. I have been given a copy of this consent form.

<u>**Interview Protocol**</u>

Greeting and framing
Thank participant for agreeing to participate in interview.

Purpose of the interview is to discuss your reasons for leaving the traditional school setting and your satisfaction with virtual learning.

My goal in this process is to listen to you and to ensure that I fully understand your experiences and perspectives.

Explain Consent: voluntary, stop or pause at any time, recorded, confidential

Overview
We will spend approximately 30 minutes asking you to respond to a series of prompts about your reasons for leaving the traditional school setting and your satisfaction with virtual learning.

Discuss Experiences
Students
1. Why did you choose to attend high school online?
2. What type of school did you attend prior to enrolling in an online school?
3. Why did you to want to change the way you attend school?
4. In your mind, what is the biggest difference between your previous school and the online school you are currently attending?
5. What specific things do you like about online education?
6. What do you miss about attending a traditional school?
7. What would you change about traditional schools?
8. What do you like best about attending school online?
9. What would you change about your online school?
10. Do you feel you are more or less successful in the online school?

Parents
1. Why do you support your child's choice to attend school online?
2. Were there specific issues regarding your child's previous school that led you to change?
3. What specific aspects do you like about online school?
4. What would you change about online education?
5. What would you change about traditional schools?
6. What advantages do you feel there are to online education?
7. What disadvantages do you feel there are to online education?
8. Do you feel that online learning adequately prepares your child for success?
9. What are the greatest challenges for your child in online education?
10. Do you feel that you are more or less involved in your child's education now that he or she attends school virtually?

Closing

I see that we are approaching the end of our time. Is there anything more that you would like to discuss?

Appendix G

Arkansas Tech University IRB Approval

ARKANSAS TECH UNIVERSITY

Office of Sponsored Programs and University Initiatives
Administration Building, Room 207
1509 North Boulder Avenue
Russellville, Arkansas 72801

Office: 479-880-4327
www.atu.edu

October 19, 2018

To Whom It May Concern:

The Arkansas Tech University Institutional Review Board has approved Christopher Davis' IRB application, "Do Virtual Schools Meet Students' and Families' Expectations? An Investigation of a Fully-Online High School in Arkansas," through October 19, 2021. The approval code is Davis_101918.

Thank you,

Masanori Kuroki, Ph.D.
Institutional Review Board Chair