

COLLEGE PREPAREDNESS OF
TRADITIONAL AND CYBER HIGH SCHOOL GRADUATES:
A QUALITATIVE RESEARCH STUDY
by

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ABSTRACT

The purpose of this study is to provide insight into any differences in education related to learning assessments, program results, measurements, and tools used by cyber high schools and traditional high school principals or directors. If educators have a better understanding of how both cyber and traditional high schools prepare students for college they can improve their strategies and serve them better. Cyberlearning has seen a rapid growth at the K-12 level; however, a lack of research has prompted the need for additional research. Cyberlearning has gradually been changing the structure and vision of higher education institutions, as well as the entire national learning environment and educational systems. There is a need to develop an understanding of the strategies and procedures by which each high school prepares graduates for college. Community college educators would benefit in understanding any differences to recognize if there are changes needed in how assessments are administered and how they affect student's final outcomes.

While the achievement data may indicate that cyber high school students are not as ready for college as traditional high school students, principals and directors of both types of schools have similar goals and commitments in supporting every student to be college-ready. Further research may help to determine if there truly is a difference and if so what might be done to help students from both types of schools on a broader scale. Ultimately, all students should have the same opportunity whether online or in a traditional brick and mortar classroom.

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CHAPTER ONE: INTRODUCTION

INTRODUCTION

Given the importance of recent shifts in learning patterns, technological progress, and student lifestyle changes, schools are compelled to consider new platforms for students to achieve their scholastic goals. As alternative approaches to education evolve, learning and engaging outside of the classroom are some of many changes seen in education today. While technology continues to expand, it becomes evident that the development and widespread usage of technologies allows educators to reconfigure the realm of possibilities for learning in a networked world (Borgman et al., 2008).

As online high school — aka, cyber high school — students are graduating at an increasing rate, it is important to continue to build on established research and contribute to the existing but limited literature. Are higher education institutions prepared to meet a new era of students? Are online learners, or cyberlearners, academically prepared compared in terms of measured outcomes and assessments to the traditional high school learners who attend a brick and mortar school? What do leaders of cyber high schools and traditional high schools view as important in preparing students for college?

Unfortunately, there is a lack of research on the transition of cyber high school graduates to traditional colleges. As stated in the U.S. Department of Education, Office of

Planning, Evaluation, and Policy Development report (2009), “few rigorous research studies of the effectiveness of online learning for K–12 students have been published” (p. 14).

Education is not one-size-fits-all. Students learn in various ways and benefit from varying teaching methods, which are not always available in brick and mortar schools. Whether on a computer in the comforts of the home or taught by a teacher face-to-face in a brick and mortar — regardless of the venue of where learning is done all students need support to ensure they are college ready.

BACKGROUND TO THE ISSUE

Greenway and Vanourek (2006) assert that the first version of what everyone thinks of as a K-12 virtual school appears to have been launched in Eugene, Oregon, during the summer of 1995, with the Cyber High School Project. While some may confuse virtual schools with home schooling or with charter schools, “Virtual schooling is more like a hybrid of public, charter, and home schooling, with ample dashes of tutoring and independent study thrown in, all turbocharged by Internet technology” (para.7).

The number of cyber high schools is increasing. Kowch (2009) reports the following: In 2008, 44 states offered significant online learning options for an estimated 1,030,000 students who are enrolled in online or blended full-time and supplemental courses. This represents a growth of 47% since 2006. Some estimate that the K-12 online learning population will grow 30% annually (iNACOL, 2008). The International Association for K-12 Online Learning (iNACOL) supports innovative educators implementing new learning models. Cyber charter schools (CCS) are an important new part of this growth. (p. 41)

Florida Virtual School (FLVS) was the first statewide virtual school in the nation, and FLVS continues to grow. Recently, FLVS evolved into a statewide school district with five

schools, serving both full-time and part-time students. FLVS is affiliated with all 67 Florida school districts and has become the model for distance learning initiatives across the globe.

Although the literature describing K-12 distance education reached back to the 1930s, the first uses of online learning and virtual schooling only began to significantly appear in 1997. The number of students enrolling in online learning opportunities is expanding; however, there is a shortage of research exploring the development of K-12 online learning communities (Cavanaugh, Barbour, and Clark, 2009, p. 13). These authors further explain, to date, the amount of research evidence in refereed journal publications and papers from refereed conferences in the field of virtual schooling is limited (DiPietro, Ferdig, Black, and Preston, 2008). Much of the published literature is based upon the personal experiences of those involved in the practice of virtual schooling; in addition, much of the research is available only in unpublished masters' theses and doctoral dissertations. In many ways, this is indicative of the foundational descriptive work that often precedes experimentation in any scientific field. In other words, it is important to know how students in virtual schools engage in their learning in this environment prior to conducting any rigorous examination of virtual schooling (p. 2).

In January 2007, 73 United States cyber charter schools served 92,235 students in 18 states (Spelling, 2008, p. 3). Cyber charter schools benefit from a growing public belief that most public-school systems cannot characterize student learning well and cannot offer sufficient access to rural school children (Tucker, 2007, p. 2).

Research indicates the number of school districts in the United States offering online courses is accelerating. The increases in online and blended learning have been on an upward trend for the past eight years, with greater numbers of districts adopting these approaches in

recent years (Picciano and Seaman, 2010, p. 9). The authors further suggest that with solid leadership in place, this growth is expected to continue. Kowch (2009) states, “An overwhelming number of cyber high school reports suggest that developing leaders for these systems will be an essential element of continued growth” (p. 41).

Virtual full-time high schools, also known as cyber high schools or online high schools, are schools that deliver all curriculum and instruction via the Internet and by electronic communication, usually with students at home and teachers at a remote location, and usually with everyone participating at different times. Flora (2011) reports, students can progress through the online program at their own pace in a cycle of learning followed by assessment and review that permits true individualization. Also, an online program can operate in a variety of learning settings within school and in other locations that are attractive to students who want an alternative educational approach (p. 4).

To help understand this alternative approach to education, Gracey (2013) states “cyber education differs most significantly from traditional public school education in its flexibility. Traditional teaching models are bound by time and location, but cyber high schools are not” (p. 18). Gracey further shares the motto at the Insight School of California (2009) which is “my future, my way, my high school,” characterizing the tailored environment of cyber-learning. In the cyber setting, students can often move at the speed that works for them. In many cyber high schools, students can select from a traditional, blended, or an accelerated speed for each course of the designed curriculum.

Cyber high school students are typically under the age of 20 as required by law, unlike the traditional high school, and still have the potential to complete high school. Statistically,

many of the cyber students are considered “at-risk” where perhaps they are prior drop-outs, single parents, truants, mental or physically disabled, or simply do not fit into a traditional school setting. Those students may have personality issues with the general premise of being enclosed in a brick-and-mortar setting (PAcyber: The Pennsylvania Cyber Charter School, 2015).

Online learning is quite different from the usual idea of education, which for traditional schools involves a school building, a classroom with rows of desks, and a teacher standing next to a chalkboard. Online programs can be either complete or additional to a student’s education. The students enrolled in a full-time online learning program do not attend an actual, physical school, but learn almost completely online. Additional programs offer students the opportunity to take individual courses in an online setting to supplement their instruction in a traditional school. For example, a student who desires to take a class that is not offered by his or her school, such as a dual enrollment course, could enroll in an online learning program in that subject offered by community colleges (Lips, 2010, para. 6).

Online learning curriculum can be delivered in multiple ways. Students can partake in online learning through either synchronous or asynchronous instruction. In synchronous instruction, students and teachers work together in real time. In asynchronous instruction, students gain knowledge at their own pace and on their own time schedules. Online learning programs generally require regular communication between teachers and students by phone, e-mail, instant messaging, and video conferencing.

Online learning is on the rise. According to a 2013 report by the Babson Survey Research Group, over 6.7 million postsecondary students were enrolled in at least one online class in 2011, compared to only 1.6 million in 2002, and higher-education institutions continue to refine

and enhance their online curriculum. In 2002, about 72% of these schools offered some form of online learning, and that number has steadily increased to nearly 87% in 2012. Colleges also have emphasized the creation of fully online degree programs, and 62% of the schools surveyed now award degrees entirely through distance education. (Educate for a better tomorrow, 2014, para. 2)

Increases in online learning have prompted varied policies across the country. For example, online learning programs can be funded publicly or privately. Lips (2010) states, that among the public programs, online learning programs can be funded and governed by the state or school district. Many states now offer statewide online learning programs or virtual schools, which allow students to enroll in individual classes. Some states have "cyber schools" or virtual charter schools that students can "attend" full-time. In addition, many school districts and schools offer their own online learning options within the traditional school setting. In these respects, online learning programs can be funded or governed by the levels of government that traditionally oversee American public education: states, school districts, and chartering authorities. However, these jurisdictions, which are largely based on geography, are beginning to change because online learning allows students to receive instruction across district, state, and even national boundaries which sometimes may contradict each other (para. 11).

Like their traditional high school counterparts, many students graduating from cyber high schools are moving on to higher education. And, like traditional high school graduates, cyber high school graduates attend a wide variety of postsecondary institutions, from community colleges to elite Ivy League universities and selective military academies (Pennsylvania Cyber Charter School, 2009). As cyber high school graduates join the ranks of

other first-year students at traditional community colleges and universities, they fall under the watchful eye of academic departments concerned with the retention and success of their student bodies.

Often, it is assumed that cyber students are less prepared to enter traditional colleges than those coming from a traditional high school. However, data regarding cyber students reported by Pennsylvania Cyber high schools (PA Cyber, 2010) shows cyber students scored higher on SAT and ACT exams than state or national averages. In 2010, 70% of PA Cyber graduates said they planned to enroll in college or other post-secondary education. The following scores were achieved by junior and senior PA Cyber students taking the Scholastic Aptitude Test (SAT) and/or the American College Test (ACT):

- SAT test in 2009 had an average score of 1515, higher than the state (1473) or national (1509) averages.
- ACT 2009 scores also were higher with PA Cyber students earning 22.4, as opposed to the state average of 21.9 and the national average of 21.0.

Other online schools such as George Washington University Online High School (GWUOHS) (2013) prepare their students for life after high school. Students in the GWUOHS graduating class of 2013 have been accepted at the George Washington University, George Mason University, University of Mississippi, and Michigan State University, among others.

Supporting online learning are software companies such as Khan Academy (2015) offer practice exercises, instructional videos, and a personalized learning dashboard that empower both cyber and traditional learners to study at their own pace in and outside of the classroom. They tackle math, science, computer programming, history, art history, economics, and more. The Khan mission includes guiding learners from kindergarten to calculus using state-of-the-art,

adaptive technology that identifies strengths and learning gaps (para. 1). Students are using these types of cyber tools to support learning and they can be accessed from any computer via the web. Cyber students are likely to be more successful as they have a great deal of experience with these types of online facilities.

The Pennsylvania Department of Education (2013) reports that, on average, 80% of students go on to attend college after graduating from a PA Cyber high school. The report further indicates that some of the colleges and universities the Pennsylvania cyber high school graduates has been accepted to include Cornell University, Massachusetts Institute of Technology, Pennsylvania State University, Berklee College of Music, the Julliard School, and the University of Pittsburgh, among others.

Cyberlearning has gradually been changing the structure and vision of higher education institutions, as well as the entire national learning environment and educational systems. Cyber high schools often offer a broader curriculum for example, more Advanced Placement courses and more foreign language classes than public schools. Such broad coursework may make students eligible for more scholarships and can help them stand out in the application process (College Prep for Cyber High School Students, 2011, p. 1).

By most indications, data show experiences in cyber education can produce a sizeable list of desirable traits. Research indicates that cyber education increases learner autonomy and independence, augmented analytical and communication skills, well-developed study skills, and high levels of motivation, success, and self-regulated learning. Cyber students may be more likely to succeed in traditional colleges because cyber students would have familiarity with

online learning management software systems such as Blackboard and distance learning programs, which would already be established (Gracey, 2013, p. 4).

Many myths are attached to cyber students. These myths include students who attend online schools may lack social skills; online schools do not meet curriculum requirements; and students have expectations of failure. The oldest myth of all is that certain colleges are not going to accept an application if the applicant obtained an online high school diploma.

Why are students in the cyber high schools sometimes being overlooked by colleges unlike those from traditional schools? A 2012 report from the AACC explains that in today's rapidly changing world; the nation's foundation has shifted significantly, suggesting that community colleges need to rethink their roles. The premise of AACC Commission can be summarized in three sentences:

The American Dream is at risk. Because a highly-educated population is fundamental to economic growth and a vibrant democracy, Community Colleges can help reclaim that dream. But stepping up to this challenge will require dramatic redesign of these institutions, their mission, and, most critically, their students' educational experiences (American Association of Community Colleges, 2012, p. vii).

Pennsylvania Cyber (PA Cyber) represents one of the largest populations of cyber high school students in the country. The National Center for Education Statistics (2010) reports an enrollment of 8,539 pupils with 904 pupils receiving Special Education services. The Pennsylvania Department of Education Bureau of Assessment and Accountability is the state's accountability system and includes school assessment based on graduation rates. Graduation rates measure the number of students receiving a regular high school diploma in each year against the total number of dropouts. These data indicate that, because students are

graduating from cyber high schools, it would be likely that they will move on to community colleges or universities.

Table 1 illustrates the success of graduating cyber high school students in Pennsylvania.

Table 1: *Western PA Cyber District Graduation Rates, 2015*

STUDENT GROUP	CATEGORY	SCHOOL	DISTRICT	STATE
All Students		83%	83%	88%
Gender	Male	80%	80%	86%
	Female	85%	85%	89%
Ethnicity	White	82%	82%	91%
	Black	86%	86%	74%
	Latino/Hispanic			68%
	Asian			90%
	Native American			86%
Other Groups	ELP			81%
	Limited English Proficient			72%
	Migrant			72%
	Economically Disadvantaged			79%

Source: PAcyber: The Pennsylvania Cyber Charter School, 2015, n.p.

The breakdown of the demographics of the Western PA Cyber District reveals an impressive graduation rate. Although these numbers do not represent all schools in the Pennsylvania Cyber system, it is a system-wide goal to meet or exceed the state graduation target of 80%. As reported the state’s overall student graduation rate is 88%. The economically disadvantaged graduation rate is just below the targeted goal by one point.

As reported by the NCES Condition of Education (NCES, 2012), the rate of high school completion for those receiving a high school diploma or equivalency certificate is 68.1%. This percent indicator represents high school completers ages 16-24, account for about 98% of all high school completers in each year.

The U.S. Department of Education Office of Innovation and Improvement Guide (DOE, 2008) states that many online programs must deliver summative student outcome data because a funder or regulatory body demands it. In the case of Arizona Virtual Academy (AZVA), a K–12 statewide public charter school, the program must comply with several mandatory evaluation requirements: First, school leaders are required by the state of Arizona to submit an annual effectiveness review, which is used to determine if the school’s charter will be renewed. For this yearly report, AZVA staff must provide data on student enrollment, retention, mobility, and state test performance. The report also must include pupil and parent satisfaction data, which AZVA collects online at the end of each course, and a detailed self-evaluation of operational and administrative efficiency (p. 10). These types of processes will allow continuity in future qualitative research.

The growth in the field of K-12 blended and online learning is outpacing research. Based on the findings of Picciano and Seaman (2007), the Sloan Consortium’s initial report on the extent and nature of online learning in K-12 schools entitled, *K-12 Online Learning: A Survey of U.S. School District Administrators*, reviewed the use of online technology for instruction in the public schools. In the study, the number of students enrolled in at least one online or blended course in American K-12 schools was estimated at 700,000. In 2009, a follow-up to the same study revealed the number of students enrolled in at least one online or blended course was

estimated at 1,030,000, which represents 2% of the total K-12 population. Of these estimates, 70% of the students were enrolled at the secondary level (Picciano & Seaman, 2010, p. 10).

Table 2 below shows an overview as an indication of full-time online learning openings that were available to at least some students in 48 of the 50 states plus Washington, DC, in 2010.

Table 2: *Full-time Online Learning Openings, 2011*

TYPE OF ON-LINE SCHOOLS	NUMBER OF STATES WITH ON-LINE OPPORTUNITIES
State virtual schools or state- led online initiatives, and Alaska (2011) to open a statewide online learning network	39 states – Sizes varies
Full-time online schools	27 states plus Washington, DC have at least one full-time online school operating statewide (As of fall 2010)
Individual school districts operating online programs for their own students	Due to few reporting requirements exist for single-district online programs; the number of students in these programs is unknown.

Source: Matthew Wicks & Associates [iNACOL], 2010, p. 6

Online cyber high school learning is often not well understood by higher education institutions or policymakers, and this lack of understanding can result in the misapplication of existing and traditional education policies to online programs (Rice, 2006). Much more research is needed as traditional approaches to the new delivery method tend to be confusing and marginally effective. This determination to understand the phenomenon will benefit the contributions to research that already exist and make a marginal push towards understanding online learning.

The American Association of Community College publication, “Empowering Community Colleges to Build the Nation’s Future” (AACC, 2014), set a goal of increasing rates for completion of community college credentials, including both certificates and associate degrees, by 50% by 2020, while preserving access, enhancing quality, and eradicating attainment gaps across groups of students.

The AACC report set forth seven major recommendations, all of which are connected to attaining that goal (p. 2). One of the recommendations associated with the K12 community calls for strengthening the uses of data to track college readiness. Clear metrics and appropriate assessments are needed to longitudinally track progress toward improved student outcomes. As the AACC moves forward with its assessment of completion rates, it is likely that it will begin to measure the effect of online learning and alternative educational models.

To determine what happens to cyber high school students after graduation, more extensive research needs to be done. In 2005, the National Governors Association (NGA) Graduation Counts Compact revealed that all 50 state governors made a commitment to voluntarily implement a common formula for calculating their state’s high school graduation rate by signing the NGA Graduation Counts Compact (2005).

The Compact contained four commitments:

1. To use a common, four-year adjusted cohort graduation rate formula;
2. To build state data collection and reporting capacity;
3. To develop additional student outcome indicators; and
4. To report annually their progress toward meeting these commitments. (p. 1)

Since the introduction of the Internet in education, and especially online courses offered by some schools, the selection of technology has been the major concern because of the difficulty of determining the benefits. Even with the limited awareness of the effects of online learning, and the limited research into the effects of online learning, some early indications are encouraging.

Students graduating from cyber high schools and transitioning into higher education cause a need to re-evaluate how education leaders, whether in K-12 or higher education, can assist students coming from a cyberlearning high school environment. Also, the support and understanding the comparative differences between a cyber high school and traditional high school graduate on issues of preparedness and assessment procedures supports this research.

PROBLEM STATEMENT

The problem driving this qualitative study is the lack of research any differences that exist in assessments or preparedness for cyber high school graduates compared to traditional high school graduates transitioning to a traditional college. This study begins to address the lack of research. The qualitative method of this study will help to establish an understanding of the activities, entities, processes, and forces that comprise the detailed strategies of the high schools in this study.

In addition, there is a need for educators to develop an understanding of the strategies and procedures by which each high school prepares graduates for college-readiness. Community college educators need a clearer understanding if there are of any differences so that they can make changes in how they view students and how they respond when they move

on to higher education. According to Einstein & Calaprice (2011), “The significant problems we face cannot be solved at the same level of thinking we were at when we created them” (p. 476).

RESEARCH QUESTIONS

Two fundamental questions will guide this research:

- Research Question 1. Is there any difference between cyber high school graduates and traditional high school graduates educational learning achievements?
- Research Question 2. What do leaders of cyber high schools and traditional high schools view as important in preparing students for college?

SIGNIFICANCE OF THE STUDY

Despite the fact there is increasing growth in cyber high school education, there is a lack of research looking at the effectiveness of this type of learning compared to traditional high school learning. As will be seen in the literature in Chapter Two, the researcher was unable to identify any pertinent studies during the current decade. This study addresses whether there are learning achievement differences among these two groups of high school students and attempts to contribute to current research.

This study will contribute to the limited research by comparing the perception of principals and directors from the State of Michigan and by comparing achievement data in multiple states. The study’s design will help in the awareness of these differences, if any, and catapult any additional knowledge that can support a clearer understanding of this new medium which sometimes tends to be confusing. It will also promote a better understanding of the phenomenon which will benefit the contributions to research that already exist and add to

the push towards reclaiming the American dream. All students should have the same opportunity whether they are studying online or in a traditional brick and mortar classroom.

DEFINITION OF TERMS

- **Academic Preparedness:** Content knowledge and skills in reading and mathematics based on a core curriculum and standardized testing.
- **At-risk Students:** Students or groups of students who are considered to have a higher probability of failing academically or dropping out of school.
- **Blended Learning:** A formal education program in which a student learns at least in part through delivery of content and instruction via digital and online media with some element of student control over time, place, path, or pace.
- **College Readiness:** Broadly understood to include both academic preparedness and other characteristics needed for success in post-secondary education and training.
- **Cyber School:** A school in which 100% of a student’s public instruction occurs through online learning. For the purposes of this study, the terms “Cyber School,” “cyber high school,” and “100% virtual learning” are used interchangeably.
- **Cyber charter school:** Self-managed public cyber schools that are approved by local school districts.
- **Cyberlearning:** Learning that is mediated by networked computing and communications technologies.
- **Distance learning:** The method of study where teachers and students do not meet in a classroom but use the Internet, e-mail, mail, etc., to have classes.
- **E-Learning:** Learning that uses electronic technologies to deliver educational curriculum outside of a traditional classroom.
- **Learning Achievements:** The result of which resulted in changes within the individual because of activity in learning.
- **Learning style:** An individual's unique approach to learning based on strengths, weaknesses, and preferences.

- **Online learning:** A method of delivering educational information via the internet instead of in a physical classroom.

LIMITATIONS OF THE STUDY

Participants in this study were all from the State of Michigan their perspectives may not reflect those of other high schools. Thus, the ability to generalize this study's findings may be limited.

There are four limitations of this study:

1. The study was limited to the number of cyber high schools and traditional high schools able to be recruited from the public-school systems in the states of Michigan, Pennsylvania, and Ohio. Multiple efforts to request interviews were outside of the researcher's control.
2. Interviews were only conducted in one state (Michigan). The researcher chose this approach based on residency and easy accessibility to the cyber high school and the two-traditional high school that were within the state.
3. A common set of curriculum guidelines does not exist for cyber high schools in the United States. Thus, data gathered of cyber schools' outside of Michigan may vary significantly from data obtained in this study.
4. The State of Ohio does not provide reports of ACT scores per school. The state provides only a composite of all schools in the state.

DELIMITATIONS

1. Only three schools in Michigan were chosen for interviews based on the following criteria: their location, the proximity of a cyber-school and traditional school in the same vicinity, and due to time and travel constraints, no more than two (three- Michigan only) schools from three state districts were included in the study.
2. For comparison of achievement data, three states were chosen and all data were retrieved from online resources.
3. Finally, this research will only use a qualitative approach. There will be no intent to utilize a quantitative approach. Merriam (2009), states that qualitative research is proposed to describe in detail the facts and characteristics of a given

phenomenon or the relationships between events and experiences (p. 5). The qualitative approach allowed the ability to study the everyday school lives of principals and director. Also, to understand and analyze the conversions related to their graduating students as they transition into college.

SUMMARY

According to Watson, Gemin, and Ryan (2008), “the growth of online learning will continue to trend sharply upward” (p. 42). Online learning is considered by many as a teacher-led education that takes place over the Internet, with the teacher and student separated geographically. Students who are unable to access classes through their school’s regular course offerings (because of illness, pregnancy, incarceration, among other reasons) with a flexible option for completing their schooling. Education can now be offered in various ways due to the technology age in full force. Also, students learn differently and can benefit from varying ways of teaching offered outside of the traditional brick-and-mortars.

Two research questions guided the study and provide results using a qualitative methodology. The design of this research uses state regulated assessment test results from the states of Michigan, Pennsylvania, and Ohio, to support the a “rich description” of words from interviews with principals and directors of high schools in the state of Michigan.

This research attempted to determine if any differences exist in assessment or preparedness for cyber high school students compared to traditional high school students. Full-time online learning is a newly recognized educational learning style that is moving from the original model of student face-to-face with teachers, to the reality of learning virtually. This will allow educators to begin promoting the viability of online learning styles that now exist.

Chapter One provided an introduction and purpose of the research. Chapter Two presents a review of the related literature probing into what are cyber high schools, the characteristics of a cyber-student, and the progress the schools have made over the last eight years. Chapter Three outlines the research design and methodology of the study. The instrument used to gather the data, the procedures followed, and determinations of the sample selected for study are described. An analysis of the data and a discussion of the findings are presented in Chapter Four. Chapter Five contains the summary, conclusion, recommendations for future research, and reflection.

CHAPTER TWO: LITERATURE REVIEW

INTRODUCTION

In an age of increased technology, pedagogy efforts have changed the learning environment for high school graduates seeking to transition into college. Technology is a leading force behind the major changes happening in pedagogy that warrants a closer investigation of practices and successes in cyber schools compared to traditional school systems. The increasing integration of technology is causing the need for an in-depth study of the increasing development of online high schools.

This literature review will show connections between authors who theoretically draw upon the same ideas about the history of online learning, different types of online learning, benefits and challenges, perceptions, transitioning to college, and leadership implications. The review will also set the foundation for why the study is needed when considering the scarcity of data and research available about online learning. This lack of information may be linked to the fact that technology develops and changes quickly.

DEFINITION AND HISTORY OF ONLINE LEARNING

A report requested of the Michigan Department of Education pertaining to Section 950 of Public Act 212 of 2008: Educational Technology and Data Coordination Sec. 950 defines and explains legislature regarding cyber school.

The primary definition of “cyber school” is a school in which 100% of a student’s public instruction occurs through online learning. Online learning is defined in Michigan pupil accounting rules as “a nontraditional method of receiving pupil instruction for courses that are taken through online learning or otherwise on a computer or other technology” (Rule 340.11). For the purposes of this report, the terms “cyber school,” “cyber schooling,” and “100 % virtual learning” are used interchangeably.

Act 212 states, “Online learning is defined in Michigan pupil accounting rules as “a nontraditional” method of receiving pupil instruction for courses that are taken through online learning or otherwise on a computer or other technology” (Rule 340.11). As stated in this report, Michigan’s original conception of thought is to propose online course instruction to students confronting timetabling encounters, allowing students an option for those to struggles with graduating from high school (at-risk students), students with promising athletic abilities and performers in the arts, dropouts, expecting young mothers or jailed students, and students who are at home due to sickness or injury, allowing them to proceed in getting their education virtually without being in the traditional classroom, thus adding educational options for these reasons (Rule 340.11).

Online learning can take different forms, including:

- Scheduled (i.e., student must attend a pre-arranged classroom to gain access to the computer-based content)
- Blended (i.e., the teacher uses both traditional classroom and online forums to deliver instruction)
- Self-scheduled (i.e., student learning that does not require a teacher or student to be physically present in a classroom) (Rule 340.11).

The department shall work with the legislature to examine the feasibility of removing the barriers to operation of cyber schools that focus on special student populations such as dropouts or expelled students. The most substantial regulatory barriers exist for instructional programs that allow students to participate in online learning that takes place outside of a school (Rule 340.11).

The Conversation US, Inc. (2010) reports the following regarding a version of cyber schools as a charter school;

instruction is typically delivered to the students online wherever they may live, so long as they are residents of the state in which the cyber charter school operates. The model of these schools could vary – some use a hybrid delivery model (online and in person), although most are entirely online. As with traditional schools, the general idea behind cyber schools is to allow families and students to have a choice other than their local public school. Students receive course material, lessons and tests on their computer at home (usually the computer is also provided with state funds) (para. 7).

Writings about online learning history reveal the first use of mail education at the K-12 level was in 1906 with the Calvert School in Baltimore, Maryland. More than two decades later, K-12 schools tested the use of educational radio as a medium to provide distance education, first in Ohio, where it was used around 1929, and Wisconsin, where it began around 1930 (Barbour, 2011, p.2).

According to Greenway and Vanourek (2006) “the first incarnation of what everyone thinks of as K-12 virtual school appears to have been launched in the summer of 1995, with the CyberSchool Project in Eugene, Oregon” (p. 36). Started by nine district teachers, it offered supplemental online high-school courses. By 1996 the virtual fire was beginning to blaze; an experimental WebSchool in Orange County, Florida began. This WebSchool was a precursor to

the Florida Online High School. The authors discuss the rapid growth and report that it is hard to determine how many exist to date.

Research indicates that, by the 1960s, additional alternative instructional methods were created to provide educational instruction outside traditional brick and mortar schools.

Michael K. Barbour (2011), author of many research studies on the topic of online learning, indicates that online learning at the K-12 level has persisted almost if its history in higher education, with the first virtual school programs beginning in the early 1990s. He reports that the first full-time program in the United States began around 2000–2001 and now there is a significant number of K-12 online learning programs available to most people in the United States (p. 1).

Chapter One of an in-depth study by Ferdig and Kennedy (2014) titled *Handbook of Research on K-12 Online and Blended Learning*, discusses the “History of K-12 Online and Blended Instruction in the United States” where early initiatives in K-12 online learning were programs that developed from a school that taught nonresident students by mailing lessons and exercises, often called correspondence schools. By the end of 2010, additional or full-time online learning openings were available to at least some students in 48 of the 50 states plus Washington, DC.

As early as 2008, researchers were discussing that technology was changing the way we shop, date, and stay updated with the news; it is also changing the landscape of American education. Across the country, elementary, middle, and high school students were opting out of traditional public schools in favor of attending virtual charter schools. The International Association for K12 Online Learning (iNACOL, 2008) revealed that “200 virtual charter schools

were in operation nationwide. Experts expect the number of cyber high schools, whether charter or public to grow, as the K-12 online learning industry is expanding at an estimated annual pace of 30%” (Chen, 2015, para. 1).

On the topic of growth of online schools, author Barbour (2006) states, “regardless of the growth and practice of virtual schooling, it has far out-paced the production of reliable and valid research” (p. 1). Over the years, technology has played a key role in changing the dynamics of each delivery option, as well as the pedagogy of cyber high school education. Understanding the concept of distance between learner and instructor, technology empowers learners to access education at any time and from any place.

TYPES OF ONLINE LEARNING

Rice (2006) took a comprehensive look at distance education and shares multiple terms used interchangeably describing the somewhat confusing, and constantly changing field of nontraditional instruction. These terms are distance education, distance learning, e-learning, web-based instruction, virtual schools, and online learning (p. 428).

Lampton and Metz (2009) describe variations of online courses. One method is the delivery of an independent online course for a student in their home, like home-schooling. Typically, this is an Advanced Placement course, a foreign language course, or another course that is not available face-to-face at a school. The course often costs money to the school or student and those courses can be taken at any time or any place with little or no supervision by a teacher. The teacher communications with the student happens through instant messaging, skypeing, or any methods available using the internet. Courses are offered or developed in-

house and require the student to meet the course requirements either within a structured amount of time or at their own pace (p. 4)

Furthermore, Lampport and Metz (2009) also describe another type of online learning consists of a teacher offering a course synchronously to students who live in different locations. This type of learning is becoming less popular because students must be participating in the activity at the same time, and the delivery approach sometimes requires an extensive video communications system. Once viewed as the “state-of-technology,” it is apparently becoming less attractive because of its inflexibility (p. 5).

Education delivered primarily over the Internet are virtual schools and “some people confuse with home schooling or with charter schools. The truth is that virtual schooling is more like a hybrid of public, charter, and home schooling, with ample dashes of tutoring and independent study thrown in, all turbocharged by Internet technology.” (Greenway & Vanourek, 2006, p. 34)

The model that appears to receive the most attention today is a hybrid or blended model that combines online learning with face-to-face. Explaining the preference for different course logistics, Flowers (2001) found that most people in his research preferred “a mixture of independent and group learning” (p. 6). Other research also has shown that a combination of face-to-face with online instruction is more effective than online alone (Henke-Greenwood, 2008; Serim, 2007).

BENEFITS AND CHALLENGES OF ONLINE LEARNING

Chen (2015) reports on the pro and cons of the growing trend of online learning. Chen explains that the largest advantage of virtual charter schools is their ability to offer students customized, individualized programs of study. In traditional public schools, teachers often slow

the pace of their instruction to cater to the slowest students in the classroom, and this can leave more adept students bored and under-stimulated. Chen state, “In contrast to traditional schools, virtual charter schools allow students to work at their own pace, spending longer on those concepts or subjects that are more difficult, while moving onto more challenging topics as soon as they are ready” (para. 3-4). The advantages of online learning can offer the ability to customize and personalize learning. Also for students who drop out of high school, “online schools are poised to be an excellent alternative” (para. 6). On the other hand, online learning could conceivably be taking money away from public schools and there is potential for students to feel isolated in their home-based studies, causing a lack of social interaction (para. 10).

Furthermore, as stated by Ahn (2011), the history of evidence on student's achievement in distance learning suggests “online schooling applications perform no worse when compared to classroom instruction” (as cited in Bernard et al., 2004, p. 3). Although Ahn found no noteworthy differences between distance education and traditional classroom instruction in terms of learning gains or losses, he found many benefits of cyber high schools from a policy perspective. Cyber high schools, including charters schools, may offer an education quality comparable to that of traditional schools, but reach underserved populations that need a more adaptable educational option. More importantly Ahn states “students rely upon cyber schools to finish their high school credits” (p. 3).

There is a wave of skepticism regarding this new popular way of education that has provoked concerns of many. Chen (2015) reports that people who do not support virtual schools seem to believe this may be unfair treatment to students, and worse, that it dissolves the already destabilized public way of teaching. In contrast, people who are advocates of the

online education models maintain that this type of education was designed to be customized learning. Chen shares the fact that “the individualized and customized learning that virtual charter schools enable is exactly what many modern-day students need” (para. 3).

The Heritage Foundation published a report on K–12 Education and Benefiting Students where author Lips (2010) reports:

Students appear to be benefiting from online learning programs. While evidence about the effectiveness of K-12 online learning programs is limited, there is reason to believe that students can learn effectively online. In 2009, the U.S. Department of Education published a meta-analysis of evidence-based studies of K-12 and postsecondary online learning programs. The study reported that "students who took all or part of their class online performed better, on average, than those taking the same course through traditional face-to-face instruction." (p. 9)

PERCEPTIONS OF ONLINE LEARNING

In an article in the *Journal of Technology Education*, Flowers (2001) addressed perceptions of online learning. In his research, several barriers to meeting online learning needs emerged. Among these were a lack of perception of need, a lack of awareness of online opportunities, a perception that online education is too impersonal, and a perception that online education is of inferior quality. Yet, higher education can help overcome some of these barriers if they advertise online offerings that have been designed to ensure both high quality and personal interaction (p. 7).

The perception of cyber schools from the author Ellis (2008) indicates that advocates stress the importance of teaching twenty-first-century skills to twenty-first-century students. These skills could include e-mail access, Internet research, and on-line communication that can be taught within the traditional public system as easily as anywhere else (p. 150).

The *Journal of Public Affairs Education* published a journal entry written by Ya Ni (2014) that discussed comparing the effectiveness of classroom and online learning. Ya Ni writes that “some scholars suggest that the interaction in an online environment promotes student-centered learning, encourages wider student participation, and produces more in-depth and reasoned discussions than a traditional classroom setting does” (p. 201).

Swan and Jackman (2000) compare the success of students enrolled in distance education versus a traditional classroom and note that “advancement in communications technology have dissolved some of the major distinguishable characteristics between distance education and traditional education” (p. 58). Another perception, as noted earlier, is the fact there “is a lack of studies that compare student achievement by students receiving instruction via distance technology versus students receiving the same instruction through the traditional classroom setting” (p. 59).

Maeroff (2004) states when an online course is properly designed, it can build in many opportunities for students to gain their learning through responses and discussions: “Ideally, this interaction is neither haphazard nor left to serendipity, though spontaneity may figure in it” (p. 42).

A report published by Molnar (2013) describes the author’s perception to explain the context for virtual, or online, education reform. It provides an overview of state legislative activity, describes the influences on policymakers, and surveys media reports of emerging political and policy issues associated with the implementation of virtual school policies (p.60).

In a review of the literature related to the reality of virtual schools, Barbour and Reeves (2008) shared “what is clear is that as the virtual school movement continues to grow and thus

serves a wider range of students, the need for more and better research that can help ensure all students have the opportunity for success in virtual school environments is increasingly urgent” (p. 413).

TRANSITIONING TO COLLEGE

Smith & Zhang (2009) found that peer support was an important factor in helping students make the transition to college, although they acknowledged that some of this support might produce negative outcomes such as the lack of good study habits. Other researchers (Cabrera & La Nasa, 2000; Hossler, Schmit & Vesper, 1999) identify parental encouragement as the strongest factor predicting students' planning for college. Hurtado, Carter, and Spuler found that college academic advisors were important factors in facilitating students' transition to college, while Kelly, Kendrick, Newgent, and Lucas (2007) indicate that 50% of the students they studied did not receive any help from their high school guidance counselors regarding college.

According to Kirst and Venezia (2008), in a 21st century labor market, all high school students must graduate with the knowledge and skills needed to succeed in some form of postsecondary education. The challenge of providing this level of education cannot be accomplished by K–12-education alone, but most college readiness reforms target K–12 only.

Goodman, Schlossberg, and Anderson (2006) describe a transition as any event or non-event that results in changed relationships, routines, assumption, and roles. Transitions include not only obvious life changes, such as high school graduation, job entry, marriage, the birth of one's first child, and bereavement, but also other subtle changes. Thus, an event or a non-event can be defined as a transition if it results in change. The authors created a 4S System to

provide a way to identify the potential resources someone possesses to cope with the transition. The 4Ss refer to the person's Situation, Self, Support and Strategies. No matter where one is in the transition process, no matter what the transition is, one deals with it differently depending on these resources (p. 33).

Conversely, as reported by Gracey (2013) on cyber high school students' transition to a traditional university, "students who attended cyber high schools believe their cyber school experience did not provide them with foundational academic or social proficiencies, such as the ability to navigate interpersonal interaction, needed to enhance transition" (p. 7).

Information provided by DTI Associates, Inc. (2004) explains the "primary goal of college transition programs is to provide students with early awareness of the benefits of continuing their education by enrolling in college" (p. 1). Furthermore, the same issues paper adds that these programs urge students to think about higher education and at the same time, deliver the educational and other support services students needed to go to college.

Also, the DTI Associates, Inc. (2004) report suggests that programs such as college transition programs are needed to assist students with the types of high school courses that prepare them for college-level work, the college application process, the required entrance assessments like the SAT or ACT, and the steps in applying for student aid. Whether cyber or traditional, high schools' urgent call for repairing the disconnection will allow the development of resources and materials to meet the needs of college-bound students and provide those resources for guidance counseling and information about preparing the students for being successful in college. The report concludes by stating "the need is great" to support transition programs that stems from the need to close educational gaps. Policymakers and educators

argue that college transitions programs are needed “to address the historical disparities that exist in our educational systems” (p. 1).

Finally, when discussing how students think about integrating technologies in their learning, Blackboard Institute (n.d.) cites Cheryl Charlton, Chief Operating Officer of the Idaho Learning Academy, who “hears from graduates attesting to benefiting from integrating e-Learning technologies with their high school courses and how it helped ease their transition into college” (p. 12).

LEADERSHIP IMPLICATIONS FOR ONLINE LEARNING

The growth of cyber high schools is expected to continue with persistent leadership. Kowch (2009) suggests that developing leaders for these cyber high schools will be a vital element of continued growth (p. 41).

In 2012, the U.S. Department of Education Office of Educational Technology issued their report, *Transforming American Education: Learning Powered by Technology*, the most recent U.S. educational technology plan. It has set the goal for all levels of the educational system to redesign processes and structures to leverage “the power of technology to improve learning outcomes while making more efficient use of time, money, and staff” (U.S. Department of Education 2012, p. 63). The goal suggests that more vigorous efforts are needed to both design and build key constructs and measures that will support increasingly real-time, integrated learning analytics for students, teachers and administrators, and develop the technical and human infrastructure needed to plan and implement productivity analyses and use their results appropriately (p. 34).

Twigg (1992) studied leadership that encourages the innovations in online learning in an early study regarding those often in leadership positions. The purpose of the innovations is to sharpen focus on the needs and interests of students as individuals. Twigg suggests that instruction should be “tailored to meet student goals at their desired pace of learning” (p. 34).

Reporting his findings in the *Teachers College Record*, Ahn (2011) suggests that “state leadership is vital to facilitate the introduction of charter cyber school into the public-school systems” (p. 22). Also, policies that allow students to enroll across district boundaries take advantage of the affordances of online instruction.

Ahn, (2011) further states:

Policies that enable students to enroll across district boundaries take advantage of the affordances of online instruction. Furthermore, policymakers must grapple with per-pupil funding mechanisms that account for diverse enrollment possibilities. E-learning students can possibly enroll full-time, part-time, and beyond the usual academic schedules of traditional public schools. However, state policies will either enable or constrain these possibilities for online instruction. (Ahn ,2011, p. 22)

SUMMARY

This chapter reviewed current literature related to online learning. The evolving topic of online high schools has begun to offer different types of online learning, most reports lean towards hybrid or blended models that combine online learning with face-to-face as being most effective in delivering effective learning.

The literature has shown that cyber high school graduates are graduating and looking to go to college just as traditional high school students. While many types of online learning are expanding, full-time virtual schools are gaining the most attention. This new phenomenon offers benefits and challenges. The literature shows that the important benefit that online

learning can offer is the ability to customize and personalize learning. Perceptions of online learning have changed the way educators look at education learning styles and the way they provide education to our students. Some researchers have found that the reason students are attending a cyber school influences the academic and social outcomes of the experience as they transition to college. The findings of this review related to leadership highlighted its importance of being vital in governing this increasing development of online high schools.

Correlations were found in the literature describing the pace and history of cyber schools, virtual schools, or distance learning for high school students. Literature has shown that this new delivery mechanism has developed and grown in recent years. The literature indicates that continued research is needed to extend the benefits and meet the challenges of virtual schooling as sought by many authors that have the mind to understand the significance of cyber high school's students who are graduating and moving to higher education.

CHAPTER THREE: DESIGN AND METHODOLOGY

INTRODUCTION

This study was designed to determine whether there is a significant difference between cyber high school graduates' and traditional high school graduates' achievements as they both transition into college. This study will provide an increase in awareness for academic leaders studying students' transition into traditional colleges. This study investigated the key components that factor into the design, implementation, and continuation of promoting graduates from cyber high school compared to traditional high school programs. This research study attempted to determine if a relationship existed between the different types of high schools' processes and procedures. Also, it aimed to compare the students' assessments and preparedness that determine college readiness.

Gracey (2013) explains that "much of the interest and concern over secondary cyber educated students is expressed as a question, comparing them to students educated in traditional schools" (p. 64).

As Maeroff (2003) unveils his thoughts on the purpose of public schools, there still is widespread agreement that schools for younger pupils should play a role in character development, socialization, transmission of a common culture, and preparation for citizenship. Two of the main reasons why critics wonder about the appropriateness of online courses below the college level are because of these objectives and because of the doubts about the suitability of e-learning for less mature students who may not so easily function on their own. (p. 275)

How cyber high school students compare to traditional educated high school students gives interest to this research and a means of evaluating the quality of K-12 cyber education in general.

POPULATION SAMPLE

The research population is a well-defined collection of high schools known to have similar characteristics which have a binding (same vicinity) characteristic and were accessible to the researcher in the state of Michigan. According to Explorable Website (2008-2016),

the accessible population is the population in research to which the researchers can apply the conclusions of this qualitative research. This chosen population is a small subset of the target population and is also known as the study population. It is from the accessible population that researcher will draw the samples. Based on the details regarding the population, sample, and sampling technique, the reader can evaluate whether the results of the study may generalize to a different sample that they are interested in. Generalization means whether the results of the study generalize, or apply, to a group different than those individuals who participated in the study. (para. 2-4)

The researcher determined to limit the sample population to the State of Michigan where the researcher lives and based on the inability to be granted interviews in other states. Yin (2016) finds that “there is no formula for defining the desired number of instances (or sample size) for each broader or narrower unit of data collection in a qualitative study. More importantly, the logic for defining the number differs from the way that sample sizes are defined in non-qualitative research” (p. 95).

STUDY SETTINGS

Final high schools included in the study were Westwood Cyber High School and Crestwood High School in Michigan, Pennsylvania Distant Learning Charter and North Allegheny

Senior High School, in Pennsylvania, and Phoenix-PolyFox Academy and Bowsher High School in Ohio (see Table 3 below).

Michigan

Michigan is home to nine fully-online primary schools, including the large Michigan Virtual School, where almost 22,000 students enrolled during the 2013-2014 term. Over 400 school districts participated in GenNET Online Learning, with 18,000 students taking courses through multiple vendors during the 2013-14 year. Primary school districts in Michigan reported 185,000 virtual learning enrollments during the 2012-2013 year. The two traditional schools, Garden City and Crestwood High Schools, that were selected for this research representing the state of Michigan were selected based on their existence in the vicinity of the Westwood Cyber High School where extensive research was done.

Pennsylvania

Pennsylvania Cyber (PA Cyber), the largest population of cyber high school students in the country, was used as one of three high schools (other states include Michigan and Ohio), by including data and statistics of the enrolled cyber high school students. The National Center for Education Statistics (2010), reports an enrollment of 8,539 pupils with 904 pupils receiving Special Education services. The Pennsylvania Department of Education Bureau of Assessment and Accountability, Pennsylvania's accountability system, includes school assessment based on graduation rates. Graduation rates measure the number of students receiving a regular high school diploma in each year against the total number of dropouts. Fully-online education

options are available to all students in grades K-12. Pennsylvania had 14 cyber charter schools serving 36,596 students in grades K–12 during the 2013-2014 school years.

Ohio

Ohio continues to be a forerunner in online community schools. As stated earlier, PA Cyber online schools were started by a school superintendent to help public school students to stay in their school districts rather than be bused to Ohio’s cyber schools. In contrast to PA Cyber, in mid-2012, explained by Molnar (2013) the *Cleveland Plain Dealer*, Cleveland’s largest newspaper, reported that online school enrollment in Ohio had topped 30,000 students, making the state, at least by calculations, second only to Arizona in the number of its students enrolled in online schools.

Table 3: *Study Site Names and Enrollment, 2014-2015*

SITES	TYPE OF SCHOOL	SCHOOL DISTRICT/ LOCATION IN STATE	ENROLLMENT (2014-2015)	INTERVIEW = I DATA = D
Crestwood High School	Traditional High School	Crestwood Community School District, Dearborn Heights, MI	1,284	I, D
Garden City High School	Traditional High School	Garden City Public School District, Garden City, MI	4,395	I, D
Westwood Cyber High School	Cyber High School	Westwood Community School District, Inkster, MI	508	I, D
Bowsher High School	Traditional High School	Toledo City, Toledo, OH	1,186	D
Phoenix Academy	Cyber High School	Toledo City, Toledo, OH	532	D

SITES	TYPE OF SCHOOL	SCHOOL DISTRICT/ LOCATION IN STATE	ENROLLMENT (2014-2015)	INTERVIEW = I DATA = D
North Allegheny Senior High School	Traditional High School	North Allegheny School District, Wexford, PA	2,713	D
Pennsylvania Distant Learning Charter	Cyber high school	North Allegheny School District, Wexford, PA	509	D

Source: National Center for Education Statistics. (n.d.). <http://nces.ed.gov>

These three states were selected based on the following criteria: their location, the proximity of a cyber school and traditional school in the same vicinity, and due to time and travel constraints, no more than two to three schools from three state districts were included in the study.

The site selections of this research study reflect the researcher's current residency (Michigan), with easy accessibility to Westwood Cyber High School, Crestwood High School, and Garden City High School; these school districts had agreed to support this study. Cyber school systems that are of similar size with Michigan's are Pennsylvania Cyber (PA Cyber), one of the largest populations of cyber high school students, and finally, Phoenix Academy Community School in the State of Ohio. These site selections represented data and statistics of the enrolled cyber high school students compared to the traditional high school in the same vicinity. These particular states also offered clear performance data and historical track records.

PARTICIPANTS

To identify potential schools the researcher identified schools based on two specific criteria; first, both the cyber high schools and the traditional high schools were in the same school district or nearby vicinity with partnership agreements. And second, both the cyber high schools and traditional high schools had existed for a minimum of two years with national data at their respective sites during 2009-2015 academic years. Westwood Cyber High School, located in the Westwood Community School District, and Crestwood High School, located in the nearby vicinity, have a partnership agreement with each other.

The initial research requests were made by phone to the office of the superintendent of Westwood Community School District. It was then determined Westwood Cyber High School, Crestwood High School, and Garden City High School would accommodate the researcher to represent the school districts. After initial contacts with Westwood Cyber High School, Crestwood High School, and Garden City High School, all of which agreed to participate in the qualitative research study, an email was sent explaining the study's purpose. Those willing to participate in the study responded to the emails and provided an informed consent form along with contact information. Furthermore, in the state of Michigan only, the researcher interviewed one-on-one or as referred to as FTF interviews with the high school's principals or director. This allowed interviewees the opportunities to explain their experiences and to give examples of the advantages and disadvantages they now see and to explore, if at all, how their unique education programs impact their students.

INTERVIEW PROCESS

To get at the essence or basic underlying structure of the meaning of an experience, the phenomenological interview is the primary method of data collection. Merriam (2009) suggest “prior to interviewing, the researcher must explore his or her own experiences, in part to examine dimensions of the experience and impart to become aware of personal prejudices, viewpoints, and assumptions” (p. 25) to avoid any judgment. Moreover, Merriam (2009) suggest the decision to focus on qualitative case studies stems from the fact that this design is chosen precisely because researchers are interested in insight, discovery, and interpretation, rather than hypothesis testing. As Yin (2014) observes, a research design is particularly suited to situations in which it is impossible to separate the phenomenon’s variables from their context.

During the interviewing process, the researcher examined these scenarios, referenced as “Interviewee 1-C,” “Interviewee 2-T1,” and “Interviewee 3-T2.” During the process of analysis, the researcher then can add new aspects or drop out fruitless ones (Routio, 2007). Goodrick (2014) shares the sequence of these steps allows for descriptive data to be gathered and “tested iteratively, a major difference that sets comparative case studies apart from experimental and quasi-experimental designs for understanding causality. The author discusses the point regarding qualitative researchers are interested in understanding how people interpret their experiences, how they construct their worlds, and what meaning they attribute to their experiences” (p. 2).

The interviews were designed to explore what roles, if any, administrators played in developing an assessment program to assure preparedness for graduation and entrance into

higher education. In addition, the interview portion of this study was primarily inductive, with information being gathered to build understanding rather than to test hypotheses of the researcher (Merriam, 2002). Therefore, many of the questions asked in the interview were developed as interviewees shared their experiences and perceptions.

All interviews were initiated by the researcher with the questions designed to elicit and study exploring the role cyber high schools and traditional high school's administrators play in developing assessment strategies and programs to ensure preparedness for student graduation and entrance into college. The questions were based on the researcher's understanding of prior research on cyber education and transition to college. The interview participants were given a choice of where to conduct the interview — either within their own workspace, or at a neutral location off-campus, depending on the participant's comfort level with each location. The interviews lasted approximately 60-120 minutes.

The interviews were recorded using a high quality digital recorder after permission to record the sessions was obtained from each interviewee. At each individual site, the researcher and interviewee read and signed an informed consent form on letterhead from the researcher's university (Appendix B) prior to the start of the session. Recordings were started as soon as both the researcher and interviewee were seated and the consent form was collected. An overview statement of the purpose of the study and discussion of procedures for the interview were given prior to beginning, followed by a formal introduction and name of the high school they represented for purpose of recorded identification. Also, interviewees were encouraged to add commentary at any point. They were reassured that digressing from the researcher's initial questions was encouraged so that discussions would lead to discovering unexpected

aspects of their experiences. Additionally, the unstructured discussions gave the interviewee a chance to expound on experiences they believed were noteworthy to understanding their respective schools. The interviews were guided conversations rather than structured queries. While pursuing a consistent line of inquiry, the actual stream of questions in these qualitative research interviews is likely to be fluid rather than rigid as supported by Rubin and Rubin (1995).

For the interviews, the researcher had two objectives: (a) follow the line of inquiry as reflected by the qualitative research and (b) ask questions in an unbiased manner that also serves the needs of the line of inquiry (see Appendix E). For instance, the researcher wanted to know why a particular process occurred as it did. Another major purpose of the interviews was to corroborate facts that had been established, but not to ask about other topics of a broader, open-ended nature. In this situation, the specific questions were carefully worded so that the researcher appeared genuinely naive about the topic and allowed the respondent to provide a fresh commentary about it; in contrast, no leading questions were asked, otherwise the corroboratory purpose of the interview would not have been served. One way this was accomplished was to test the sequence of events by deliberately checking with persons known to hold different perspectives. The discussions allowed interviewees to use their own words to describe the experiences of their students.

INTERVIEW ANALYSIS

To analyze the interviews, files were professionally transcribed using VoiceBase, Inc. automation tool that uses ASR (Automated Speech Recognition) that uses its own proprietary

speech engine technology to deliver industry leading in accuracy. VoiceBase did not know the location of the study sites, thereby maintaining the confidential nature of the study. After the transcription was completed, each participant's name in the text files was replaced with a pseudonym to further ensure confidentiality. These pseudonyms (Interviewee 1-3) were used for the duration of the study, and only the researcher knows the identity of the principal or director associated with each pseudonym.

Having to reread and analyze data in the words used by the interviewees allowed the researcher to give additional time and consideration to the interviewees' meanings before filtering ideas into themes. Next, broad themes were refined and narrowed to eliminate redundancy. Themes were then correlated to each research question by making a notation of the question number next to the themes. The ultimate use of a limited number of themes allowed a clear description of the phenomenon of this study.

ACHIEVEMENT DATA

The type of document collection proposed for qualitative assessments was retrieved from the following entities:

- Michigan, Ohio, & Pennsylvania School Data
- American College Testing (ACT)/Scholastic Assessment Test (PSAT)
- National Student Clearinghouse – Student Tracker for High Schools

The information was formulated into tables for each state for easily comparison.

DATA ANALYSIS

The methodology chosen is primarily a qualitative research design. Compared to other research methods, the strength of the basic qualitative research method is that it can “attend to the contextual richness of settings when understanding how people cope in their real-world settings” (Yin, 2016, p. 3). The theoretical framework is based on the literature related to the topic discussed in Chapter Two.

The framework will draw upon the concepts, terms, definitions, models, and theories of the literature cited and the disciplinary orientation. Qualitative data gathered through discussions with study participants offered an insider’s view of the world of traditional and cyber high school administrators’ roles in preparing students as they assimilated into the community college or university setting. According to Merriam (2009), the proposed “framework will generate the “problem” of the study, provide specific research questions, allow for data collection and form analysis techniques for interpretation of the researcher’s findings” (p. 67).

Creswell (2012) suggests “when collecting data for a study, plan to engage in five steps: selecting participants, obtaining permissions, selecting types of data, identifying instruments, and administering data collection” (p. 171). The researcher identified the population and sample for this study.

This study uses a phenomenology approach where three pre-determined states have a cyber high school and a traditional brick-and-mortar high school in the same school district vicinity in the last five years (2010-2015). Phenomenological strategy is designed to depict or to

draw out, “the essence of human experiences expressed by participants” (Creswell, 2009). The selected schools will be the unit of analysis.

Creswell (2012) defines triangulation as the process of “corroborating evidence from different individuals (e.g., a principal and a director), types of data (e.g., observational fieldnotes and interviews), or methods of data collection (e.g., documents and interviews) in descriptions and themes in qualitative research” (p. 259). The researcher examined each information source and found evidence to support each theme. This ensured that the study was accurate and the information presented was from multiple sources of information and individuals. This allowed the researcher to develop a report that is both accurate and credible.

The researcher connected and identified the various themes and common descriptions as the coding happened. This researcher used an inductive analysis which Creswell (2012) noted as “building patterns, categories, and themes from bottom up” (p. 175-176). The researcher discovered themes from the literature review, and the observations from the interview sessions that evolved, emerged, and led to a definitive interpretation of the meaning of the themes, patterns, and common descriptions of the data. The researcher collected open-ended questions with the primary intent of developing themes from the data collected.

The researcher used interviews and achievement data to answer the following research questions to determine:

Research Question 1. Is there any difference between cyber high school graduates’ and traditional high school graduates’ educational learning achievements?

Research Question 2. What do leaders of cyber high schools and traditional high schools view as important in preparing students for college?

To answer these questions, five components of this research design are especially important:

1. The research study's questions
2. Its propositions
3. Its unit(s) of analysis
4. The logic linking the data to the propositions
5. Criteria for interpreting the findings

Yin (2016) suggests "the research design and logic involves the links among the research questions, the data to be collected and the strategies for analyzing the data" will address the intended research questions (p. 83). Also, Yin states, "It is the researcher's intent to utilize 'rich' data to cover fully the field observation and interviews with detailed and varied data" (p. 89).

DeMarrais (2004) as cited in (Merriam, 2009) defines an interview as "a process in which a researcher and participant engage in a conversation focused on questions related to a research study" (p. 87). The most common form of interview is face-to-face (FTF) and the main purpose of an interview is to obtain a special kind of information. The researcher wants to find out what is "in and on someone else's mind" (Patton, 2002 p. 341). As Patton explains:

We interview people to find out from them those things we cannot directly observe...We cannot observe feelings, thoughts, and intentions. We cannot observe behavior that took place at some previous point in time. We cannot observe situations that preclude the presence of an observer. We cannot observe how people have organized the world and the meanings they attach to what goes on in the world. We must ask people questions about those things. The purpose of interviewing, then, is to allow us to enter the other person's perspective. (p. 340-341)

In this qualitative research, the researcher's subjects are samples or settings that are similar in some respects (otherwise, it would not be meaningful to compare them) but they differ in some respects. Comparison research can be used as a method for explaining or utilizing understood knowledge or implied attitudes of those that work in education. This can be done, for example, by showing in comparison two angles of two slightly different high schools and by asking principals/directors to explain verbally their differences through interview questions. Offering a descriptive comparison intends to "describe and perhaps also explaining the invariances of those perspectives. It does not aim at generating changes in the subjects; on the contrary, it usually tries to avoid them to avoid any biases" (Routio, 2007, para. 3-4).

The proposed questions are about understanding the experiences of administrators of both types of high schools, which will support the qualitative design discussed later in this chapter (Merriam, 2009). Discussions with study participants offered an insider's view of the world of cyber high school graduates and traditional high school graduates as they prepare to assimilate into the college setting (p. 12).

The interview portion of this study centered on gathering cyber and traditional high school directors/principal's perceptions of their own experiences in their respective schools. This study focused on what leaders of cyber and traditional high schools view as important in preparing students for college. Also examined is whether or not there is a difference between cyber high school graduates' and traditional high school graduates' educational learning achievements as they transition to college.

The interview questionnaire (Appendix C) was used as the instrument to gather data. It consisted of seven questions to determine the effect that the lay pastoral caregiving training had on the participants. Five participants received an assigned unique number to take part in an open face-to-face dialogue with the researcher.

Following each interview session, the researcher listened to the audio files to ascertain if there were any problems with the files or any clarifications needed from the interviewee. No clarifications or corrections were found to be needed. Once data was transcribed and pseudonyms were assigned, transcripts were uploaded to the software which allowed the researcher to apply open coding in the first level of analysis of each interviewee's comments. Open coding occurs when events, beliefs, and ideas are classified under a name or code that clearly represents the concept (Merriam, 2002).

The interview questionnaire was used to gather the responses from the selected participants' questionnaires that were comprised of fourteen questions. This qualitative strategy used is known as a phenomenological research method. This researcher used this method to analyze the data, to discover major statements drawn out, and expressed by the interviewee to obtain probable themes, experiences and meaning from the data analysis. The raw data from the transcripts were organized to code the data. The coding system was developed by this researcher to discover themes, subjects, and ideas so that the data coding could take place. The themes were developed into common descriptions, themes, patterns, or ideas during the analysis of the transcribed interviews.

Coding began with in vivo codes that uses "interviewees' own language," such as lessons learned, to create initial codes. These words were used to prevent initial bias in coding, such as

the researcher substituting perceptions of participant meaning and initially miscoding data. The coded transcripts were then reviewed. Having to reread and analyze data in the words used by the interviewees allowed the researcher to give additional time and consideration to the interviewees' meanings before filtering ideas into fewer categories (themes). Next, coding was refined and narrowed to eliminate "overlap and redundancy, and collapse these codes into broad themes" (Creswell, 2012, p. 431).

Through the inductive process of narrowing data into a five themes the data was then correlated to each research question that was addressed by making a notation of the pseudo names next to the theme. The ultimate use of a limited number of themes allowed for a clear description of the phenomenon of the study to be developed.

VALIDATION AND VERIFICATION

Creswell (2012) shares the importance of determining if the theoretical explanation makes sense to participants and is an accurate rendering of events and their sequence in the process. In this research, validation was an active part of the process. For example, "during the constant comparative procedure of open coding, the researcher triangulated the data between the information and the emerging themes" (p. 442).

To ensure validity, the researcher prepared the research questionnaire that were used to collect data and was read and checked by Principal Investigator/Faculty Advisor as well as writing coach. This process is supported by the uses of multiple researchers that investigated the same problem, which brought different perceptions of the inquiry and helped to strengthen the integrity of the findings. And finally, the researcher used different sources such as

interviews and common core of data to enhance the quality of the data from different sources (Anney, 2014, p. 274).

SUMMARY

Chapter Three described the methodology for this research which explores and attempts to determine what leaders of cyber and traditional high schools view as important in preparing students for college and if there is a significant difference between cyber high school graduates' and traditional high school graduates' educational learning achievements as they both transition into college. This chapter presented an explanation of the selection of study sites, identification of participants, design of the instrument used, and included procedures of analysis of data. It offered a background to the examination of the data to be included in the following chapters. Chapter Four will provide the outcomes obtained from this qualitative research. Discussion of the qualitative data gathered will be recapped using logical evaluation of the findings.

CHAPTER FOUR: RESULTS AND ANALYSIS

INTRODUCTION

The purpose of this qualitative study is to (1) identify if there are any achievement testing scores differences between cyber high school graduates and traditional high school graduates and (2) assess what leaders of cyber and traditional high schools view as important in preparing students for college. The researcher believes that a better understanding of high school cyberlearning will allow educators to proceed from a more informed perspective in terms of whether both types of high schools are preparing students to achieve college readiness.

DISCUSSION OF THE RESEARCH QUESTIONS

The following research questions were designed to explore both cyber high school and traditional high school students' preparedness for college.

Research Question 1. Is there any difference between cyber high school graduates and traditional high school graduates educational learning achievements?

Research Question 2. What do leaders of cyber high schools and traditional high schools view as important in preparing students for college?

This chapter provides a foundation of the achievement data collected from the American College Testing (ACT) for both cyber and traditional high schools from the Michigan

and Pennsylvania, and Ohio Graduation Test (OGT) scores for schools in the state of Ohio.

These scores are what the State of Ohio offers that are comparable to the ACT. Additionally, it will present what leaders view as important in preparing students for college. This rich description was obtained from interviews with leaders from three schools in the State of Michigan (one cyber high school and two traditional high schools).

DATA FINDINGS

The ACT College Readiness Benchmark Scores (CRBs) are the minimum scores needed on an ACT subject-area test to indicate a 50% chance of obtaining a B or higher or about a 75% chance of obtaining a C or higher in the corresponding credit-bearing college courses. CRBs as defined by ACT are Mathematics-22, English-18, Reading-22, and Science-23. The CRB compares to the State of Michigan and Pennsylvania, which administer this ACT testing to their students. The State of Ohio does not currently administer the ACT or SAT; rather the state utilizes the OGT (Ohio Department of Education, (2016), para. 1). Ohio established this benchmark system to make sure all its students were achieving at proficient levels in all content areas. These data are presented Table 4, Table 5, and Table 6 below.

Table 4: ACT SCORES for Michigan, 2015

MICHIGAN	AVERAGE ACT COMPOSITE 2015	STATE AVERAGE 2015	# OF STUDENTS TESTED	% COLLEGE READY	MATH	ENGLISH	READING	SCIENCE
Cyber High School	16.1	19.9	31	<5%	15.6	16.5	16.5	16.3
Traditional High School #1	20	19.9	280	14.3	20.3	20	19.3	20.2
Traditional High School #2	18.9	19.9	302	12.6	18.4	18	18.4	19.9

Source: Michigan Department of Education

Table 5: ACT SCORES for Pennsylvania, 2015

PENNSYLVANIA	AVERAGE ACT COMPOSITE 2015	STATE AVERAGE 2015	# OF STUDENTS TESTED	% COLLEGE READY	MATH	ENGLISH	READING	SCIENCE
Cyber High School	22	22	43	21	22	23	22	22
Traditional High School #1	26	22	468	26	26	26	26	26

Source: Pennsylvania Department of Education

Table 6: OGT Scores for Ohio, 2015

OHIO	AVERAGE OGT COMPOSITE 2015	STATE AVERAGE 2015	# OF STUDENTS TESTED	MATH	ENGLISH	READING	SCIENCE
CYBER HIGH SCHOOL	15	22	40	15	19	13	13.8
TRADITIONAL HIGH SCHOOL #1	20	22	267	17	23	21	20.7

Source: Ohio Department of Education-Preliminary Results Public Districts *Reporting for Lucas County only provided by the ODE.

See <http://bireports.education.ohio.gov/PublicDW/asp/Main.aspx>.

Results

Cyber high school students referenced in this research study in the State of Michigan showed dramatically lower performance scores in 2015 compared to both traditional high schools in all subject areas. When considering of the number of students tested or the participation rate, the number of cyber high school students was less than 10% of the total number of traditional high school students tested. As indicated in Table 4 above, the average ACT composite scores show 16.1, which is below the state average of 19.9 for the cyber high school. When compared to both traditional high schools, the cyber high school scores show a difference ranging between 2.8-3.9, respectively, below each traditional high school. When looking at the sub scores in the subject of Math, Table 4 reports a 15.6 result for the cyber high school, which is below the traditional high school average ACT composite score. The difference in scores between the cyber high school and the traditional high school #1 is 4.7 and the difference between cyber high school and the traditional high school #2 is 2.8. English sub scores reflect a slightly lower difference than the Math sub scores. An English sub score of 16.5 at the cyber high school reflects a difference between traditional high school #1's score of 1.5; while a difference between cyber high school and traditional high school #2 is 3.5. The scores for the Reading category falls at the same score as English at a 16.5, resulting in a lower scoring range of 1.9 and 2.8, compared to traditional high school #1 and traditional high school #2, respectively. And the final category for sub scores is for Science, where the cyber high school shows an average ACT composite score of 16.3 compared to the traditional high school #1's score of 20.2 and traditional high school #2's score of 19.9, illustrating a difference of 3.9 and 3.6, respectively.

Also, the percent of cyber high school students meeting CRBs is less than 5%, indicating that these students score fail to meet the college readiness benchmark acceptable scores. The average ACT Composite 2015 scores for the State of Michigan indicate that the cyber high school is below both traditional high schools and only the scores from one traditional high school, school #1, exceed the state ACT score average.

Table 5 results for the ACT college entrance exam in the state of Pennsylvania for the cyber high school show ACT composite scores of 22 matching the state average. However, this score is below the traditional high school scores of 26 for the average ACT composite. As shown in table 5, the traditional high school average ACT composite score of 26 is above the state average. This indicates that although the cyber high school meets the state's average composite score, the traditional high school exceeds that score.

The sub score in the Math category for the cyber high school is reported at 21, and the traditional high school score for Math is at 26, showing a 5-point difference below the traditional high school in the Math sub score category. The English sub score category for the cyber high school shows a 4-point spread between the cyber high school and the traditional high school. In English, the cyber high school score is reported at 22, and the traditional high school score is reported at 26, reflecting the cyber high school falling below the traditional high school. Table 7 shows that, in the sub score category of Reading, the cyber high school scores 23 and, again, the traditional high school reports a score of 26, making the difference a 3-point spread, resulting in the cyber high school having scored below the traditional high school in this category. The last sub score category in Table 5 is Science; the cyber high school score is 22 and the traditional high school is 26. As you can see, the cyber high school is slightly below the

state average in Math and Science but exceeds the state average score in the subjects of English and Reading. However, in every scoring area, the traditional high school is above all the cyber high school scores, as well as exceeding the state average ACT composite score. These findings indicate that, as with the composite scores, the traditional high school scores exceeded the cyber high school scores

For comparison purposes, as shown in Table 6, the State of Ohio scores are results of the OGT. The cyber high school shows an OGT score of 15, which is 7 points below the state average of 22. Also, shown in Table 8, the cyber high school score is below the traditional high school scores of 20 in the average OGT composite. As reported, the traditional high school average OGT composite score of 20 is also below the state average. These scores therefore indicate that both the cyber and traditional high school composite scores fall short of the state average, with the cyber high school falling short of both the state average and the traditional high school composite score.

The sub scores in the Math category for the cyber high school is reported at 15 and the traditional high school score for Math is at 17, showing a 2-point difference in Math sub scores. In English, the cyber high school is reported at 19, and the traditional high school score is reported at 23, reflecting a 4-point difference. Table 6 also shows that in the sub score category of Reading, the cyber high school scores 13 and the traditional high school is reporting a score of 21 making the largest difference of the sub-scores with a 7-point spread. The last sub score category in Table 6 is Science; the cyber high school score is 13.8, and the traditional high school is 20.7, showing a 6.9-point difference. In the State of Ohio, the cyber high school is slightly below the traditional high school in Math, but in Science, the scores have a wider point

difference and is below the state average in all sub-categories. As the patterns shows, in every sub-category the traditional high school out score all the cyber high school, but both fall below the state average OGT composite score.

Analysis of Findings

As discussed above, the data shown for the cyber high school in the State of Michigan indicates that fewer than 5% of the students are college ready. In addition, the cyber high school in the state of Michigan scores below the traditional high schools in all sub scoring categories.

While ACT scores at both the Michigan cyber high school and the Pennsylvania cyber high school were lower than scores at the comparable traditional high schools, the difference was not as significant for the students from the Pennsylvania schools. Perhaps, the comparison seen between the Pennsylvania schools could be more valuable if the students' populations were more similar. Similarly, the sample school in this study from the State of Ohio show lower scores than the state average for both cyber high school and traditional high school.

The high schools selected for this study all show that the cyber high school student scores were lower than the traditional high school student scores. This was the case in all three reported states. Based on these findings, the data point to the fact that cyber high school students are not as prepared as traditional high schools students nor are they as college ready. When using these composite scores as an indicator for college readiness, the findings show that cyber high school students may not be as prepared as traditional high school students.

The purpose of Research Question #1 was to collect achievement data from the ACT and compare both types of high schools scoring at the state level and the local level for various subjects. The second research question focuses on the role and perspective of the director and principal of the cyber high school and two traditional high schools and how they ensure that appropriate assessments are completed to support student for college readiness.

INTERVIEW PARTICIPANTS

The interview process began with the researcher contacting cyber high school and traditional high schools within Michigan to request an interview of each director or principal. All those who were contacted responded positively. The interviews were recorded, transcribed, and coded for analysis. All participants and high schools selected for this study are detailed in methodology Chapter Three and were identified by whether they were a Cyber High School (C1) or two Traditional High Schools (T1 and T2).

After interview transcriptions were completed, it was very apparent that one of the traditional high school principal had more to share than the other traditional high school principal. The cyber high school director spoke about many needs at that individual school pertaining to at risk students and the use of digital content. All three high schools aligned with applicable state and district standards. Each of the schools were in the same vicinity but separate districts. See Table 3 in Chapter Three and appendices G-M for details on the high schools and their locations.

As Table 7 below indicates, one interviewee was the director of a cyber high school and two interviewees were principals of traditional high schools. The interviewees had

approximately the same number of years of experience in a high school leadership position, 6, 5, and 7 years of experience respectively. The number of employees listed indicates difference in size of each high school.

Table 7: *Interview Participants*

INTERVIEWEE	TITLE	YEARS OF EXPERIENCE	NUMBER OF STUDENTS IN THE SCHOOL
Interviewee 1-C	Cyber High School Director	6	508
Interviewee 2-T1	Traditional High School Principal	5	4,395
Interviewee 3-T2	Traditional High School Principal	7	1,284

THEMES

Five major themes emerged from the interviews that pertain to the research questions.

The significant themes that emerged from interview responses were the following:

1. A strong emphasis on assessment is key to ensure quality educational programs.
2. Curriculum strategies need to be consistent with state standards.
3. Both cyber high schools and traditional high schools are impacted by legislative activities and policies related to cyber education.
4. Articulation agreements offer college-level course credit for learning and skills accomplished as part of secondary school curriculum.
5. Best practices are linked to quality, productivity, and time management when integrating technology into pedagogy.

THEME ONE: A STRONG EMPHASIS ON ASSESSMENT IS KEY TO ENSURE QUALITY EDUCATIONAL PROGRAMS.

Results

Responses included comments about Principals' and Directors' roles in assessment testing. All interviewees commented on the importance of educational testing, state assessment programs, evaluation of innovative methods of assessments, adjusting grading strategies, and projects that align with common core curriculum. The cyber school was different in 2 ways: at risk population and use of Project Based Learning (PBL). These topics are issues addressed and were expressed when asked to describe their job/role as principal or director and how it relates to assessment of learning.

Supporting students through educational testing is an important aspect of being a director or principal at the high schools. Within the cyber high school, assessment is built on mastery, and is assessed through projects designed to teach specific outcomes. Interviewee 1-C states the following:

The focus is project-based learning. We take the state standards proficiencies from each of the content areas, and we create projects for each of those subject areas. The students need to meet the proficiency before the student moves to the next level of standards and proficiencies in that concept area.

The cyber high school, described in detail in Chapter Three, outlines the purpose of the school's existence. The foundational approach was to support "at risk" students and was modeled after the Not School located in the United Kingdom. The focus was to reduce an existing drop-out rate gap of students and follow an innovative design to give students a way to complete or meet the requirements of the state standards. Utilizing project-based learning to

meet the proficiencies within the common core standards, or the Michigan Merit Curriculum (MMC), provides a different path to taking state standardized state testing; thus, getting students to meet the educational goals as traditional high school students. The school offers students the opportunity to complete their work at their own pace, with no hard deadlines, due dates, or punishments. The director of the cyber high school, further states;

The population of students is very challenging. Creating projects that allow students to acquire a deeper knowledge through active exploration of real-world challenges and problems. However, we do give students that reach to meet the state requirement to graduate, it's a huge reward to see them walk across that stage.

The two traditional schools assess learning using more traditional methods, such as unit examinations, that measure student growth in specific subject areas. Interviewee 2-T1 also talked about the role of assessment measurements across student groups, such as pre-imposed testing, that lead to analyzing student growth. These assessment results, all Interviewee 2-T1, compare the results with state averages which is a way to implement summative assessment. Interviewee 2-T1 offered this comment:

You want to be at or above state averages. You can assess scores and create a breakdown of those scores into areas of achievement gap issues, whether it's, boys versus girls, ethnicity, or students with special needs.

Interviewee 3-T2 uses both formative and summative assessments. This allows the principal to review course exams at the end of the year or end of the trimester. This seemed to be used by both traditional high school principals. The formative assessment is represented by administering the ACT testing and summative is to determine how the students' scores and

then used those test scores to determine if there are any gaps. The principal explains with this comment:

This helps us to determine what teachers are assessing to make sure they're getting to the heart of what they want to assess. The nice thing about being in Michigan is that our ultimate end of the line assessment is the SAT, and so that can be used for college admission.

The importance of innovation to create ways to evaluate the results of testing assessment and the ability to compliment state testing requirements was expressed by each interviewee, thus reviewing for any gaps in the results that could be used later to improve processes. The cyber high school director stressed that building projects to align with the common core proficiencies allow creativity and carefully designed project to help all students succeed. While the traditional high school principals were more innovative in creating pre-imposed testing or summative methods to gage results.

Analysis of Findings

The importance of “assessing” grading and teaching strategies is that it allows teacher to adjust their learning strategies Testing, evaluating, teaching, and learning are permanently intertwined together, as each informs the other. The emphasis on assessment as a tool to ensure quality in educational programs shows that it can direct what students learn. While assessments are often equated with traditional high school tests — especially the standardized tests developed by testing companies and administered to large populations of students — interviewees used a diverse array of assessment tools and methods to measure everything about students’ comprehension of learning. Learning outcomes were defined in advance and

decisions about the curriculum were based on these outcomes. These assessments were then used to determine if learning outcomes were being met. Interviewee 2- T1 states, "...looking for the focus on these common assessments and then analyze them for data as a predictor." Then areas of achievement gap can be reported.

Comparatively, unlike traditional high schools, the cyber high school did not place emphasis on adjusting strategies in the school's practices. The cyber high school placed less emphasis on creating external measures to pair with formal testing assessments. The internal assessment practices in traditional high schools involved innovative programs to supplement student's learning. Interviewees 2-T1 and 3-T2 indicated that whether formative or summative, assessment practices appear to motivate students' comprehensive learning.

The traditional high school indicated that they use formative and summative assessments to measure for gaps in achievements. The traditional high schools used more traditional instructional methods, and, as described in Chapter Three, the student body was a more traditional student body. The cyber high school in Michigan in this research, also as described in Chapter Three, was designed to target dropouts or at-risk students many were unsuccessful at their last school. The differences in the approach to assessment may be that cyber high school served at-risk students and adopted a unique approach to both instruction and assessment.

The differences in assessment expressed by these respondents may also be a result of the educational approaches implemented at their institutions. The cyber high schools, as noted by Molnar (2013) and U.S. Department of Education Office of Innovation and Improvement Guide (2008), and as supported by Interviewee 1-C's statements, are more likely to develop

educational programming that supports the needs of individual students, linked to clearly stated outcomes. To further support the issues of cyber/virtual schools, policymakers are encouraged to develop a comprehensive system of summative and formative assessments of student achievement, shifting assessment from a focus on time- and place-related requirements to a focus on student mastery of curricular objectives.

The traditional high school curricula, organized in traditional subject areas, are often focused on the topics they “cover,” rather than the outcomes the students are expected to achieve. Traditional method emphasizes on basic skills. With traditional method of teaching, assessment is a separate activity and occurs through testing while the cyber high school seem to look at assessment as an activity which is integrated with everyday teaching and learning.

THEME TWO: CURRICULUM STRATEGIES NEED TO BE CONSISTENT WITH STATE STANDARDS

Results

Interviewees addressed the importance of using creative measures when implementing state standards that provide the required curriculum. How each high school implemented strategies to ensure activities are aligned with reaching the achievement goals for students is very important. For example, when asked what are some of the ways to prepare adequately and ensure students meet learning goals, Interviewee 1-C states “We make sure that we meet all the standards and [students are] exposed to standards in a way that's conducive to the population that we work with and their individual learning styles.” The respondent agreed the state standards are an outline of learning expectations for Michigan’s students and is used as a guide. Furthermore, the creativity comes in when projects are developed to map to

proficiencies within the content area. Another example from the subject of English, as one of many proficiencies for grades 11-12, is that students are required to write narratives to develop real or imagined experiences or events using effective technique, well-chosen details, and well-structured event sequences (Michigan Department of Education, 2015, p. 44). The English projects that are created in the cyber high school are designed to allow the student to write about their own personal experiences. Interviewee C-1 concludes with the statement “there's various quality assurance measures that we have in place to make sure that each of the projects are to the standards for our students.”

Interviewee 2-T1 used alternative methods to support curriculum strategies that include ways to get teachers involved collaboratively. The interviewee discussed an initiative implemented at the high school termed Professional Learning Community (PLC) which is when a group of educators meets regularly, shares expertise, and works collaboratively to improve teaching skills and the academic performance of students. The principal made this comment:

Through professional golden opportunities at the beginning of each year, teachers are given a common plan, departmentally. The big thing would be the Professional Learning Communities Initiative (PLC). PLC — it's based on the model and essentially what you have is groups of teachers, either by grade level or subject area. They get together and they utilize data driven instruction.

The PLCs allow teachers to work together to make sure their strategies connect to state standards. Another strategy shared was the implementation of a program that allows for curriculum strategies. The high school utilizes a program called Instep Education Publishing, which is an independent publisher of premium educational resources for the modern learner. The respondent emphasized the use of Instep Education Publishing: “It is a strong advocate for

the push of appropriate levels of STEM education for youth and ensures the work incorporates STEM components in some form which is a great plus.” Also, the STEM program allows a direct connection to state standards.

Interestingly, Interviewee 2-T2 utilizes a strategy that allows for curriculum development by segmenting what stays static and determining what can be considered dynamic, a process he terms “smart curriculum.” The following comments explains:

We just refer to it as a dynamic curriculum, you know what I mean? In technology, there's static and then there's dynamic. Static is always staying the same. Which is what we felt a lot of curriculum was doing and the dynamic is constantly changing constantly moving. So, we came up with this idea of having a dynamic curriculum and as the students' needs change, our curriculum's needs changes. As the students' needs change, our instruction needs to change.

The dynamic curriculum allows the integration of technology toward the mastery of standards, learning expectations and performance indicators as indicated by Interviewee 2-T2.

Analysis of Findings

The importance of required curriculum continues to be about planning so that it is a purposeful, progressive, and systematic process to create positive improvements in the educational system. The interviews shed light on several key elements of preparedness and practices high school directors/principals put in place to improve curriculum strategies. These elements include quality assurances, InStep Education Publishing resources, PLC modeling, and data review. These internal curriculum strategy practices created by the high schools, support teacher's efforts to help students be successful with the state standards.

Most importantly, the interviews show that a range of strategies vary and the content knowledge taught in high schools. The two traditional high school principals indicated that they use creative measures to implement and enhance what is already in practice at the state level. However, it appears that the cyber high school's stance is more focused on only utilizing the proficiencies based only on the Common Core platform.

Even though there appear to be differences in approach between the cyber and traditional high schools in terms of how they utilize state standards, all three schools indicate they have confidence in the state standards. Interviewee 1-C1 shares, "we can say with 100% confidence that the students, if they master those proficiency standards, they'll have a chance of being college ready." Interviewee 3-T2 also had the same type of confidence in the way strategies are created to enhance the curriculum to support their students' college readiness. Being innovative or developing curriculum strategies offers alternatives towards supporting student's goals.

Although all three schools indicate they have confidence in the state standards and yet based on the achievement data, the scores do not show that the students are college ready.

THEME THREE: BOTH CYBER HIGH SCHOOLS AND TRADITIONAL HIGH SCHOOLS ARE IMPACTED BY LEGISLATIVE ACTIVITIES & POLICIES RELATED TO CYBER EDUCATION.

Results

While there were very few comments related to this theme, it is significant as it directly addresses the topic of legislative activities & policies in online education which is central to this study. When Interviewee 1- C1 was asked about the legislative activities and policies affecting cyber high schools, the interviewee commented with the following thoughts regarding the

dissatisfaction of the progress of legislation. The respondent shared the following comments related to this topic:

I'm not satisfied with the direction of legislative policies. Especially as relates to the population of students that we work with at the school. It's a population of students that sometimes need a second, third, fourth, second chance. The state is moving more towards students from a funding point of view than from a point of view about students passing a course.

The population of cyber high school graduates continue to increase, also discussed in Chapters 2 and 3. Since the inception of the cyber high school in this study in 2009, many significant issues associated with funding and governance have caused budget restraints, which would include linking funding to actual costs. Interviewee 1- C1 suggest that policymakers should develop new funding formulas based on the actual costs of operating virtual schools. For example, the costs associated with technology increases the schools' overhead. Also, in this specific case, students come into the cyber high school already falling behind their counterparts in traditional high school. These additional costs are not being addressed by the legislature.

The respondent shares the point that, although both cyber high and traditional high schools are similar, with the same end goal in mind, the concern on policies is what was shared during the interview:

The problem that I have is with mandatory status when considering the student's age; what's the difference between a cyber student, online student who is facing challenges and may have to take a class over a few times, versus a traditional student who attends class every day? Whereas, a traditional high student doesn't submit any work, and they still get full funding for it.

Interviewee 1-C1 shares that the cyber high school need more funding than traditional high schools based on the requirements of cyber student must provide proof of work online

and student may need additional chances to pass their courses. Whereas, the respondent suggests that funding is still provided whether students produce the work. The policies are governed differently for cyber high school than for traditional high schools.

The legislative language related to cyber schools was the concern of Interviewee 2-T1 who explained the need to have some of the “boiler plate language” clarified. It would be helpful to traditional high schools when discussing cyber high school to their students as an option to support online learning in secondary instruction. However, the main comment that Interviewee 2-T1 expressed regarding legislature is noted below:

The language as written is boiler plate type language. I think it could in many ways be clarified. When talking about virtual learning with our students, it depends on the situation and the availability of portable devices. The [legislative] language around the State of Michigan has set up that type of [thing] in the State of Michigan. My understanding is that they offer attendance at Michigan Cyber Academy that includes online curriculum that traditional high school students can sign up for.

Interviewee 2 T-1 explains, if the educational language contexts were clearer, it would help with the discussions. Also, the respondent wasn't sure of the high school online offerings in the State of Michigan but offered this comment: “The state of Michigan, my understanding is, offers Michigan Cyber Academy, which includes online curriculum that students can sign up for.” The respondent also shared that information regarding any programs outside of individual schools can be ascertained through Wayne RESA which is the regional educational service agency that provides a broad spectrum of information and services.

The impact of cyber high schools developing in the same school district began as what Interviewee 3 T-2 described as a “big fear and a distrust for it [cyberlearning].” If legislative activities and policies related to cyber education were clearer, the ability to engage more about

the different types of education opportunity for students would be easier. Interviewee 3-T2 responds to the question of whether they were satisfied with understanding legislative activities and policies affecting cyber high schools by saying:

The ability to have the freedom for students to kind of pick and choose classes that they would like to take is good. I don't think that the legislation was particularly cognizant of what issues it can lead to. So, in schools that are perhaps less prepared or less aware of the policies, I think there was this big fear and this distrust for it, but at our school, we've embraced it. So, we have students who access online courses during school day, and that's just what they do.

Although initially negative toward cyber learning, the respondent sees value how it can be used to compliment what is already being done in the schools.

Analysis of Findings

From these comments, it appears that legislative activities and policies affecting cyber high schools are certainly more relevant to a 100% online learning environment than to the traditional classroom setting. Interviewee 1-C1 stated that they were “not happy with the unbalanced affordability to cyber school on the issue of curriculum” than those in traditional schools. Interviewee 1-C1 sees inequity in resources. At-risk students require more time to be successful and, therefore, may need more resources.

The interview responses indicate that each sees the value in the legislative activities and policies affecting cyber learning for various reasons. The belief of the traditional principals shows the importance of integrating online education into the existing curriculum which is becoming a normality in modern education. Overall, this trend shows that high schools cannot escape online learning, even within the traditional high school setting. This developing

phenomenon of online learning is sometimes implemented within the traditional school or provided to the traditional high schools through a state legislative district educational facility.

Interviewees 2-T1 and interviewee 3-T2 both offer comments on the value of understanding legislative language and offerings about online learning. Clearly, the cyber school has a different focus as online learning is integral to its operation. However, traditional schools are beginning to use online learning as well. Although the interviews did not directly address how online learning affects preparation for college, it is evident that online education is now available to traditional schools as an option and high school diplomas can be obtained totally online or as part of the curriculum in a traditional school. Part of the goal for a high school is to prepare students for college. As legislative activities and policies related to cyber education continue to grow, both traditional and cyber high schools need to determine how to utilize online learning as part of their plan to prepare students for college.

THEME FOUR: ARTICULATION AGREEMENTS OFFER COLLEGE-LEVEL COURSE CREDIT FOR LEARNING AND SKILLS ACCOMPLISHED AS PART OF SECONDARY SCHOOL CURRICULUM.

Results

Opportunity for high school students to earn college credit is available through existing articulation agreements at each high school. As discussed in Chapter Three, high schools offer advanced coursework and local colleges award credit for the high school coursework governed by an articulation agreement. These agreements assist students at various levels of education to achieve educational goals in an efficient and timely way. The responses below indicate how articulation agreements are implemented at each school.

Interviewee 1-C1's response indicates that if students want to pursue college credit, it is usually done on their own initiative. Both Interviewee 1-C1 and Interviewee 2-T1, respectively, commented about how their school utilizes articulation agreements at their individual high schools Interviewee 1-C1 stated:

We do have an articulation agreement for students to gain credits for college while still in high school; occasionally a few students who are dually enrolled, attend the Henry Ford Community College. Students enroll on their own, and they are responsible for the tuition; however, they must get the school's permission. Students come in with dual enrollment application from the community college, and the high school is required to complete it.

While Interviewee 2-T1 adds that, "Articulation agreements, generally, what we look at is our areas of local community colleges. Schoolcraft Community College and Henry Ford Community College, which focus on a couple of content areas."

Interestingly, not all respondents had a positive response to accepting dual enrollment college credits. Both traditional high school respondents share that students are expected to meet high standards when enrolled in dual enrollment and seeing the value isn't necessarily easy because some colleges place student credits in escrow while still enrolled in high school. However, a traditional high school student does have the opportunity through an articulation agreement to attend the cyber high school in the same school district to obtain additional high school credits online as an option.

Analysis of Findings

Articulation agreements allow for courses taken at the high school to transfer as college credits. Interviewee 1-C1 indicated that there are limited articulation agreements

communicated to students and students arrange for dual enrollment on their own. In contrast, in the case of Interviewees 2-T1 and Interviewee 3-T2, the articulation opportunities are readily available for their students.

Although in the cyber high school does not report many students participating in the articulation programs available, interviewee 1-C1 shares *“Students do it on their own and they are responsible for the tuition; however, they must get the school’s permission.”*

Both traditional high school have articulation agreements and offer dual enrollment options for students to work towards college credits. Interviewee 2-T1 shares that they have agreements with *“Schoolcraft Community College and Henry Ford Community College who focuses on a couple of content areas.”* Interviewee 3-T2 discusses the dissatisfaction on how colleges bank students’ credit and require them to take many classes on campus before they give them that articulated credit. However, it appears that all the of the schools, both traditional and cyber, offer some type of program or articulation agreement for students to earn college credit.

Although the cyber high school does not offer much in the way of earning college credits, students seem to take the initiative, showing this is a valuable opportunity. The two traditional high schools offer more opportunities and even utilize articulation agreements with other high schools to help students become better prepared for college. Comparatively, the only difference between the cyber high school in this study and the traditional high schools is in the promotion of the articulation agreements and the college’s offerings.

THEME FIVE: BEST PRACTICES ARE LINKED TO QUALITY, PRODUCTIVITY, AND TIME MANAGEMENT WHEN INTEGRATING TECHNOLOGY INTO PEDAGOGY.

Results

Best practices methods or procedures that have consistently shown results superior to those achieved with other means, are used as a benchmarking in academia. In addition, a "best" practice can develop to become better as improvements are implemented. When asked, what are effective or best practices in today's education, particularly in the education structure based on the ability to integrate technology, the interview respondents added that integrating technology is part of mainstream education and supports students at all academic levels to do real work as they study a subject. Integrating a curriculum with technology involves making technology into a tool to enhance learning in high school.

Interviewee 1-C1 spoke about the ability to provide a quality program and quality opportunities within a limited budget and limited resources. A different sort of technology integration occurs with cyber high school education because learning is all online. Interviewee 1-C1 states that "it's everyday life for these kids. They know the learning environment, which we make sure is inviting." The school provides the training in a two-day boot camp to ensure the students are very familiar with learning modules loaded on their computers. If the students use those tools for the right things, only for educational use, they will be successful in cyber high school. Thinking about quality course offerings with a remote teacher provides an alternative way to extend the curriculum. However, as indicated by respondent Interviewee 1-C1 it is important to implement best practices:

I think the biggest challenge on implementing best practices is the ability to provide a quality program, quality opportunities with a limited budget and limited resources. It's

my job to figure out a way to manage things in the budget or to be resourceful, and providing them [students] with everything that they need such as up-to-date technology to be successful in an online environment. So, I think the biggest best practice is to just always stay true to one self and stay true to the kids.

The technology should become an integral part of how the classroom functions, as accessible as all other classroom tools. Also, as a principal, the ability to be proactive with problem solving before problems escalate is very important. Moreover, the Interviewee 2-T1 offers this comment regarding the point of access or the use of any device when using technology in the classroom:

I think in regard to technology, certainly the Wi-Fi access in the classroom, using bring your own devices is beneficial. BYOD [bring your own device] policies where students can use their cell phone to look up items online, such as Wikipedia, can increase productivity.

Productivity is essential when utilizing technology; however, there could be barriers to integration if there is inadequate hardware and software, difficulties in securing sufficient funding, inadequate use of best practices, and deficiencies in planning.

It is important to remember, however, that time management is important when integrating technology and one best practice was shared by Interviewee 3-T2, by saying “I think that we can all get bogged down with our tasks, which requires time management in class.”

Analysis of Findings

While quality, proactivity, and time management were the biggest issues that derived out of lessons learned portion of the interviews, there were some differences that derived from this theme. Clearly, one lesson learned was the ability to identify the school’s responsibilities

for planning, implementing, and evaluating programs to support a strong school system while integrating technology.

Interviewee 1-C1 wants to provide quality integration of technology but struggles with limited resources. Providing students with the necessary technology is important for students to be successful in high school the interviewee states “providing them [students] with everything that they need such as up-to-date technology to be successful in an online environment.” The key comment from this interviewee was the emphasis on providing realistic expectations to the students.

Interviewee 2-T1 addresses the potential issues that can arise with technology and the importance of being proactive. Avoiding problems before they happen when integrating technology when student use their own devices is the goal. For example, the issue with keeping students on task when using their own devices creates challenges. The interviewee 2-T1 saw value in the students using their cell phones and shares his thoughts, “you have the app to make your cell phone into a clicker so when the teacher is asking questions, they can click one, two, or three corresponding with different answers.”

Interviewee 3-T2 explains static and dynamic as it relates to the integration of technology: “as the students’ needs change our curriculum's needs changes and I think using technology for formative assessment is a great practice.” The interviewee also indicates that technology can be used as a way to improve students’ ability to manage their time more effectively. Using technology, you must also examine ways to make sure the technology doesn't get in your way. Also, the ability to find the information quickly when students need it is a big time-saver. Based on this principle of the importance of time management, the

interviewee 3-T2 states, “as much as we like to treat them as young adults, the case is a lot of them are, still lack time management skills and in some case, the maturity to make sure they set their schedule for the day is critical for a student to be successful.”

Both traditional high school principals saw value in integrating technology into the curriculum as students proceed towards education goals. Although each interviewee had a different perspective on best practices being linked to quality, productivity, and time management when integrating technology into pedagogy, interviewees continued to put emphasis on student success and being college ready, requiring an increasing amount of time.

The best practices by interviewee C1 focuses on the ability to provide a quality program while managing a limited budget. Quality and up-to-date technology can be a strain on the budget; however, the very nature of the school’s system has the interviewee serious about giving the students the best support to ensure they are ready for college.

Creating or controlling technology issues before something happens rather than responding to it after it has happened is Interviewee 2 T-1’s approach. When integrating technology as part of the curriculum the students can gauge information by using multiple type of educational platforms, i.e., instructional and technical.

Interviewee 3 T-2 discusses the issue of best practices as being able to apply time management to practices. Time management training allows for change in any given moment. In a technological fast-paced environment, using technology effectively is essential for students to adapt to change. Technology can help keep students on task and improve their time management skills and when using technology, it can help prepare students in a fast-paced growing technology pedagogy environment.

SUMMARY

This research study investigated potential differences between cyber and traditional high schools in terms of college preparation. The focus of this research study was to determine:

Research Question 1: Is there any difference between cyber high school graduates and traditional high school graduates educational learning achievements?

Research Question 2: What do leaders of cyber high schools and traditional high schools view as important in preparing students for college?

Chapter Four presented achievement data, in the form of ACT scores, from cyber and traditional high schools in the State of Michigan, Pennsylvania, and Ohio. The achievement data provided an objective assessment of college readiness. The chapter also presented findings from interviews with directors and principals from one cyber high school and two traditional high schools from the State of Michigan. Interviews were transcribed and coded to identify common concepts. These findings were organized in terms of five themes. The rich description provided by the interview findings provide the researcher and the reader with an inside view of both cyber and traditional high schools. These findings addressed the research questions from a personal point of view of how schools prepare students for college.

While there is good reason to anticipate the theoretical or potential benefits derived from the interviews and data, the evidence found in this study, suggested by the interviewees is that all students can benefit from online learning options. The themes indicated that while assessment is key to produce quality education, it is important to ensure strategies used in curriculum must align with requirements governed by the state's legislature bodies. The opportunities to offer articulation agreements offers college-level courses as a part of secondary school education and applying the best available practices will be the key to promote

the best programs to students. These opportunities will offer success to students when taking in account time management while implementing technology into curriculum. Having the ability to manage extra curriculum within the structured time of high school mandated hours is worth consideration.

Confirmation of data and interviews was obtained through comparison of the both cyber high schools and traditional high schools show that there are some differences in achievement data and procedural practices. The findings of interview questions regarding the educational learning achievements and preparedness of cyber high school graduates compared to traditional high school graduates' college readiness will be discussed in detail in the next chapter.

Chapter Five will present an overall summary to address the research questions. It will include Summary, Conclusions, and Recommendations. Finally, suggestions for future research will be offered followed by references and appendixes.

CHAPTER FIVE: SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

INTRODUCTION

This chapter presents a summary of the study. The summary is followed by recommendations for research to continue to expand the understanding of cyber-educated students. The chapter ends with reflections from the researcher's perspective followed by a conclusion.

As recent studies indicate, technological innovations are changing the skills and knowledge requirements for the workplace, and community colleges are expected to respond to the call of change. In 2009, President Obama promised, "By 2020, America will once again have the highest proportion of college graduates in the world" (Obama, n.p). These new college bound students who are graduating from cyber high schools receive their education entirely online. There was a time, not so many years ago, when college admission officials approached such non-traditional applicants with skepticism or at least with surprise. There simply weren't many families who chose to educate their children in that way. Now, the number has grown tremendously and continues to rise. There is still skepticism, that perhaps this type of education will have a negative impact on their children's college-admission opportunities.

The more colleges and universities know about cyber high school graduates, the better we will be equipped in gaining knowledge that there may be differences in learning styles. With this knowledge, we as educators will have the ability to adjust our teaching style to align with these students. These students are no longer typical. Cyber high schools' graduates are students of a digital world, students who want to progress at their own pace and on their own time, which clearly takes a degree of self-motivation. They are graduating at an increasing rate and need the same support as traditional high school students. Cyberlearning has gradually been changing the structure and vision of education institutions as well as the entire learning environment.

SUMMARY OF THE STUDY

Two questions framed this study: (1) Is there is a significant difference between cyber high school graduates and traditional high school graduates educational learning achievements? (2) What do leaders of cyber and traditional high schools view as important in preparing students for transition to college?

To address the first question, achievement data were collected from three states, Michigan, Pennsylvania, and Ohio, which enabled comparison of cyber high school graduates to traditional high school graduate counterparts' learning assessments results. In each state, selected schools included representation of both a cyber and traditional high school. Results indicated that the high schools selected for this study all show that the cyber high school student scores were lower than the traditional high school student scores. This was the case in all three reported states. Based on these findings from Chapter Four, the data point to the fact

that cyber high school students are not as prepared as traditional high schools students nor are they as college ready. When using these composite scores as an indicator for college readiness, the findings show that cyber high school students may not be as prepared as traditional high school students.

The study offered the researcher new knowledge about one of the largest cyber high school system located in the state of Pennsylvania. What stood out was the Western PA Cyber District Graduation Rates, 2015. The Pennsylvania Department of Education (2013) reports that, on average, 80% of students go on to attend college after graduating from a PA Cyber high school. The report further indicated that some of the colleges and universities the Pennsylvania cyber high school graduates have been accepted to ivy league colleges and universities as well as others.

Conversely, the outcome of the state of Michigan scores show lower for both cyber high school students and traditional high school's student graduates at all schools. Further research will to be done to determine if the reason for this disparity is perhaps based on socioeconomic factors which have been shown to have a significant impact on standardized test results.

The second question was addressed through interviews. Interview participants were from the State of Michigan high schools where they are either a director of a cyber high school or a principal of a traditional high school. Each of these education leaders were active in their roles at the time of data collection.

The following five themes emerged from the findings:

1. A strong emphasis on assessment is key to ensure quality educational programs.
2. Instructional strategies need to be consistent with state standards.

3. Both cyber high schools and traditional high schools are impacted by legislative activities and policies related to cyber education.
4. Articulation agreements offer college-level course credit for learning and skills accomplished as part of secondary school curriculum.
5. Best practices are linked to quality, productivity, and time management when integrating technology into pedagogy.

The goal of this research question was to identify common effective practices for students to ultimately be ready for college. Managing change, quality programs, being proactive, and realizing that technology is both static and dynamic are a few best practices that the principals and director shared during the interview. Although these interviewees had different ways of expressing what they felt were their best practices, all of them discussed the importance of placing students at the center of the learning process, whether online or in a physical room, being the primary goal of educational leaders, as well as integrating technology coupled with time management.

Overall, the effect that while the achievement data may indicate that cyber high school students are not as ready for college as traditional high school students, principals and directors of both types of schools have similar goals and commitments in supporting every student to be college-ready. Further research may help to determine if there truly is a difference and if so what might be done to help students from both types of schools on a broader scale. The results of this study show that outstanding academic assessment performance is a strong general indicator of accomplishment in high school and beyond. Ultimately, all students should have the same opportunity whether online or in a traditional brick and mortar classroom.

RECOMMENDATIONS FOR FUTURE RESEARCH

The primary question that needs to be researched in future research is the long-term effects of assessment and preparedness of cyber high school students. As this study shows, the effect that while the achievement data may indicate that cyber high school students are not as ready for college as traditional high school students, principals and directors of both types of schools have similar goals and commitments in supporting every student to be college-ready. Research needs to examine if, in a longitudinal study, the learning outcomes would be the same for the cyber high school students compared to traditional high school students who learn in a classroom setting.

The study shows that there is a lack of research on the transition of cyber high school graduates to traditional colleges, and there has been little research conducted on the practices and results of K-12 cyber education. The study added specific insights about leaders' perspectives in three schools and a comparison of achievement data between cyber and traditional graduates in three states.

This study was limited to three cyber high schools and four traditional high schools in three states. More research is needed to determine if this difference in preparedness is consistent across all states. Because of the limited sample size, this research is only reflective of the cyber high schools selected in this study. According to college readiness benchmarks, these cyber high school students were not as prepared as traditional high school students.

Suggested recommendation would include additional research to determine if the results are consistently different from year to year. The expansion of further research will need to include more schools, more states, and over several years.

The results of this study provide useful in that it provided a frame of reference from which to view this changing and rapidly growing field. However, further research is needed to document cyber students' achievement and preparedness prior to graduation from high school and their college-readiness.

Another recommendation example, would include an exit/graduating procedure documenting students that have been accepted into college could provide documentation from the aspect of the student's general experience with online learning. This information could later be compared to traditional high school students to determine what prepared them for college.

Additional extended research (longitudinal) could explore whether colleges recruit equally from both cyber and traditional high schools. Cyber high school graduates attending post-secondary institutions are not tracked to determine further comparison of students' abilities to transition from a 100% cyber learning environment into a traditional classroom setting. Future research could be conducted to track the two types of graduates to see if there are issues in cyber students adjusting to a traditional classroom. Tracking these students in college would be advantageous. Helping to further understand if cyber students are as successful or even more successful at the collegiate level would be useful in the educational arena.

The research chose to open a serious conversation for colleges and universities to take the helm of this phenomena as it is growing at a fast pace. It will be important to determine if colleges need to have more information and determine if cyber high school students need additional resources or if they are the same as traditional students. The researcher believes

that if further research is done, we will learn important information as to why there are differences in learning achievements or preparedness of high school graduates transitioning to a college or university.

REFLECTIONS

In December 2008, the researcher was employed to support the development of a cyber high school. The opportunity to witness the development of a new cyber high school in the State of Michigan and develop an understanding that there is a difference between the knowledge and support in cyber high school and traditional high school graduates was monumental. Most students who elected to attend this cyber high school were nearing the end of their high school requirements. There were also some students who elected to start their high school career at a cyber high school at the time when cyberlearning was being accepted as a mainstream educational choice. In February 2009, the surge of cyber high school enrollment didn't give room for proper analysis of processes ahead of time.

The researcher believes that after seven years since the cyber high school opened and after redesigning several components of the cyber high school and with the creation of hundreds of other new schools and corporate sponsored cyberlearning schools, the phenomena needs more research that focuses on outcomes and the effects on students. It also seems that less attention is given to cyber high schools than to traditional high schools when it comes to recruitment for college. There may be fewer college recruitment activities than at the traditional high schools. This could be because the students' main location for learning is

online, and, thus, in their own homes, limiting access from colleges in the traditional college fair setting.

The researcher noted a scenario in which there were only two colleges at the home office for student to come in to review materials. However, this approach was not well attended. Perhaps what needs to happen is a more online approach from the college, letting the student know ahead of time they will be available to recruit. Online recruiting would be a good strategy. This is only one example of changes that may need to occur to make college recruitment more available to high school student graduates. During the research interview, the director of the Cyber High School in this study explained, that after four years of operation of the cyber high school, administration is just starting to document more information during the exit interview for their graduating seniors. Perhaps, this type of data collection tracking would connect the concepts better to ensure that stereotyping does not lessen the opportunity to enter higher education.

Experiencing the development of a new type of school firsthand and participating in multiple conversations with leaders from various high schools and hearing about their roles of responsibilities to ensure their students are college-ready was inspiring. Working with the directors and principals in this research was a wonderful undertaking. The interviewees were very open, brutally honest, enjoyable, and engaging as they described their roles in the high school experience.

Whether standardized tests are considered a proper measure of a student's ability, we must consider the realization that certain most colleges do consider the student's scores on the tests. The research found that cyber high school students test scores are below the traditional

high school students and state requirements. The findings in this study points to this conclusion resulting in the need to continue research whether cyber high school students will need some additional support in getting scores raised to or beyond the state requirement. The question of the effectiveness of student supports is critical in the K-12 context, especially when considering the unconventional nature of the educational experience and the attractiveness to at-risk student populations.

We know cyber high school students are graduating at an increasing rate and the researcher believes that more can be done with legislature enactments and colleges should seek out these students on the same recruitment level as they do with traditional high school graduates. The researcher sincerely hopes this research will be of some benefit toward that goal of this multifaceted and rapidly evolving way of learning.

CONCLUSION

The primary goals of this qualitative research were to explore the growth in secondary education online learning that follows in the footsteps of expanded learning opportunities at all levels of public education. The comparison of cyber high school graduates' learning and preparedness to the traditional high school graduates' education shows slight differences. Primarily the learning environment may be one of the most significant differences to occur in education in the past decade. The revolutionary use of technology allowing high school students to learn in their own homes is received with mixed reaction.

Cyberlearning has tremendous potential because we have powerful new technologies, increased understanding of learning and instruction, and widespread demand for solutions to

educational problems. In the last decade, the design of technologies and our understanding of how people learn have evolved together, while new approaches to research and design make the development and testing of technologies more responsive to real-world requirements and learning environments.

There is beginning to be a standard shift from the original mold of high school student face-to-face with teacher to an alternative way to administer education through cyberlearning where achievements are earned the same as traditional high school achievements.

Understanding the concept of distance between learner and instructor, technology empowers learners to access education at any time and from any place. The importance of college preparedness and comparing traditional and cyber high school graduates causes a need for more and intense research.

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APPENDIX A: INVITATION TO PARTICIPATE IN RESEARCH INTERVIEW –
PRINCIPAL/DIRECTOR INVITATION

Hello _____:

My name is Wanda Hudson and I am a doctoral student at Ferris State University. I am preparing to conduct my dissertation research, and I would like your help.

I am interested in learning about your experiences at your high school and the kinds of measures/tools/assessments that you have in place to assess your students to ensure they are prepared for college. In order for me to learn about this, I am asking to meet with you either in person or on the phone to complete an interview segment (no longer than 60-120 minutes) answering questions about how are students are assessed and the programs, if any, that are in place to determine their preparedness for college.

The overall benefits to participation are that you will be helping the investigators to understand if there are any primary differences between cyber high school and traditional high school students being prepared for college. The study also seeks to contribute to the growing comparative research on cyber education and traditional education.

All responses and information you provide will be kept confidential. The interview information will be kept confidential Your participation is voluntary, you are not in any way obligated to participate in this study, and you can stop at any time during the process without penalty of any kind.

I would really appreciate your participation, and I am looking forward to learning more about your experiences. If you are willing and available, following completion of the survey, I may contact you to arrange a face-to-face interview based upon your availability; a copy of the letter of informed consent is attached for your review.

Contacts and Questions: If you have questions about this study, please contact the advisor, Dr. Sandy Balkema, listed above. If you have questions about your rights as a participant, contact the Ferris State University Institutional Review Board, 220 Ferris Drive, PHR 308, Big Rapids, MI 49307

Phone: (231) 591-2553 FAX: (231) 591-2226 Email: IRB@ferris.edu

You may call me at my office (313-683-5660), send me an email at my college email address (hudonsw3@ferris.edu), or at my personal email address (wandahudsonc4@gmail.com).

Sincerely,

Wanda R. Hudson

APPENDIX B: INFORMED CONSENT - PRINCIPAL/DIRECTOR INTERVIEW

PROJECT TITLE: The New Faces of Community Colleges
Cyber High School Graduates: A Qualitative Research

PRINCIPAL INVESTIGATOR: Wanda Hudson, Ferris State University Doctoral Candidate

EMAIL: hudsonw3@ferris.edu **PHONE:** (313) 683-5660

ADVISOR: Dr. Sandy Balkema **EMAIL:** balkemas@ferris.edu

You are invited to participate in a qualitative research exploring the role cyber high school and traditional high school teachers and administrators play in developing assessment strategies and programs to assure preparedness for graduation and entrance into college.

The purpose of this qualitative research is to determine

- If there is a significant difference between cyber high school graduates and traditional high school graduates educational learning achievements.
- If there is a significant difference of preparedness between cyber high school graduates and traditional high school graduates as they transition to college.

If you agree to participate in this study, you will be asked to answer questions about your role in tracking assessments and preparedness measurements. It is estimated that participation in this interview will take approximately 60-120 minutes of your time. The overall benefits to participation are that you will be helping to understanding if there are any primary differences between cyber high school and traditional high school students being prepared for college. The study also seeks to contribute to the growing research on cyber education. There is no compensation for participating in this study.

Your responses will be audio recorded to allow the researcher to review the interview content more easily following the interview. The interview audiotapes will be transcribed by the researcher, will be available only to this researcher, and will be destroyed 3 years after completion of the research study and dissertation.

Risks and Voluntary Nature of the Study:

The study will present no greater risk than what one encounters in daily life. The interview data will be collected anonymously, and your participation in this study is strictly voluntary. You may refuse to answer any questions that you do not wish to answer. Should you wish to end the interview, you may feel free to do so at any time. Information you provide during the interview will be kept confidential and maintained by the researcher.

Confidentiality:

The records of this study will be kept private. The interview audio recordings, researcher’s notes, and all data collected for this study will be kept confidential by the researcher, stored at the researcher’s home, away from the campus. After final approval of study, all records will be destroyed after three years. Responses and identities will be coded so that individuals cannot be identified. The researcher will not include any information that will make it possible to identify a participant in any report of this study.

Contacts and Questions:

If you have questions about this study, please contact the Advisor, Dr. Sandy Balkema, listed above. If you have questions about your rights as a participant, contact the Ferris State University Institutional Review Board, 220 Ferris Drive, PHR 308, Big Rapids, MI 49307
PHONE: (231) 591-2553 FAX: (231) 591-2226 Email: IRB@ferris.edu

Statement of Consent:

I have read the above information. If I had any questions, I have asked them and received answers from the appropriate party. I consent to participate in the study.

Name (printed) _____

Signature _____

Date _____

By signing this form, you consent to participate in this research study.

****Please print this page if you wish to retain a copy of this consent for your records. ****

APPENDIX C: INTERVIEW QUESTIONNAIRE FOR PRINCIPALS/DIRECTORS

Interview Questions

1. Job title:
2. In what year, did you begin working at _____ (High School)?
3. How long have you been in your current position at _____ (High School)?
4. Could you explain your motivations for working in secondary education? What do you find the most exciting and rewarding aspect of secondary education?
5. Please describe the aspects of your job that are related to assessment of learning. What methods do you use to ensure that appropriate assessments are completed and students are prepared for college? How do you work with teachers to ensure their students are prepared adequately and meet their learning goals?
6. Do you believe that your job/role here helps students succeed and achieve their educational goals? If so, how (which Quality Assurance Methods are in place)?
 - a. If yes, does the idea that you are helping students succeed impact the way that you feel about your job at the high school? If so, can you describe how?
 - b. If no, why do you feel that your job does not help students succeed?
7. Are you satisfied with legislative activities and policies affecting cyber high schools? Should additional changes be made? Please explain.
8. Please describe the types of support and training that are offered to support staff at your high school. Which of these are related to assessing learning?
9. Does your institution have any articulation agreements with colleges? If so, please describe the types of agreements you have and what courses and/or programs they cover.
10. Has having different types of school platforms affected your student retention? If so, how?
11. What accreditation and partnerships do you currently have?
12. What major changes do you see happening in secondary education in the near future?
13. What are some of the most significant challenges and lessons you've faced or learned as a principal/director of a high school?
14. What do you feel are effective/best practices in today's education structure based on the ability to integrate technology? Please describe these for me.

APPENDIX D: CRESTWOOD HIGH SCHOOL

School Directory Information [Search Results](#) [Modify Search](#) [Data Notes/Grant IDs](#) [Help](#)
(2014-2015 school year)

School Name: Crestwood High School	NCES School ID: 260001603912	State School ID: 00833
District Name: Crestwood School District district information	NCES District ID: 2600016	State District ID: 82230
Mailing Address: 1501 North Beech Daly Rd Dearborn Heights, MI 48127-3403	Physical Address: 1501 North Beech Daly Rd Dearborn Heights, MI 48127-3403	Phone: (313) 278-7475
Type: Regular school	Status: Currently operational	Charter: No

School Details (2013-2014 school year)

County: Wayne County schools in county	Total Students: 1,284						
Grade Span: (grades 9 - 12) <table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px; background-color: #ffff00;">9</td> <td style="width: 20px; height: 20px; background-color: #ffff00;">10</td> <td style="width: 20px; height: 20px; background-color: #ffff00;">11</td> <td style="width: 20px; height: 20px; background-color: #ffff00;">12</td> </tr> </table>			9	10	11	12	Classroom Teachers (FTE): 63.05
		9	10	11	12		
Locale: Suburb: Large (21)	Student/Teacher Ratio: 20.36						
Magnet: Yes	Title I School: No						
	Title I School-Wide Program: †						

Enrollment Characteristics (2013-2014 school year)

Enrollment by Grade:

	PK	9	10	11	12	Ungraded
Students	-	345	359	283	297	0

Enrollment by Race/Ethnicity:

	Amer Ind/ Alaskan	Asian/ Pacific Islander *	Black	Hispanic	White	Two or More Races
Students	1	16	89	24	1,153	1

* combined Asian and Native Hawaiian / Pacific Islander categories

Enrollment by Gender:

	Male	Female
Students	663	621

Free lunch eligible: 716

Reduced-price lunch eligible: 104

Note: Details may not add to totals.

NOTES

- [†] indicates that the data are not applicable. For example, the enrollment and staff characteristics for schools that opened in the 2014-2015 school year will not be available until the full 2014-2015 file is released.
- [-] indicates that the data are missing.
- [†] indicates that the data do not meet NCES data quality standards.
- The directory information on school name, address, and phone number are preliminary data from initial submissions of school level data for 2014-2015.

APPENDIX E: GARDEN CITY HIGH SCHOOL

School Directory Information [Search Results](#) [Modify Search](#) [Data Notes/Grant IDs](#) [Help](#)
 (2014-2015 school year)

School Name: Garden City High School	NCES School ID: 261554005213	State School ID: 01359
District Name: Garden City Public Schools district information	NCES District ID: 2615540	State District ID: 82050
Mailing Address: 6500 Middlebelt Rd Garden City, MI 48135-2129	Physical Address: 6500 Middlebelt Rd Garden City, MI 48135-2129	Phone: (734) 762-8350
Type: Regular school	Status: Currently operational	Charter: No

School Details (2013-2014 school year)
County: Wayne County [schools in county](#)
Grade Span: (grades 9 - 12)

9	10	11	12
---	----	----	----

Locale: Suburb: Large (21)

Magnet: No

Total Students: 1,316

Classroom Teachers (FTE): 79.05

Student/Teacher Ratio: 16.65

Title I School: No

Title I School-Wide Program: †

Enrollment Characteristics (2013-2014 school year)
Enrollment by Grade:

	9	10	11	12	Ungraded
Students	363	347	336	270	0

Enrollment by Race/Ethnicity:

	Amer Ind/ Alaskan	Asian/ Pacific Islander *	Black	Hispanic	White	Two or More Races
Students	3	2	134	32	1,141	4

* combined Asian and Native Hawaiian / Pacific Islander categories

Enrollment by Gender:

	Male	Female
Students	659	657

Free lunch eligible: 449

Reduced-price lunch eligible: 98

Note: Details may not add to totals.

NOTES

- [†] indicates that the data are not applicable. For example, the enrollment and staff characteristics for schools that opened in the 2014-2015 school year will not be available until the full 2014-2015 file is released.
- [-] indicates that the data are missing.
- [†] indicates that the data do not meet NCES data quality standards.
- The directory information on school name, address, and phone number are preliminary data from initial submissions of school level data for 2014-2015.
- Data provided on student membership and staffing are from the official school level data for 2013-2014.
- NCES is currently reviewing and updating the 2013-14 school-level enrollment data. Please use caution when using this data.

APPENDIX F: WESTWOOD CYBER HIGH SCHOOL

School Directory Information [Search Results](#) [Modify Search](#) [Data Notes/Grant IDs](#) [Help](#)
 (2014-2015 school year)

School Name: Westwood Cyber High School	NCES School ID: 261164007904	State School ID: 09935
District Name: Westwood Community School District district information	NCES District ID: 2611640	State District ID: 82240
Mailing Address: 25824 Michigan Ave Inkster, MI 48141-2459	Physical Address: 25824 Michigan Ave Inkster, MI 48141-2459	Phone: (313) 565-0288
Type: Other/alternative school	Status: Currently operational	Charter: No

School Details (2013-2014 school year)
County: Wayne County [schools in county](#)
Grade Span: (grades 9 - 12)

9	10	11	12
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Locale: Suburb: Large (21)

Magnet: No

Total Students: 508

Classroom Teachers (FTE): 5.40

Student/Teacher Ratio: 94.07

Title I School: No

Title I School-Wide Program: †

Enrollment Characteristics (2013-2014 school year)
Enrollment by Grade:

	9	10	11	12	Ungraded
Students	166	150	112	80	0

Enrollment by Race/Ethnicity:

	Amer Ind/ Alaskan	Asian/ Pacific Islander *	Black	Hispanic	White	Two or More Races
Students	4	2	126	28	347	1

* combined Asian and Native Hawaiian / Pacific Islander categories

Enrollment by Gender:

	Male	Female
Students	234	274

Free lunch eligible: 251

Reduced-price lunch eligible: 0

Note: Details may not add to totals.

NOTES

- [†] indicates that the data are not applicable. For example, the enrollment and staff characteristics for schools that opened in the 2014-2015 school year will not be available until the fall 2014-2015 file is released.
- [-] indicates that the data are missing.
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- The directory information on school name, address, and phone number are preliminary data from initial submissions of school level data for 2014-2015.

APPENDIX G: BOWSHER HIGH SCHOOL

School Directory Information [Search Results](#) [Modify Search](#) [Data Notes/Grant IDs](#) [Help](#)
 (2014-2015 school year)

School Name: Bowsher High School	NCES School ID: 390449001773	State School ID: 003301
District Name: Toledo City district information	NCES District ID: 3904490	State District ID: 044909
Mailing Address: 2200 Arlington Avenue Toledo, OH 43614-4441	Physical Address: 2200 Arlington Avenue Toledo, OH 43614-4441	Phone: (419) 671-2000
Type: Regular school	Status: Currently operational	Charter: No

School Details (2013-2014 school year)
County: Lucas County [schools in county](#)
Grade Span: (grades 9 - 12)

9	10	11	12
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Locale: City: Large (11)

Magnet: †

Total Students: 1,186

Classroom Teachers (FTE): 73.00

Student/Teacher Ratio: 16.25

Title I School: Yes

Title I School-Wide Program: Yes

Enrollment Characteristics (2013-2014 school year)
Enrollment by Grade:

	9	10	11	12
Students	392	271	256	267

Enrollment by Race/Ethnicity:

	Amer Ind/ Alaskan	Asian/ Pacific Islander *	Black	Hispanic	White	Two or More Races
Students	0	5	473	89	543	76

* combined Asian and Native Hawaiian / Pacific Islander categories

Enrollment by Gender:

	Male	Female
Students	628	558

Free lunch eligible: 608

Reduced-price lunch eligible: 56

Note: Details may not add to totals.

NOTES

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- The directory information on school name, address, and phone number are preliminary data from initial submissions of school level data for 2014-2015.
- Data provided on student membership and staffing are from the official school level data for 2013-2014.
- NCES is currently reviewing and updating the 2013-14 school-level enrollment data. Please use caution when using this data.

APPENDIX H: PHOENIX ACADEMY COMMUNITY SCHOOL

School Directory Information [Search Results](#) [Modify Search](#) [Data Notes/Grant IDs](#) [Help](#)
(2014-2015 school year)

School Name: Phoenix Academy Community School	NCES School ID: 390012604176	State School ID: 000130
District Name: Phoenix Academy Community School district information	NCES District ID: 3900126	State District ID: 000130
Mailing Address: 1505 Jefferson Ave Toledo, OH 43604-5722	Physical Address: 1505 Jefferson Ave Toledo, OH 43604-5722	Phone: (419) 720-4500
Type: Regular school	Status: Currently operational	Charter: Yes

School Details (2013-2014 school year)

County: Lucas County schools in county	Total Students: 532																								
Grade Span: (grades 7 - 12) <table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px; height: 15px;"></td> <td style="width: 20px; height: 15px;"></td> <td style="width: 20px; height: 15px;"></td> <td style="width: 20px; height: 15px;"></td> <td style="width: 20px; height: 15px;"></td> <td style="width: 20px; height: 15px;"></td> <td style="width: 20px; height: 15px;"></td> <td style="width: 20px; height: 15px;"></td> <td style="width: 20px; height: 15px;"></td> <td style="width: 20px; height: 15px;"></td> <td style="width: 20px; height: 15px;"></td> <td style="width: 20px; height: 15px;"></td> </tr> <tr> <td></td><td></td><td></td><td style="background-color: yellow;">7</td><td style="background-color: yellow;">8</td><td style="background-color: yellow;">9</td><td style="background-color: yellow;">10</td><td style="background-color: yellow;">11</td><td style="background-color: yellow;">12</td><td></td><td></td><td></td> </tr> </table>																7	8	9	10	11	12				Classroom Teachers (FTE): 17.10
			7	8	9	10	11	12																	
Locale: City: Large (11) Magnet: †	Student/Teacher Ratio: 31.11																								
	Title I School: Yes Title I School-Wide Program: Yes																								

Enrollment Characteristics (2013-2014 school year)

Enrollment by Grade:

	7	8	9	10	11	12
Students	6	18	213	73	151	71

Enrollment by Race/Ethnicity:

	Amer Ind/ Alaskan	Asian/ Pacific Islander *	Black	Hispanic	White	Two or More Races
Students	1	3	258	48	213	9

* combined Asian and Native Hawaiian / Pacific Islander categories

Enrollment by Gender:

	Male	Female
Students	264	268

Free lunch eligible: 0

Reduced-price lunch eligible: 0

Note: Details may not add to totals.

NOTES

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- The directory information on school name, address, and phone number are preliminary data from initial submissions of school level data for 2014-2015.
- Data provided on student membership and staffing are from the official school level data for 2013-2014.

APPENDIX I: NORTH ALLEGHENY HS

School Directory Information [Search Results](#) [Modify Search](#) [Data Notes/Grant IDs](#) [Help](#)
 (2014-2015 school year)

School Name: North Allegheny HS	NCES School ID: 421701007482	State School ID: 8305
District Name: North Allegheny Sd district information	NCES District ID: 4217010	State District ID: 103026852
Mailing Address: 10375 Perry Hwy Wexford, PA 15090	Physical Address: 10375 Perry Hwy Wexford, PA 15090	Phone: (724) 934-7200
Type: Regular school	Status: Currently operational	Charter: No

School Details (2013-2014 school year)
County: Allegheny County [schools in county](#)
Grade Span: (grades 9 - 12)

9	10	11	12
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Locale: Suburb: Large (21)

Magnet: No

Total Students: 2,713

Classroom Teachers (FTE): 174.38

Student/Teacher Ratio: 15.56

Title I School: No

Title I School-Wide Program: †

Enrollment Characteristics (2013-2014 school year)
Enrollment by Grade:

	9	10	11	12
Students	683	692	699	639

Enrollment by Race/Ethnicity:

	Amer Ind/ Alaskan	Asian/ Pacific Islander *	Black	Hispanic	White	Two or More Races
Students	0	277	56	30	2,344	6

* combined Asian and Native Hawaiian / Pacific Islander categories

Enrollment by Gender:

	Male	Female
Students	1,391	1,322

Free lunch eligible: 120

Reduced-price lunch eligible: 44

Note: Details may not add to totals.

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- Data provided on student membership and staffing are from the official school level data for 2013-2014.
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APPENDIX J: PENNSYLVANIA DISTANCE LEARNING CS

School Directory Information [Search Results](#) [Modify Search](#) [Data Notes/Grant IDs](#) [Help](#)
(2014-2015 school year)

School Name: Pennsylvania Distance Learning Cs	NCES School ID: 420012500839	State School ID: 7821
District Name: Pennsylvania Distance Learning Cs district information	NCES District ID: 4200125	State District ID: 115220003
Mailing Address: 2100 Corporate Drive Wexford, PA 15090	Physical Address: 2100 Corporate Drive Wexford, PA 15090	Phone: (724) 933-7300
Type: Regular school	Status: Currently operational	Charter: Yes

School Details (2013-2014 school year)

County: Allegheny County [schools in county](#)

Grade Span: (grades KG - 12)

KG	1	2	3	4	5	6	7	8	9	10	11	12
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Locale: Suburb: Large (21)

Magnet: No

Total Students: 509

Classroom Teachers (FTE): 26.00

Student/Teacher Ratio: 19.58

Title I School: Yes

Title I School-Wide Program: Yes

Enrollment Characteristics (2013-2014 school year)

Enrollment by Grade:

	KG	1	2	3	4	5	6	7	8	9	10	11	12
Students	28	31	18	17	19	32	41	41	38	101	57	52	34

Enrollment by Race/Ethnicity:

	Amer Ind/ Alaskan	Asian/ Pacific Islander *	Black	Hispanic	White	Two or More Races
Students	5	4	107	36	326	31

* combined Asian and Native Hawaiian / Pacific Islander categories

Enrollment by Gender:

	Male	Female
Students	242	267

Free lunch eligible: 0

Reduced-price lunch eligible: 0

Note: Details may not add to totals.

NOTES

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APPENDIX K: FERRIS STATE UNIVERSITY INSTITUTIONAL REVIEW BOARD

APPROVAL

Institutional Review Board for Human Subjects in Research

Office of Research & Sponsored Programs, 220 Ferris Drive, PHR 308 · Big Rapids, MI 49307

Date: April 27, 2016

To: Dr. Sandra Balkema and Ms. Wanda Hudson

From: Dr. Gregory Wellman, IRB Chair

Re: IRB Application #160213 (*Cyber High School Graduates: The New Faces of Community Colleges Making the Paradigm Shift a Comparative Case Study*)

The Ferris State University Institutional Review Board (IRB) has reviewed your application for using human subjects in the study, "*Cyber High School Graduates: The New Faces of Community Colleges Making the Paradigm Shift a Comparative Case Study*" (#160213) and determined that it meets Federal Regulations Expedited-category 2F. This approval has an expiration of one year from the date of this letter. **As such, you may collect data according to the procedures outlined in your application until April 27, 2017.** Should additional time be needed to conduct your approved study, a request for extension must be submitted to the IRB a month prior to its expiration.

Your protocol has been assigned project number (#160213), which you should refer to in future correspondence involving this same research procedure. Approval mandates that you follow all University policy and procedures, in addition to applicable governmental regulations. Approval applies only to the activities described in the protocol submission; should revisions need to be made, all materials must be approved by the IRB prior to initiation. In addition, the IRB must be made aware of any serious and unexpected and/or unanticipated adverse events as well as complaints and non-compliance issues.

Understand that informed consent is a process beginning with a description of the study and participant rights with assurance of participant understanding, followed by a signed consent form. Informed consent must continue throughout the study via a dialogue between the researcher and research participant. Federal regulations require each participant receive a copy of the signed consent document and investigators maintain consent records for a minimum of three years.

As mandated by Title 45 Code of Federal Regulations, Part 46 (45 CFR 46) the IRB requires submission of annual reviews during the life of the research project and a Final Report Form upon study completion. Thank you for your compliance with these guidelines and best wishes for a successful research endeavor. Please let us know if the IRB can be of any future assistance.

Regards,

