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How Schools are Meeting State Legal Mandates to Provide Online Education

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HOW SCHOOLS ARE MEETING STATE LEGAL MANDATES TO PROVIDE
ONLINE EDUCATION

by

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HOW SCHOOLS ARE MEETING STATE LEGAL MANDATES TO PROVIDE
ONLINE EDUCATION

Mark Edward Deschaine, Ph.D.

Western Michigan University, 2013

This study explores how public schools in Michigan are meeting the mandate to provide online learning opportunities as a condition of graduation. Michigan became the first state in the nation to mandate online learning opportunities as a condition for graduation with the passage of the Michigan Merit Curriculum. Although the mandate for compliance has been in effect since the 2010-2011 school year, there has been no systemic exploration as to how the mandate is affecting students, teachers, schools and systems.

This quantitative study surveyed administrators from all public traditional and charter high school programs across the state of Michigan. Using documents provided by the State of Michigan, questions were formulated to provide the basis for a researcher developed survey.

Utilizing descriptive and inferential statistics, I concluded that a greater percentage of students enrolled in Online Experiences Incorporated within Classes than in Fully Online Semester Long Courses, with both options being incorporated more into content academic areas than non-core academic areas. Smaller enrollment schools utilized on line opportunities at a higher rate than do their peers in larger schools. Online Educational Opportunities are most often used as a vehicle for

student skillset improvement: to help students with credit recovery needs, to help

students considered at-risk for school failure, and to assist students in gaining 21st

Century skills. Student and administrator technological training, as well as providing

online experiences within existing classes both significantly predicted improvement

in student access to curriculum. Providing Fully Online Courses to students

significantly predicted improvement in the school programs' financial and perceived

achievement measures. Commercial vendors were the largest provider of content for

Fully Online Semester Long Course content. Districts tend to stay within their own

organizations for support for their Online Educational Opportunities. Decision

makers tended to be influence mostly by their building administrators, followed by

their district administrators on the types of opportunities being offered. It was also

found that significant differences based upon district enrollment size existed

throughout the state.

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CHAPTER 1 INTRODUCTION

"Increased technology, in addition to creating a demand for more education and increased enrollment, has created special problems for educational planning, particularly that of specialization. The demands of industry have required a more specialized curriculum" (Rodgers, Heath, & Remmers, 1958, p. 70). Although taken from a 1958 article that described how societal and technological changes were driving educational policy, the comments are still salient and pertinent today.

There has been much recent discussion about utilizing online educational opportunities to enhance, and in some places, replace classroom-based instruction. In the past five years there has been an explosive growth in organized online instruction (i.e., e-learning) and "virtual" schools, making it possible for students at all levels to receive high quality supplemental or full courses of instruction personalized to their needs (United States Department of Education [ED], 2010b).

In 2005, Watson stated, "the number of course registrations and number of individual students taking courses from statewide programs are growing rapidly in almost all statewide programs, with programs experiencing consistent growth of 50 percent to 100 percent per year" (p. 11). Patrick (2008) noticed that "… online learning is growing at 30% annually in K-12 education and shows no signs of slowing" (p. 4). Waters (2011, p. 29) states, "… about 45,000 K-12 students in the United States took an online course in 2000; by 2009 that number had already grown to more than 3 million." In 2013, it is even more pronounced. Waters (2011) states the K-12 online learning market will grow at a compound annual rate of 43% between 2012 and 2015. Traditional schools are

turning to providing online services to expand opportunities and choices for students, as well as professional development for teachers.

Educational technology integration is seen by the federal government as a way to improve student achievement at all levels of schooling (ED, 2010a). A federal emphasis on technology integration in education has occurred within various legislative and executive initiatives for at least the past decade. In fact, both of the major school reform initiatives established under the presidencies of George W. Bush and Barack Obama - The "No Child Left Behind" Act of 2001 (ED, 2004a), and the American Recovery and Reinvestment Act of 2009 (ARRA), Section 14005-6, Title XIV which established the "Race to the Top Fund" – mentioned the integration of technology as a potential vehicle to help improve the quality of education in America. Indeed, language within the Race to the Top suggests that online learning may play an important role in helping schools renew their educational programs and meet the needs of all students more effectively. This legislative fiat suggests, "[O]nline instructional programs, if research-based, are one of many ways to meet the needs of students in struggling schools, particularly to provide courses or programs that schools in rural or remote areas cannot otherwise provide" (ARRA, 2009, p. 59786).

Additionally the federal government has twice, in the last decade, established comprehensive plans for the role of technology in creating a 21st century learning system, i.e., the National Educational Technology Plans of 2005 and 2010 (ED, 2005; 2010a). In order to capitalize upon instructional technology advances, the 2010 plan recommends that states, districts, and schools provide every student access to e-learning opportunities,

allow teachers to participate in training online, and develop quality measures and accreditation standards for online learning (ED, 2010a).

Indeed "… virtual schooling, in which K–12 courses and activities are offered mostly or completely through digital communication technologies, has become firmly established in K–12 education across the United States" (Davis & Niederhauser, 2007, p. 11). Virtual schooling offers flexibility in the time, place, and pace of instruction. It provides teachers the opportunity to create an instructional environment that adapts to students wherever and however they need to learn, at home or in school. It gives parents a significant choice of providers and educators an alternative means of meeting their student's academic needs (ED, 2004).

In addition to assisting with larger school reform initiatives, some have argued that online educational opportunities are an effective way to differentiate instruction (Watson, 2008), and to help stem the "drop out" rate (Ferdig, 2010). Research reveals that such online educational opportunities do support learners and educators, via access to instructional content throughout the day and without geographic boundaries (Davis & Niederhauser, 2007). Some have even suggested online learning will provide the vehicle to create a seamless virtual K-16 system of education (Thompson, 2006).

Yet, we do not know enough about the extent to which today's students are being provided with online learning experiences. Despite the increased emphasis on online opportunities, and continued growth in online learning capabilities, there still is a dearth of information related to student utilization of online opportunities in K-12 educational settings. "Even basic statistics on student performance and course enrollments in virtual schools are difficult to obtain" (Tucker, 2007, p. 6).

Problem Statement

There is a "hole" in our understanding of how the implementation of the Michigan mandate for online educational experiences as a condition for graduation plays out in school systems across the state. My research can help fill the existing hole by providing data on how the schools in Michigan have responded to the mandate for the provision of online opportunities. By capturing the approaches and the perceived effectiveness of such approaches, we will have a base upon which to draw initial conclusions about the implementation efficacy for Michigan's online learning mandate.

The problem to which this study will address is, namely what are high schools in Michigan doing to meet the requirement that students receive Online Educational Opportunities as a condition for graduation, how are the mandates being met from a technological and programmatic perspective, and what are the perceptions of high school administrators of public schools as to how the mandates are impacting programs and services? There are existing Michigan Department of Education policy mandates and initiatives requiring Online Educational Opportunities for students, yet there has been no systematic study, as of yet, to explore how public schools are providing Online Educational Opportunities.

Following the lead of the federal government, the State of Michigan has also emphasized the importance of technology integration into educational programs. The State of Michigan's 2006 Educational Technology Plan entitled *Leading Educational Transformation for Today's Global Society: State of Michigan Educational Technology Plan* (Michigan Department of Education [MDE], 2006a), and its 2010 Educational Technology Plan entitled *Teaching for Learning in a Digital Age* (MDE, 2010), both

emphasize the effective use of technology as a tool to meet the learning needs of students, as well as the teaching needs of educators.

In support of such plans, many initiatives at the state level have promoted the integration of technology across the school curriculum as a way of improving student achievement (VanBeek, 2011b). Indeed, Michigan was the first state in the nation to mandate Online Educational Opportunities as a condition for high school graduation (Barbour & Reeves, 2009). Michigan Public Act 124 of 2006 changed the requirements of the Michigan Merit Curriculum by requiring Online Educational Opportunities as a prerequisite for high school graduation (Holstead, Spradlin, & Plucker, 2008). The first class of seniors impacted by this legislation graduated during the 2010-2011 school year.

The mandate allows districts the options to meet the requirement; consequently, great flexibility has been afforded districts in meeting the requirement for online learning. Section 1278a of the Michigan Act 124 of 2006 states:

> (1) Except as otherwise provided in this section or section 1278b, beginning with pupils entering grade 8 in 2006, the board of a school district or board of directors of a public school academy shall not award a high school diploma to a pupil unless the pupil meets all of the following: …
>
> (b) Meets the online course or learning experience requirement of this subsection. A school district or public school academy shall provide the basic level of technology and internet access required by the state board to complete the online course or learning experience. For a pupil to meet this requirement, the pupil shall meet either of the following, as determined by the school district or public school academy:

(i) Has successfully completed at least 1 course or learning experience that is presented online, as defined by the department.

(ii) The pupil's school district or public school academy has integrated an online experience throughout the high school curriculum by ensuring that each teacher of each course that provides the required credits of the Michigan merit curriculum has integrated an online experience into the course. (Michigan Senate, 2006, p. 8).

As noted above, the language of the mandate is sufficiently broad that it allows districts a great deal flexibility in the way that they attempt to meet the mandate. The Michigan Senate Fiscal Agency's description of the intent of the mandate provides districts supplementary information related to the mandate's requirements:

Under the bill, a student may not be awarded a diploma unless he or she has successfully completed at least one course or learning experience that is presented online, as defined by the DOE, or unless the pupil's school district or PSA has integrated an online experience throughout the high school curriculum by ensuring that each teacher of each course that provides required credits of the Michigan Merit Standard has integrated an online experience into the course. A school district or PSA must provide the basic level of technology and internet access required by the State Board of Education to complete the online course or learning experience (Michigan Senate Fiscal Agency, 2006, p. 3).

The Michigan Department of Education (2006b) defines online learning as, "a structured learning activity that utilizes technology with intranet/internet-based tools and

resources as the delivery method for instruction, research, assessment, and communication" (p. 1).

There is also a significant foundation of supportive and longitudinal legislative initiatives and opportunities for online technology integration to meet these Michigan graduation mandates. As noted within the Michigan Technology Plan of 2006 (MDE, 2006a, p. 2):

> For many years, Michigan had been a leader in educational technology, with programmatic leadership from the Michigan Department of Education through Goals 2000 and Technology Literacy grants, as well as other statewide efforts through the Michigan Association for Computer Users in Learning (MACUL), the Regional Education Media Centers (REMC) Association, the Merit Network, the Michigan Virtual University (MVU), and the Michigan Virtual High School (MVHS). Major investments have been made through the Teacher Technology Initiative to equip every teacher with a computer, software, training, and Internet dial-in access. Most recently, there is the Freedom to Learn one-to-one teaching and learning program.

Michigan also has a program of dual enrollment where high school students can take a college-level class either on site at their high school or the higher education institution, or can enroll and complete the class online and receive course credit to meet their high school graduation requirements while simultaneously earning college credit (Michigan Department of Education, 2008). Michigan policymakers appear to have recognized that online learning opportunities have the potential to support students,

through a flexible provision of content available anytime and anywhere the student has access to an internet connected computer or device.

Overall, schools can therefore meet the Michigan requirement for online learning in one of three ways: (1) provide online high school classes, (2) integrate online experiences within all courses required by the Michigan Merit Curriculum, or (3) provide dual enrollment online college courses (MDE, 2006b); the choice has been left up to the local schools (MDE, 2006b). Yet, despite these policy mandates and initiatives related to the provision of Online Educational Opportunities, no systematic study as to how schools are providing Online Educational Opportunities in Michigan could be found.

Indeed, these programmatic options have been promulgated to meet this unique mandate in Michigan (MDE, 2011b), but they have been implemented sans a solid research base. No studies appear to exist which would establish a base-line description on how schools are initially responding to the online learning mandate, as a precursor to eventually studying the impact it will have on the educational programs and student outcomes. In addition, as experts note: "[B]asic research is needed to inform online education policies …" (Watson, 2005, p. 14). Studies of policy implementation and efficacy are necessary because "… education commands a lion's share of state and local budgets to levels that beg hard questions about the feasibility and value added by education policies" (Honig, 2006, p. 1).

An issue confounding the evaluation of implementation of online learning opportunities is related to the fact that "… research and policymaking require common measures that do not yet exist" (Watson, 2005, p. 14). The problem this study addresses is, namely what are high schools in Michigan doing to meet the requirement that students

receive online educational opportunities as a condition for graduation, how are the mandates being met from a technological and programmatic perspective, and the what are the perceptions of high school administrators of public schools as to how the mandates are impacting programs and services?

<div align="center">**Research Questions**</div>

Schools in Michigan have a mandate to provide online learning opportunities to their high school students in order to meet graduation requirements (MDE, 2006b). This mandate in Michigan is now operational, in that the 2010-2011 school year included the first students who graduated under the new high school graduation requirement requiring an online learning experience. Even though this mandate exists, we do not know how schools are meeting this mandate for Online Educational Opportunities to meet graduation requirements. Since the mandate allows for flexibility as to how schools meet this requirement, it is likely that there will be variety in the delivery and program options school districts are implementing across the state. The task of evaluating how schools are integrating Online Educational Opportunity requirements with traditional face-to-face instruction might be daunting. Holstead, Spradlin, and Plucker (2008) caution that, " … finding acceptable accountability measures for virtual programs that are often different from the traditional measures of physical classrooms has created questions at all levels— from the student to the state" (p. 1).

Indeed, an extensive review of the literature and personal contacts with state officials in Michigan has identified a research need: we currently have no available research data to address the efficacy of Michigan's mandate for Online Educational Opportunities as a condition for graduation. Such a level of understanding about how

schools are implementing the mandate is important. "Advances in technology have instigated other trends and subtends. That is, the potential value of technology as a tool for teaching and learning has not gone unnoticed by major actors in education. These include federal, state, and local education agencies …" (Lawless & Pelligrino, 2007, p. 576). At some point, state policy makers may question how well the mandate for online learning, as part of the Michigan high school graduation requirements, is serving students. Having baseline data related to initial implementation of the mandate will provide information on how schools are meeting their legal obligation and integrating online education into their programs. Based on my research we now know more about the state of Online Educational Opportunities and classes in Michigan, how these are occurring, why certain decisions are being made, the perceived benefits to students and districts, and any problems associated with mandate implementation.

My study gathered data from high school principals, which will serve to address the following research questions:

1. How were Michigan high schools meeting the requirements that all graduating students must now have an online experience, specifically:

    a) the types and percentage of utilization of Fully Online Semester Long Courses being offered; and

    a) the types and percentage of utilization of traditional classes, which integrate online experiences into their content (Online Experiences Incorporated within Classes)?

2. Why were these types of online experiences chosen by the district or school as the way to meet this mandate, and how were such decisions made?

3. What positive and negative outcomes issues have arisen as schools work to implement this mandate, specifically the impacts on students, faculty and staff, as well as finance, curriculum, and school and district educational structures, and what relationship, if any, exist between various input variables (e.g., type of online opportunities utilized, technology access and training) and various outcome variables (e.g., impact on program, impact on students)?

4. To what extent were districts receiving support for implementation of the mandate?

5. To what extent are there differences between schools based on various demographic variables (e.g., total school population, region of the state)?

Conceptual Framework

"Attempting to change what counts as teaching and learning in K-12 schools, reformers are using public policy to press for fundamental and complex changes in extant school and classroom behaviors" (Spillane, Reiser, & Reimer, 2002, p. 387). An increased emphasis on educational policy initiatives at the federal and state level to drive educational reforms requires a supportive flow of resources across funding, regulatory and implementation responsibilities. My study utilized a conceptual framework that considered educational policy interactions as they flowed from the state level to the specific school level. "Implementation scholars have offered numerous explanations for how policy is implemented that focus on the nature of social problems, the design of policy, the governance system and organizational arrangements in which policy must operate, and the will or capacity of the people charged with implementing policy" (Spillane, Reiser, & Reimer, 2002, p. 389). Since there is no one recognized

conceptualization as to how policy ultimately is implemented and evaluated, a linear approach related to the implementation of online educational opportunities into the school curriculum was taken.

My study was considered from an educational policy implementation frame, focusing primarily upon Michigan's legislative requirements and the existing organizational structures of school. "Education policy implementation as a field of research and practice for decades has amounted to a sort of national search for two types of policies: 'implementable' policies—those that in practice resemble policy designs—and 'successful' policies—those that produce demonstrable improvements in students' school performance" (Honig, 2006, p. 1). My research considered both implementation and perceived success, since the Michigan mandate for online educational experiences provides schools great flexibility in meeting the requirements. Knowing how policy is actually being implemented, and what is ultimately occurring in schools is insightful for policy since decision makers must "… focus on what gets implemented and what works makes sense especially in education" (Honig, 2006, p. 1).

The provision of Online Educational Opportunities directly presented to the student can be traced back to both state and federal initiatives that have mandated, supported or financed school-based activities. These initiatives partially have come about through the societal changes that have occurred nationally as the technological capabilities of the population have increased (MDE, 2006a). The rapid adoption of educational technology has caused policy makers to rethink what a solid instructional experience needs to include. Online educational public policy initiatives ultimately end

up in the classroom through the implementation of initiatives, where the teacher - student interactions are impacted by some external mandate.

Ultimately, it is intended that information received about the efficacy of the implementation of initiatives be used by both state departments and local districts to ascertain the effectiveness of interventions. This is important to realize since there tends to be variation in local responses to state policy directives: "… some local districts would resist reforms or refuse to comply; some would comply literally to the reforms; and most would adapt, taking from reforms the elements that best suited local goals and shaping them to local context" (Fuhrman, Clune, & Elmore, 1991, pp. 199-200).

 It would be easier for policy makers, decision makers, and legislators if this "packaged" approach to implementation worked as outlined. "The behaviors that a policy targets for change and the magnitude of the changes sought affect the likelihood of successful implementation" (Spillane, Reiser, & Reimer, 2002, p. 390) of that change. It is important to remember that implementation is often messier than it was intended to be: we often get unanticipated outcomes that are often difficult to identify when the process is begun, partially due to the fact that local officials often have a great deal of discretion when implementing federal and state policies (Spillane, Reiser, & Reimer, 2002).

In order to assess the potential outcomes of any legislative initiative, it is often necessary to figuratively "follow the ball once it is put into play." When an initiative is implemented, it often takes on a life of its own. The promulgated allegorical policy ball often breaks into multiple implementation balls, and they flow all over the place. This needs to be understood and planned for its occurrence "If virtual education is to be successful, policymakers and educators must carefully examine and provide appropriate

oversight of virtual schooling, especially quality assurance and academic achievement, through clearly defined laws and accountability measures" (Holstead, Spradlin & Plucker, 2008, p.12). If there are studies specifically designed to identify the various implementation pieces and to follow their paths, legislators would have a better view, a more accurate and reliable understanding of what is actually occurring during the implementation process.

Figure 1.1. It is rationally assumed that state educational policies impact implementation at the local school level. The interaction from policy to implementation, although intended to be sequential and rational in nature, often results in unanticipated outcomes.
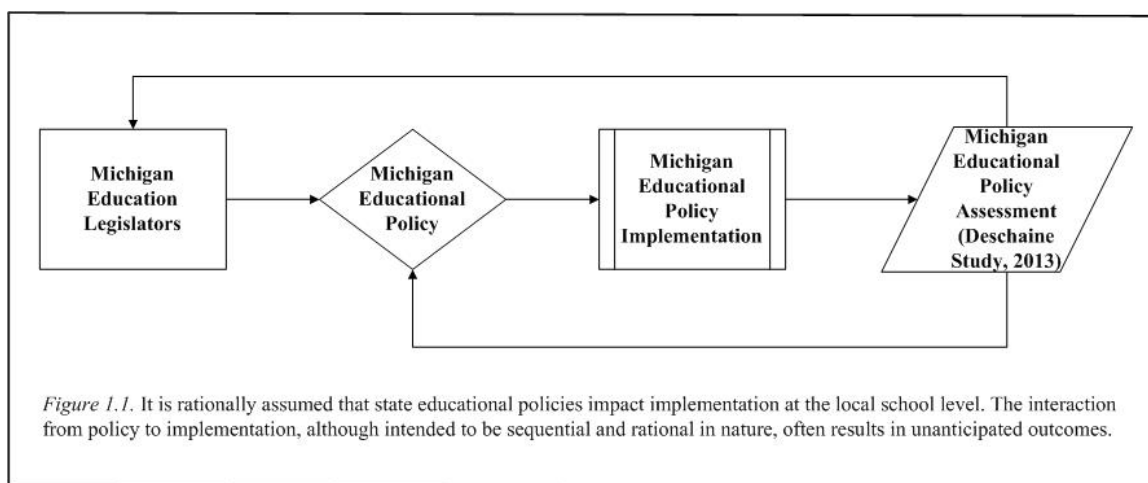
Because of the practical variance of linearity, implementation is not always a straight line from policy conceptualization to implementation completion. There is not always a direct flow between or across the differing levels. Implementation often takes a life of its own. Due to this often lack of rationality, it becomes important to know what is actually happening with an initiative before the government continues to try to support the process.

The focus of my study therefore was to gather data on the implementation of a specific piece of Michigan legislation. Figure 1.1 conceptualizes the landscape for the study that shows the linear components of policymaking and how my study added some knowledge regarding the assessment of this process. As other research has revealed,

when it comes to online learning requirements, "… few states now have the reporting requirements in place that will yield useful data for study in the next several years" (Watson, 2005, p. 14). It is important that data related to the implementation of Michigan's mandate of online experiences for all high school graduates be obtained because "… given its promise to serve as a significant lever of change in an institution intended to serve all children and youth, education policy affects multiple dimensions of social welfare. And given these high stakes, education policy implementation warrants careful scrutiny" (Honig, 2006, p. 1).

Overview of Methodology

An online survey was utilized, and a descriptive quantitative analysis, combined with inferential quantitative analysis was completed to obtain information related to the implementation of mandated online learning experiences in school programs across Michigan. The cross-sectional nature of the study requested responses from all building level or central office administrators of traditional and charter public high schools across Michigan.

The fact that the survey was completed during a common time frame makes it concurrent, and the results can be considered reflective of that moment of survey. This snapshot in time is important since the first graduating class for which schools were responsible for incorporating this mandated online experience for all graduates occurred during the 2010-2011 school year.

Study Significance

As we can see, there are tremendous amount of supporting federal and state initiatives and requirements for high school students to have Online Educational

Opportunities. However, there is a paucity of research available about the utilization of online learning activities in high schools (Picciano & Seaman, 2007).

According to Picciano and Seaman (2007), there are a number of potential underlying reasons why data on online learning in K-12 districts may not available. First, there are minimal (if indeed any) requirements in many states to collect data related to student utilization of Online Educational Opportunities with online students. Second, the definitions of online learning and distance education are confusing to people that are attempting to qualify the services they offer the students. To exacerbate the situation even further, other significant instructional modalities not directly related to the Internet, such as videoconferencing and televised courses, are often confused as being something they are not. "Problems of definition are not new especially when dealing with rapidly evolving instructional technologies" (p. 1). Third, some of the difficulty in data collection can be attributed to the incredible growth in the number of content providers that deliver public, private and for-profit services. Many of these content providers operate outside of the traditional school district structure, thus making the measurement of their impact upon K-12 programs difficult to ascertain.

Even though problems exist in assessing the utilization of online learning programs, Michigan schools are mandated to provide Online Educational Opportunities to their high school students in order to meet graduation requirements (MDE, 2006b). We currently do not know how schools are responding to meeting these mandates for Online Educational Opportunities to meet graduation requirements.

This research is significant in that it will help fill in our understanding of how school systems are being impacted by online education. As noted earlier, there is a

relative lack of information related to the impact of online education in K-12 schools: the majority of our information about online learning has been based upon the impact on higher education. More specifically, my research is significant because it looked at the impact that the mandate for Online Educational Opportunities is having on school programs in Michigan. Michigan was the first state in the nation to require Online Educational Opportunities as a condition for graduation. This research is the first known that specifically looks at the impact the mandate is having on high school programs throughout the state. Further, my study results produced a better understanding of the current utilization of Online Educational Opportunities across the State of Michigan. This snapshot explored the nature of online learning across Michigan. Trends of adoption were identified, and provided information from participants that previously were unavailable.

The analysis produced by this study can provide local school boards, local school administrators, and state policy makers with information about how schools in Michigan, in the initial years of implementation of the online educational mandate, are implementing that mandate. The results of my study give a snapshot understanding of how the requirements are affecting the districts, the teachers, the schools, and the students, and offer insights into how the requirements are providing support or affecting current educational programs. As Honig (2006) states, "… school systems now are held accountable for demonstrable improvements in the academic achievement of all students in ways barely imagined just 20 years ago" (p. 1). This information contained in my study will be instructive to the multiple audiences of policy makers, policy implementers, and policy program recipients since "… no one policy gets implemented or is successful

everywhere all the time; on the bright side, some policies are implemented and successful some of the places some of the time" (Honig, 2006, p. 2).

The implementation of Online Educational Opportunities in education offers concern and optimism to those responsible for its implementation. "The concern is based on the status of many states that have few or no online education policies despite the growth of online programs; or alternatively, have restrictive policies based largely on outmoded ways of thinking about education" (Watson, 2005, p. 14). Michigan appears to have the supports in place, and instead of being restrictive, these supports allow for great latitude and flexibility in their implementation. "The optimism, however, is based on the states and programs that are leading the way in determining how online learning should grow and develop and are putting the effort into creating appropriate policies to guide this growth" (Watson, 2005, p. 14). My study provides baseline information related to the utilization of Online Educational Opportunities in schools to meet the Michigan mandate. Consequently, it will help fill the significant void research has in the area of policy implementation for online learning.

Chapter 1 Conclusion

The State of Michigan has mandated that all students conditionally receive Online Educational Opportunities prior to graduation. This mandate has been in effect since the 2010-2011 school year. As of this time, there has been no systematic investigation as to how public schools in the state are fulfilling these requirements, or the impact that the mandate is having on students, staff, buildings or programs. Surveying the administrators of public high school and charter school programs in Michigan provided insight into how

the mandate is being implemented, and the impact that the mandate is having on

Michigan schools.

CHAPTER 2 LITERATURE REVIEW

Chapter 1 provided introductory material and background information related to the State of Michigan's mandate that all students receive Online Educational Opportunities prior to graduation from high school. I briefly discussed how there is an extensive legislative history both nationally and at the State of Michigan level to support the requirement for online educational opportunities. A conceptual framework related to the interaction between the state initiatives and local school district implementation was developed to guide the research.

This background information provided support for the statement of the problem: Schools in Michigan have a mandate to provide Online Educational Opportunities to their high school students in order to meet graduation requirements (MDE, 2006b). Even though this mandate exists, we do not know how students are responding to these Online Educational Opportunities, or how the mandate is impacting programs.

Since there is no information available about the ways in which schools in Michigan are currently meeting the graduation requirements for Online Educational Opportunities, Chapter 2 will explore the interactions between governmental legislative initiatives and local district implementation in depth and detail. There will be less emphasis placed on the research related to specific online interventions or programs, since that is not the focus of my study. The focus is upon a clear understanding of what districts are doing to meet the mandates, how they made their decisions for implementation, and what value has been obtained programmatically by adhering to the state mandate, and the impact the implementation has had on the school program.

Research will be presented which provides a supportive base for the survey questions used to address the overall research questions of my study.

Themes across Legislative Initiatives

At the State of Michigan and the federal level, there are complimentary underlying themes throughout legislative initiatives that encourage and mandate the integration of technology into educational curriculums. Such themes focus on the fact that technology integration into school curriculums can be an effective tool for school reform (North Central Regional Education Laboratory [NCREL], 2002), and such integration into schools is way for improving student achievement (ED, 2005). Yet, teachers need to be trained to effectively utilize technology into their teaching to get the maximum instructional benefit of that technology (NCREL, 2002), and technology supplements, not supplants good instruction for students (NCREL, 2002). There has also been a tremendous growth in the utilization of online educational resources for students at all levels (ED, 2010), and online educational resources are a way to program for traditionally underserved student populations (ED, 2004a). Finally, students of today have an advantage over their teachers in understanding the power technology brings to the learning (not necessarily teaching) environment in schools (ED, 2010b).

These broad themes all consider the inclusion of technology into traditional instruction as a positive tool that has the potential to improve student achievement. As Greaves, Hayes, Wilson, Gielniak, & Peterson (2012). state, "[p]roperly implemented educational technology can substantially improve student achievement" (p. 1)..

However, current governmental initiatives have taken the inclusion of technology one-step further. There has been a strong emphasis placed on including online

educational opportunities as a way to not only supplement classroom instruction, but in some ways to supplant that traditional face-to-face instruction. There are legislative initiatives that have placed schools in the position of requiring students have greater access to Online Educational Opportunities (MDE, 2010).

Specific Themes in the Federal Legislative Initiatives

Technology integration has found its way in a general sense in several recent federal legislative initiatives, and these have provided a basis of support for state and local initiatives. A few of the more salient recent federal initiatives related to technology integration are listed below.

No child left behind. No Child Left Behind (NCLB) Act (ED, 2004a) is credited with bringing a renewed emphasis on assessment and accountability of student achievement in American schools, as part of an overall school reform strategy. Part of this emphasis on improving the quality of education for students was a highlighting of technology and its role in the classroom for student instruction and teacher professional development. There is a great deal of emphasis upon the utilization of technology to meet the needs of underserved students, teachers, districts and communities through the development of infrastructure and access.

Part D of the No Child Left Behind Act was entitled Enhancing Education Through Technology Act of 2001. This section of NCLB focused on the utilization of online educational opportunities to meet the needs of students in underserviced areas. Section 2401(a) (6) of the No Child Left Behind Act states

To support the development and utilization of electronic networks and other

innovative methods, such as distance learning, of delivering specialized or

rigorous academic courses and curricula for students in areas that would not

otherwise have access to such courses and curricula, particularly in

geographically isolated regions. (ED, 2004a, p. 1671)

It was apparent that the federal government was adamant that online educational

opportunities be developed and implemented by public school systems as an option for

students across the nation. Section 2413 of NCLB mandates that to be eligible for federal

funding under the act, a State educational agency needs to submit to the United States

Secretary of Education an application containing a statewide long-range strategic

educational technology plan. Part of this state technology plan requires a discussion of

how online education opportunities will be offered to students. Section 2413(b) (5) states

A description of how the State educational agency will encourage the

development and utilization of innovative strategies for the delivery of specialized

or rigorous academic courses and curricula through the use of technology,

including distance learning technologies, particularly for those areas of the State

that would not otherwise have access to such courses and curricula due to

geographical isolation or insufficient resources. (ED, 2004a, pp. 1675-1676)

The utilization of online educational opportunities was seen by the Federal

Government as a tool for equalizing the playing field: it allowed districts "… that would

not otherwise have access to such courses and curricula due to geographical isolation or

insufficient resources …" (ED, 2004a, p. 1676) access to quality instructional materials

and instruction via telecommunications.

The North Central Regional Education Laboratory (2002) reflected upon NCLB

soon after the passage of the law. They stated the aim of the statutes related to

technology focused on the curricular needs of the students, and not on the capabilities of the technology. The requirement for technology integration within NCLB made the technology a "tool" for the educators and students: it was means to the end of improving instruction.

National education technology plan. Every piece of legislation has a history that when followed, provides a roadmap of initiatives that have succeeded or have missed the mark. It is important to follow this legislative progression in relationship to the National Education Technology Plan because the goals of the government, although specifically different across time, have pieces of emphasis that impact the integration of online educational opportunities into school programs.

The No Child Left Behind Act of 2001 (ED, 2004a), required the United States Department of Education to submit to the Congress the Administrative vision and recommendations for a National Education Technology Plan (ED, 2004b). In January 2005, the U. S. Department of Education released an updated National Educational Technology Plan (NETP). The NETP presents recommendations under seven action goals that reflect input received from educators and technology experts across the country, and from over 210,000 K-12 students in all 50 states (ED, 2005). NETP represents a vision and a plan for the future of educational technology of which K-12 educators and their partners need to be aware. NETP discusses the role of e-Learning (defined therein as "online and multimedia instruction") and virtual schools as potentially transformational approaches to schooling. The plan envisions collaboration between technology-savvy students and educators who use technology for sophisticated purposes

such as real-time assessment and feedback in the classroom, within an overall environment that fosters and supports e-learning (Clark & Berge, 2005).

The NETP (ED, 2010) has contained within it seven action goals. Action Goal 1 - Strengthen Leadership; Action Goal 2 - Consider Innovative Budgeting; Action Goal 3 - Improve Teacher Training; Action Goal 4 - Support e-Learning and Virtual Schools; Action Goal 5 - Encourage Broadband Access; Action Goal 6 - Move Toward Digital Content; and Action Goal 7 - Integrate Data Systems. Of the seven actions goals discussed in the National Technology Plan, Action Goal 4 is the most salient to our discussion.

Action Goal 4 was entitled "Support e-Learning and Virtual Schools." It included the following recommendations: Provide every student access to e-learning; Enable every teacher to participate in e-learning training; Encourage the use of e-learning options to meet No Child Left Behind requirements for highly qualified teachers, supplemental services and parental choice; Explore creative ways to fund e-learning opportunities; and Develop quality measures and accreditation standards for e-learning that mirror those required for course credit (Clark & Berge, 2005). The legislative intent behind the promulgation of this plan was to harness the technology of online learning as a tool for school reform initiatives in order to increase student achievement. The federal government foresaw the dramatic changes that were taking place in the educational landscape across the nation. They described an excitement in the vast possibilities of the digital age that could be utilized to change how students learn, how teachers teach, and how the various other segments of the educational system fit together to work as a unit (ED, 2004b).

This enthusiasm for the utilization of online learning carried through to a new administration as they promulgated their National Educational Technology Plan. The Executive Summary for the National Educational Technology Plan (ED, 2010b) continued with the emphasis of utilizing online learning as a tool for school improvement.

> To transform education in America, we must turn ideas into action. The NETP presents five goals that address the key components of this plan—learning, assessment, teaching, infrastructure, and productivity—along with recommendations for states, districts, the federal government, and other stakeholders in our education system for achieving these goals. (ED, 2010b, p. 14)

There are five goals contained within the current National Education Technology Plan (ED, 2010b): Goal 1.0 Learning: Engage and empower; Goal 2.0 Assessment: Measure what matters; Goal 3.0 Teaching: Prepare and connect; Goal 4.0 Infrastructure: Access and enable; and Goal 5.0 Productivity: Redesign and transform. A further reach into these broad goals reveal an increased federal emphasis on providing students with online educational opportunities. For example, there is a federal emphasis for states and school districts that allow learners to actively engage their curriculum anywhere, anytime. Goal 1.3 encourages states and local school districts to develop and implement learning resources that exploit the flexibility and power of technology to reach all learners anytime and anywhere.

> The always-on nature of the Internet and mobile access devices provides our education system with the opportunity to create learning experiences that are available anytime and anywhere. When combined with design principles for

personalized learning and Universal Design for Learning, these experiences also can be accessed by learners who have been marginalized in many educational settings: students from low-income communities and minorities, English language learners, students with disabilities, students who are gifted and talented, students from diverse cultures and linguistic backgrounds, and students in rural areas. (ED, 2004b, p. 14)

Johnson, Adams, and Cummins (2012) identified some key trends that were occurring in the world as technological integration pervades higher education, and society as a whole. The first trend listed was "[p]eople expect to be able to work, learn, and study whenever and wherever they want to" (p. 4). They elaborated by saying "[w]ork and learning are often two sides of the same coin, and people want easy and timely access not only to the information on the network, but also to tools, resources, and up-to-the moment analysis and commentary" (p. 4). Instantaneous access to information, both educational and recreational are the norm, and students expect to be able to access content when they want.

There also is an emphasis for educators to have this ubiquitous access to technology to meet the needs of their students. Goal 3.3 discusses the use technology to provide all learners with online access to effective teaching and better learning opportunities and options especially in places where they are not otherwise available.

Many education institutions, particularly those serving the most vulnerable students and those in rural areas, lack educators with competencies in reaching students with special needs and educators with content knowledge and expertise in specialized areas, including STEM. Even in areas where effective teaching is

available, students often lack options for high-quality courses in particular

disciplines or opportunities for learning that prepare them for the modern world.

Online learning options should be provided to enable leveraging the best teaching

and make high-quality course options available to all learners. (ED, 2004b, p. 16)

The vision and direction of providing a national educational support through

online learning codified in the provisions of the National Education Technology Plan are

summed up by this statement:

The challenge for our education system is to leverage the learning sciences and

modern technology to create engaging, relevant, and personalized learning

experiences for all learners that mirror students' daily lives and the reality of their

futures. In contrast to traditional classroom instruction, this requires that we put

students at the center and empower them to take control of their own learning by

providing flexibility on several dimensions. (ED, 2010b, p. 8)

Race to the top fund. As part of the American Recovery and Reinvestment Act

of 2009 (ARRA), Section 14005-6, Title XIV, (Public Law 111-5), the United States

Department of Education published notices in the Federal Register in November, 2009.

These notices invited states to apply for funds that would be utilized to improve school

performance, provided they could document how they proposed to meet reform initiatives

in a number of articulated areas. The final priorities, requirements, definitions, and

selection criteria for the program, combined with the strict set of selection criteria became

known as the "Race to the Top."

A portion of the larger "Race to the Top" initiative included language that could

be utilized to support for schools to better incorporate technology into online educational

opportunities. This language was intentionally vague and unspecific. "Establishing

education standards, however, represents a considerable challenge for the United States,

for, despite our passion for testing and measurement, we have historically avoided

specifying exactly what the outcome criteria for education are" (Resnick, Nolan, &

Resnick, 1995, p. 439).

Although there is not a great deal of emphasis of online educational opportunities

within the act, inclusion of those services in the application narrative could add a level of

support for an overall application. "Online instructional programs, if research-based, are

one of many ways to meet the needs of students in struggling schools, particularly to

provide courses or programs that schools in rural or remote areas cannot otherwise

provide" (ARRA, 2009, p. 59786). States that have the ability to track the instructional

significance and impact on their online educational opportunities would be able to utilize

this programmatic enhancement as a support for their grant application.

Summary of federal efforts to integrate online opportunities. We have seen

that there are several recent federal initiatives that have encouraged school to more fully

integrate online educational opportunities into their curriculum. Some of these have been

specific, while others give the issue a casual glance. Regardless of the level of

importance that each places on the capacities of schools to offer this type of instructional

programming, they, as a collective, form a longitudinal tiered emphasis of providing local

school districts the direction and tools necessary to implement online educational

opportunities to their students.

NCLB has specifically targeted language that has focused on the utilization of online learning to meet the needs of students in underserviced areas, such as rural areas or impoverished schools where a wide range of curricular options do not exist.

The National Technology Plan, mandated by NCLB legislation, has as an action goal "Support for e-Learning and Virtual Schools" (Clark & Berge, 2005). The intent was to be able to provide every student in the nation access to online learning; encourage the use of online learning activities to meet schools needs to provide appropriate supplemental services to and parental choice.

The "Race to the Top" Fund included language that could be utilized by states to support their grant application if they were able to describe how an incorporation of online technology could help improve the quality of education.

Specific Themes in the State of Michigan Legislative Initiatives

Michigan has followed the lead of the federal government, and has emphasized technological integration into the educational programs through various legislative initiatives. Some of the more recent and prominent initiatives are discussed below.

Michigan merit curriculum requirements. In March 2006, Michigan became the first state in the nation to require that students receive online educational opportunities as a condition for high school graduation (MDE, 2006a; Barbour & Reeves, 2009). The integration of an online educational opportunity for high school graduation was unique at the time it was implemented. Consequently, the Michigan Board of Education wanted to provide some flexibility to school systems, while maintaining the integrity of the mandate. To meet the Michigan Merit Curriculum guidelines for online learning students must do one of the following: "… take an online course, or participate

in an online experience, or participate in online experiences incorporated into each of the required credit courses of the Michigan Merit Curriculum" (MDE, 2006a, p. 5).

If a student chooses to meet the requirements by taking an online course, the following guidelines must be met. The online course must be "… organized in a coherent, sequential manner;" have "… instructional goals, objectives, strategies, and assessments that is aligned with state standards, benchmarks and expectations," and is "… comparable in rigor, depth, and breadth to traditionally delivered courses." (MDE, 2006a, p. 6)

If the requirements are fulfilled by participating in an online experience, the following opportunities might be incorporated into the instruction:

Provide opportunities for students to interact with other students and experts from around the globe in authentic online learning activities in a controlled environment; utilize web quests, blogs, podcasting, webinars, vblogs (videoblogs), Real Simple Syndication(RSS) feeds, or virtual reality simulations; utilize an online learning management system that allows ongoing interactive opportunities for students; use technology tools for online research or online projects; develop and track an electronic portfolio (organized collection of completed materials); determine the value and reliability of content collected on websites and other online resources; provide an opportunity for interactive discussion with an instructor or expert, such as an author, communicate via threaded discussions with other students in and outside of their school; provide authentic experiences through online fieldtrips by bringing the community into the school/classroom; participate in an online project where students apply

understanding of software applications to simulated or real data; participate in

ongoing online projects for teachers and students; provide teacher-led, student-

directed online learning activities such as test preparation tools and career

planning resources. (MDE, 2006a, p. 7)

However, the State cautions that "… meaningful online learning activities usually

require a period of time for students to practice using technology tools, explore the virtual

learning environment, and develop a competency operating in this space. Structured,

sustained online experiences have more instructional value than informal one-time online

learning events" (MDE, 2006a, p. 7).

Finally, if the requirements are met by having the student incorporate online

experiences in each of the required courses of the Michigan Merit Curriculum, "…

schools choosing this integrated option will have a plan in place that will assist teachers

with the integration of an online learning experience into each of the required credits of

the Michigan Merit Curriculum" (MDE, 2006a, p. 8). In addition to this training

requirement for teachers, there is an additional requirement that the online instruction or

experience should be a minimum accumulation of 20 hours (MDE, 2006a, p. 8).

It is clear that the Michigan Board of Education was very explicit in their desire to

have online educational opportunities be fully incorporated in the instruction of Michigan

students.

Michigan's requirement for Online Educational Opportunities is consistent with

one of the core recommendations contained in the U.S. Department of Education's 2005

National Education Technology Plan. According to this plan, schools should "provide

every student access to e-learning" (p. 42). The requirement for Online Educational

Opportunities is also consistent with the State Educational Technology Plan adopted by the Michigan State Board of Education in March 2006. A key recommendation contained in this document states: "Every Michigan student will have meaningful technology-enabled learning opportunities based on research and best practice that include virtual learning experiences" (MDE, 2006a, p. 2).

Seat time waiver. Svitkovich and Knox-Pipes (2009) stated that the Michigan Board of Education, through its Superintendent of Instruction, challenged school districts in 2007 to creatively program for student success. "In an effort to expand opportunities for Michigan high school students, Superintendent Flanagan has invited schools and school districts to seek waivers from the Administrative Rules and Pupil Accounting Rules that *cause barriers to innovation and student academic success*" (p. 4). In this admonition to schools, the Superintendent wanted to focus on creative programming, not on the legal requirements for "in seat" student attendance. He wanted schools to creatively develop student-centered alternatives to traditional instruction that utilized all of the available tools instructors had at their disposal. Based partly on the NCLB requirements for programs to be designed for all students, the concept of seat time waivers emerged. Students enrolled in seat time waiver programming were able to utilize online learning and that class would count towards their credit requirements. In addition, school systems could continue to receive their full funding allocation from the state, even though those students were not physically present for that instruction.

Currently, the Seat Time Waiver program requires that the course a student take online needs to be aligned with the Michigan Grade Level Content Expectations or the Michigan Merit Curriculum. In the future, there is consideration that courses that aligned

with the College and Career Ready standards for the 2011-2012 school year would be aligned no later than the 2012-2013 school year (MDE, 2011a).

Seat Time Waivers offer flexibility to both districts and families by providing alternative ways for students to learn through the utilization of online instruction.

Dual enrollment courses. According to the Michigan Department of Education (2011b) website:

In 1996 the Michigan State Legislature passed Public Act 160 the Postsecondary Enrollment Options Act or "Dual Enrollment bill." The bill modifies and expands on provisions of the State School Aid Act providing for the participation of eligible high school students in dual enrollment or postsecondary enrollment options. The bill also requires that the board of a school district or public school academy ensure that each student in eighth grade or higher be given information about college level equivalent or Advanced Placement courses. The classes that students are eligible for must not be offered by the high school or academy and <u>must</u> lead towards accreditation, certification and/or trade licensing.

The State of Michigan has provisions within the Child Accounting rules that allow students to potentially earn college credit simultaneously with their high school credit. Courses covered under these guidelines are paid for by the student's school district, and count towards high school graduation requirements while earning college credit.

The dual enrollment option allows students to take classes in high school and one or more college level classes simultaneously at a college campus or online. To be eligible for this unique program, the courses taken by the high school student are

generally courses not offered within their high school curriculum, or the classes cannot fit into the student's schedule (MDE, 2008).

This coordinated program was one of the first opportunities for students in Michigan to legitimately gain high school credit via an online educational opportunity. The content provided in these courses met college level expectations, and the students that were eligible met strict academic criteria. To be eligible to take a dual enrollment course, the student had to have a qualifying score on the ACT Plan, PSAT or Michigan Merit Exam. Most or all costs for attending "college" while in high school were covered by the local school district (MDE, 2008).

State of Michigan technology plan. In March 2006, the Michigan Department of Education (2006a) released *Leading Educational Transformation for Today's Global Society: State of Michigan Educational Technology Plan*. This plan laid out the eight objectives necessary to meeting the goal of preparing Michigan students to become productive citizens in a global society.

A substantial number of the goals and objectives in the 2006 Plan come directly from the National Educational Technology Plan published by the U.S. Department of Education in 2004, and elements called for in the U.S. Congress's 2001 authorization of the Elementary and Secondary Education Act (ESEA), also known as No Child Left Behind (MDE, 2010, p. 2).

Objective 3 dealt specifically with the provision of online educational opportunities for students. "Every Michigan student will have meaningful technology-enabled learning opportunities based on research and best practice that include virtual learning experiences" (MDE, 2006a, p. ii).

All of the objectives in this technology plan had articulated strategies that were designed to meet the objective. Strategy 4 for Objective 3 stated "… promote and support the expectation that every student in Michigan, including students with special needs, be provided with the opportunity to learn in a virtual environment as a strategy to build 21st century learning skills" (MDE, 2006a, p. 9). The performance indicator for this involved the requirement that all students complete an online course or have an online experience prior to graduation. In this way, the Michigan Educational Technology Plan was a foreshadowing of, and a companion to, the Michigan Merit Curriculum recommendations that all benefit from online learning (MDE, 2006b).

The follow up to that document was *Teaching for Learning in a Digital Age: 2010 State of Michigan Educational Technology Plan (*Michigan Department of Education, 2010). The most significant changes between the 2006 and 2010 plans related to reorganization of the 2006 goals to more clearly reflect other Michigan Department of Education school improvement initiatives. Five goals were contained within this supplementary plan. Goal 1 entitled *Teaching for Learning* most closely aligns with the requirement for the provision of online education opportunities.

> Michigan students will have meaningful technology-enabled learning opportunities, including assistive technologies and virtual learning opportunities that develop proficiencies as defined by the Partnership for 21st Century Skills (21stcenturyskills.org), required to become lifelong learners, including ethical, safe, and discerning behavior while using information and media technology. (MDE, 2010, p. 3)

Once again, there is an alignment of expectations across government initiatives and requirements, as well as longitudinal expectations that students in Michigan need to be provided with online educational opportunities.

Summary of Michigan's efforts to integrate online opportunities. Following the lead of the federal government and its educational technology initiatives, Michigan became the first state in the nation to mandate that all students receive an Online Educational Opportunity prior to graduation (MDE, 2010). Although this requirement started with the graduating class of 2011, Michigan had been an advocate for Online Educational Opportunities for some time.

The Dual Enrollment program, where high school students could simultaneously earn high school as well as college credit while attending classes "online" resulted from a law passed in 1996. In Michigan, the opportunities of online educational experiences for college students were simultaneously available to high school students as soon as the technological capabilities existed, and the high school students met admissions criteria.

The Seat Time Waiver resulted from a challenge by the State Superintendent for Public Education to Michigan school districts. This program allowed districts to apply for waivers to existing administrative rules so students that attended classes online would not have to be in attendance at school. However, even though their physical presence was not mandated, schools would continue to receive their full foundation allowance from the State for the time covered by the online course.

Michigan's Educational Technology Plans have consistently focused on the appropriate integration of technology to assist school districts and teachers in meeting the instructional needs of the student they serve. The State of Michigan's Educational

Technology Plans fully support the utilization and integration of online educational

opportunities into high school curriculums.

A large emphasis of the State of Michigan Educational Technology Plans revolve

around the necessity for Michigan schools, in order to stay in compliance with NCLB, to

provide online educational opportunities and experiences to all students, at all grades, in

all curriculum areas. The utilization of these Online Educational Opportunities is

necessary to help prepare the students of today for the vocational and societal

expectations of the future. Overall, when considered as a unit, and if followed

schematically through the various state and federal legislative initiatives, it is obvious

that there is an alignment of expectation form the federal to the state level that online

educational opportunities be utilized to meet the needs of students. Taking the lead and

resources available through federal initiatives, the State of Michigan has expanded the

expectations that Online Educational Opportunities be provided as a requirement for

graduation. The State has also provided additional creative supports and initiatives

through the seat time waiver and dual enrollment course opportunities for students.

We have explored technology integration into education from a legislative

perspective. It is important to carefully consider how different technologies are being

applied in classrooms in response to these legislative initiatives.

Paucity of Research Related to Online Educational Opportunities for High School Students

"In the study of technology transfer, the neophyte and the veteran researcher are

easily distinguished. The neophyte is the one who is not confused. Anyone studying

technology transfer understands just how complicated it can be" (Bozeman, 2000, p. 627).

Little research exists that describes how Online Educational Opportunities are being utilized in secondary schools nationwide. In 2009, Picciano and Seaman did a follow-up study (on research initially conducted in 2007) to ascertain the utilization of online learning resources in K-12 environments across the nation. They found that the "… overall number of K-12 students engaged in online courses in 2007-2008, is estimated at 1,030,000. This represents a 47% increase since 2005-2006" (Picciano & Seaman, 2009, p. 1). They also found that three quarters of the responding public school districts in the nation were offering some form of online or blended courses; 70% of the responding schools systems had one or more students enrolled in a fully online course; 66% of school districts anticipated growth in their online enrollments; and "that online learning was being utilized to target the specific needs of a wide range of students, from those who need extra help and credit recovery to those who want to take Advanced Placement and college-level courses" (Picciano & Seaman, 2009, p. 1).

To make the situation even more interesting, there are technological programs and applications available today that were not an option back in 2009. The ever evolving and changing face of technology hardware and software advances allow greater flexibility and creativity for teachers and students that want to integrate new, or older technologies into the classroom environment. Consequently, a great deal of flexibility exists as schools attempt to meet the demand for Online Educational Opportunities within existing high school programs. "Education paradigms are shifting to include online learning, hybrid learning and collaborative models" (Johnson, Adams, & Cummins, 2012, p. 4).

The Michigan Department of Education has shown a willingness to utilize resources, wherever available, to help insure that Michigan students are technology literate and able to meet the technological demands they will encounter upon graduation. This willingness is extended to partnerships outside of the state as long as there is a benefit to Michigan students. "To the extent possible, MDE will work within any national academic or curricular standards consortium in which Michigan participates (e.g., mathematics, English Language Arts, etc.) to incorporate the National Educational Technology Standards for Students (NETS-S), 21st Century Skills, Standards for the 21st Century Learner where appropriate" (MDE, 2010, p. 4). This willingness of educational policy and decision makers to reach across service providers to find appropriate resources to meet student needs appears to also be occurring on a national level. It appears that districts across the nation, when they are assembling their Online Educational Opportunities for students, reach across traditional geographic, chronological and financial boundaries to identify resources most appropriate to meet the learning needs of their students. "School districts typically depend on multiple online learning providers, including postsecondary institutions, state virtual schools and independent providers as well as developing and providing their own online courses" (Picciano & Seaman, 2009, p. 1).

These facts and figures are instructive when identifying simple demographic trends of implementation across the nation. However, a more specific research base about how Online Educational Opportunities are impacting K-12 education is lacking.

The research literature on online learning has grown significantly in the past decade. Many studies have been published that examine the extent, nature,

policies, learning outcomes, and other issues associated with online instruction.

While much of this literature focuses specifically on postsecondary education

with approximately three million students presently enrolled in fully online

courses, not as much has been published about students enrolled in fully online

and blended courses in primary and secondary schools. (Picciano & Seaman,

2007, p. 1)

Part of the reason why there is such a paucity of research related to K-12 Online

Educational Opportunities might be due to the fact that there is little cohesiveness in

defining the construct. Although "… there is some confusion related to definitions of

online learning and distance education" (Picciano & Seaman, 2007, p. 1), it is clear that

we continue to see legislators support ever increasing integration of Online Educational

Opportunities into the K-12 curriculum (Michigan Senate Fiscal Agency, 2006). Another

potential reason for the lack of research might be due to the collaborative nature of

providing Online Educational Opportunity mentioned above.

While the growth in online learning providers is indicative of the popularity of

online learning, it complicates the collection of accurate data by moving students

partially or fully outside the school district for educational services. It also allows

online learning providers to operate across state lines. In some cases, where the

school district pays for the services, it is acutely aware of which students are

enrolled. In other cases, school districts have little if any knowledge of the

number of students taking advantage of online learning from an outside provider.

(Picciano & Seaman, 2007, p. 2)

Even though there are few consistent definitions about what constitutes Online

Educational Opportunity, it is evident that there will continue to be push towards offering

these options. My study will provide a baseline of insight into the ways that schools

systems in Michigan are meeting the initial requirements for an Online Educational

Opportunity experience prior to graduation.

Educational Technology Implementation Impact on Students

One aspect of my study attempted to ascertain perception regarding the impact the

Michigan mandate for Online Educational Opportunities has on students. This is

important because positive student impact is ultimately the intent of any legislative

initiative. This section, therefore, describes the current technological skill sets that

students possess, and the impact these skills have on the educational process. Yet, trying

to describe the technological skill sets of today's students is a daunting task.

> There are a number of labels to describe the young people currently studying at
>
> school, college and university. They include the digital natives, the net
>
> generation, the Google generation or the millennials. All of these terms are being
>
> used to highlight the significance and importance of new technologies within the
>
> lives of young people. (Helsper & Enyon, 2010, p. 503)

There is an emphasis on the technological experiences of today's students that

helps drive the push for increased technological utilization in classrooms. According to

Christensen, Horn, and Johnson (2008) utilizing computer-based learning might be a way

to provide student-centric learning. "Student-centric learning opens the doors for

students to learn in ways that match their intelligence types in the places and at the paces

they prefer by combining content in customized sequences" (pp. 38-39). However, it is

difficult to determine if the increased access to technology enjoyed by today's students is enough to warrant an assumption of technological competency for educational applications and expectations on the part of these same students.

> The idea that a new generation of students is entering the education system has excited recent attention among educators and education commentators. Termed 'digital natives' or the 'Net generation', these young people are said to have been immersed in technology all their lives, imbuing them with sophisticated technical skills and learning preferences for which traditional education is unprepared. Grand claims are being made about the nature of this generational change and about the urgent necessity for educational reform in response. A sense of impending crisis pervades this debate. However, the actual situation is far from clear. (Bennett, Maton, & Kervin, 2008. p. 775)

Vicarious technological competence on the part of students is not assumed by the Michigan Department of Education when looking at the State of Michigan's current educational technology plan (MDE, 2010). Goal 1 clearly states

> Every Michigan student will have meaningful technology-enabled learning opportunities, including assistive technologies and virtual learning opportunities, that develop proficiencies in the full range of 21st Century Skills, as defined by the Partnership for 21st Century Skills (21stcenturyskills.org), required to become lifelong learners, including ethical, safe, and discerning behavior while using information and media technology. (MDE, 2010, p. 4)

It is clear that the Michigan Department of Education fully expects there to be some form of computer training for students so they have the technological skill sets

necessary to succeed in the utilization of educational technology, as well as acquire the technological skills to be contributing members of an increasing technological workplace.

> Accessing, manipulating, and communicating information are becoming central functions of our society. Processing information from an ever-widening array of resources and applying that information to communicate and make quality decisions is essential. Modern information skills support collaboration for continuing to learn, accessing collective expertise, creating new knowledge, solving problems, and increasing overall productivity. Technology is a prime enabling vehicle for carrying out these critical functions. (Bitter, Thomas, Knezek, et al., 1997, p. 53)

This need for increased technological training is supported by Helsper and Enyon (2010):

> Although young people do use the Internet more, our analysis does not support the view that there are unbridgeable differences between those who can be classified as digital natives or digital immigrants based on when they are born. This is important because the term digital native, net generation and other catchy terms are being used widely in public and political debate … the frequent uncritical use of these and similar terms, even if the term is used without accepting the underlying assumptions, could have a negative impact upon the perceived possibilities of teacher- student interaction. (p. 521)

Generalized technological skills sets may not, however, be enough. There appears to be a need to imbed technological competencies within existing content level structures and routines.

It is reported that information literacy, while a generic skill, needs to be interpreted and delivered in the context of a student's specific discipline if it is to be effective. Therefore, while we may refer to information literacy as a 'generic' skill because of its underpinning support of all study, it is not really a global, context-free attribute of all students irrespective of study discipline. Each discipline has its own unique 'literacies', and even within a discipline, 'information literacy' may encompass a range of sources and strategies. (Palmer & Tucker, 2004, p. 5)

Part of this need to imbed technological skill sets within specific content matter may be due to the complexity of aligning specific technological capabilities with cognitively challenging content.

In hypermedia environments, students are given access to a wide range of information represented as text, graphics, animation, audio, and video, which is structured in a nonlinear fashion. Learning in such an environment requires a learner to regulate his or her learning, that is, to make decisions about what to learn, how to learn it, how much to learn, how much time to spend on it, how to access other instructional materials, how to determine whether he or she understands the material, when to abandon or modify plans and strategies, and when to increase effort. Specifically, students need to analyze the learning situation, set meaningful learning goals, determine which strategies to use, assess whether the strategies are effective in meeting the learning goal, evaluate their emerging understanding of the topic, and determine whether the learning strategy is effective for a given learning goal. They need to monitor their understanding

and modify their plans, goals, strategies, and effort in relation to contextual

conditions (e.g., cognitive, motivational, and task conditions). Furthermore,

depending on the learning task, they need to reflect on the learning episode and

modify their existing understanding of the topic. Because of these demands and

despite their potential for fostering learning, hypermedia environments may prove

to be ineffective if learners do not regulate their learning. (Azevedo & Cromley,

2004, p. 524)

We need to recognize that students primarily have a responsibility to learning

curriculum content. This becomes more difficult when they are also asked to integrate

technological skills sets that they may not have during the initial concept acquisition of

the subject matter. We need to realize that students need assistance in understanding how

these skills sets all flow together.

… [S]tudents have difficulties regulating aspects of their cognitive system (e.g.,

failure to activate relevant prior knowledge), difficulties regulating features of

the hypermedia (e.g., coordination of and access to multiple representations of

information, determination of an adequate instructional sequence), and

difficulties regulating the mediation of learning processes (e.g., lack of planning

and creation of sub goals, failure to engage in metacognitive monitoring of their

emerging understanding of the topic, use of ineffective strategies). (Azevedo &

Cromley, 2004, p. 524)

However, when given the proper supports and teaching structures in place

"…hypermedia can be used to enhance learners' understanding of complex topics if they

are trained to regulate their learning" (Azevedo & Cromley, 2004, p. 529). Thus, it

makes sense that educators focus not only upon the technology skill sets of their students, but on embedding these skill sets contextually within content areas.

As increased technological capabilities increased, there was a push to integrate these technologies into classrooms to help students become more engaged learners. However, there were policy makers at the national level that were concerned that integration efforts included basic technological competencies for students, instructional staff and administrators.

> The National Educational Technology Standards (NETS) Project, partially funded by the National Aeronautics and Space Administration (NASA) in collaboration with the U.S. Department of Education, OERI, and the National Science Foundation, is designed to develop technology performance standards for PreK-12 students, establish specific applications of technology through the curriculum, provide standards for support of technology in schools, and address student assessment and evaluation of technology use to improve learning. The project's goal is to enable, through coordination and technical expertise, major stakeholders in PreK-12 education to develop national standards for the educational uses of technology that will facilitate school improvement in America. (Bitter, Thomas, Knezek, et al., 1997, p. 54)

The thought was that there needed to be supports and training standards in place so students would be better able to integrate technology into their classroom based instruction more effectively if they had basic technological competencies.

> The partners envision the development of milestones that will guide schools and districts in establishing their local plans for integrating technology with

curriculum and management efforts. These environments are aimed at providing

students with fundamental technology skills learned through practice in

meaningful, real-world settings while developing responsible, ethical attitudes

toward technology and learning. (Bitter, Thomas, Knezek, et al., 1997, p. 54-55)

 The NETS standards were designed so the basic technological skill sets would be

articulated, so that students upon graduation from high school would be technologically

literate enough to progress to higher education, or to have the basic technological skills

that would help prepare them for the world of work.

A major component of the standards project is the creation of general profiles of

technology literate students at key developmental points in their pre-college

education. These profiles provide rather broad descriptors of technology

competencies that students should have developed by the time they exit the target

grades. They must be introduced, reinforced, and finally mastered and integrated

into an individual's personal learning and social framework. (Bitter, Thomas,

Knezek, et al., 1997, p. 57)

The NETS Standards for students was a project started in the latter 1990's.

However, after many years of development, training of staff and implementation

nationally, there still has been little substantive research to validate the efficacy of the

efforts.

We have no information on how students are integrating technology across

disciplines and grade levels or even if their skill with the technology, in and of

itself, has improved as a result of the professional development opportunities.

Assessment at the student level must be a key component of future professional

development study designs if we are to inform practitioners of best practice in this field (Lawless & Pellegrino, 2007, p. 598).

Part of my study identified the perceptions of principals about the technological readiness of their student population to be able to meet the mandates of online educational opportunities prior to graduation from high school.

Educational Technology Implementation Impact on Faculty and Staff

In addition to wanting to understand the impact the mandate for online learning experiences has on students, it is important to understand the impact these mandates have on the faculty and staff. The adults responsible for the learning and the learning environment need to be considered when the impact of the implementation of the mandate is considered.

Technology Impact on Instructional Staff

Effective utilization of technology requires that teachers have the necessary competencies and abilities to appropriately select from a wide variety to existing opportunities to select the most appropriate tools to meet the specific needs of students.

Digital media literacy continues its rise in importance as a key skill in every discipline and profession. Despite the widespread agreement on the importance of digital media literacy, training in the supporting skills and techniques is rare in teacher education and non-existent in the preparation of most university faculty. (Johnson, Adams, & Cummins, 2012, p. 6)

Veteran teachers have required a significant amount of support to not only acquire the basic technological competencies, but to also understand how technologies fit into the instructional process. Even though newer teachers have had a greater amount of training

and exposure to technological integration in their teacher preparation programs than their peers already teaching in the school, "[t]echnological literacy has fast become one of the basic skills of teaching" (Lawless & Pellegrino, 2007, p. 580). However, it is important to realize that literacy is not enough. Effective teachers need to understand how technology applications can most effectively be utilized within the teaching and learning process. Without this understanding, technology becomes nothing more than an expensive tool that is underutilized due to staff misunderstanding.

> It seems likely that children from most, if not all, social and economic strata will ultimately come to have reasonable levels of access to communications and information technologies in their schools. … Less clear, however, is the likelihood that they will have access to teachers who know how to use that technology well to support 21st-century learning and teaching. Thus, the digital divide could actually widen over time with the increased investment of technology in schools unless urban and rural K-12 educational settings attract and maintain a teaching force equipped to use technology effectively in support of student learning. (Lawless & Pellegrino, 2007, p. 578)

Unfortunately, it appears that appropriate integration of technology on the part of staff is the exception, not the rule. "… [E]vidence suggests that technology is often poorly integrated with other classroom instructional activities" (Lawless & Pellegrino, 207, p. 580). Although we understand that professional development for teachers is necessary, we have little understanding of how it needs to be structured or presented. "The paucity of empirical research examining the area of technology professional development for teachers is astonishing" (Lawless & Pellegrino, 2007, p. 584).

Even though the track record for effective implementation of technological tools is less than desirable, research shows that when systems provide the support necessary to understand the basics of technology, and how to effectively utilize the capabilities within instruction, students will be provided a more appropriate learning experience. "… [R]esearch on the successful implementation of innovations in school stresses the importance of staff development to the attainment of actual change in practice" (Hawley, Rosenholtz, Goodstein, & Hasselbring, 1984, p. 65).

Part of the training necessary for instructional staff revolves around helping them understand that technology is a tool; effective tools to help students better comprehend and utilize content presented in the classroom.

> Technology tools have the ability to address students' learning needs in terms of learning style preferences, as students work as individuals and groups to construct knowledge. Selecting these tools to match the characteristics of the modes of learning and discursive practices that are a part of individual and social construction of knowledge is critical. (Solvie & Kloek, 2007, p. 23)

The technological tools and capabilities need to be effectively and selectively chosen to best meet the learning and teaching needs of the classroom dynamic. Teachers need assistance in understanding how technology tools fit into the current instructional processes and procedures they provide to their students. "Decisions about when to use technology, what technology to use, and for what purposes cannot be made in isolation of theories and research on learning, instruction, and assessment" (Lawless & Pellegrino, 2007, p. 581).

When students' integration of technology into their educational experience was described earlier, the point was made that basic technological competencies and skill sets that were taught in isolation had to be specifically integrated within specific subject matter content for effective technological integration to occur. The same is true for staff: Instructors need to be shown how their basic technological skill sets can be incorporated into their existing teaching routines to make their instruction more effective. "Treating technology as an omnibus-an undifferentiated variable in education and in the professional development of teachers-perpetuates an overly simplistic view of what it means to integrate technology into the instructional environment" (Lawless & Pellegrino, 2007, p. 582).

It is not enough for this professional development of teachers to occur during off-site, one shot in-service sessions. There needs to be longitudinal support where staffs are offered the opportunity to work with their peers to help assimilate technology expectations within their teaching routines. "Situation specific supporting materials and in-class technical assistance that provide detailed descriptions of how new learning can be applied and tested should be provided" (Hawley, Rosenholtz, Goodstein, & Hasselbring, 1984, p. 66). The effort needs to be intentional, and teacher behavioral change needs to be considered a process, not an immediate integration of new instructional behaviors on the part of the instructor.

…[H]igh-quality professional development activities are longer in duration (contact hours plus follow-up), provide access to new technologies for teaching and learning, actively engage teachers in meaningful and relevant activities for their individual contexts, promote peer collaboration and community building,

and have a clearly articulated and a common vision for student achievement.

(Lawless & Pellegrino, 2007, p. 579)

Part of the need for consistent, longitudinal support of instructional staff related to their technology integration professional development is related to the complexity of the teaching behaviors throughout the day. Multiple demands and expectations on the teacher require them to develop a repertoire of responses; no one intervention is effective at all times, with all students, in every situation.

> Professional development is critical to ensuring that teachers keep up with
>
> changes in statewide student performance standards, become familiar with new
>
> methods of teaching in the content areas, learn how to make the most effective
>
> instructional use of new technologies for teaching and learning, and adapt their
>
> teaching to shifting school environments and an increasingly diverse student
>
> population. (Lawless & Pellegrino, 2007, p. 575)

Consequently, there is no one likely technological intervention or application that would be appropriate for every instance the teacher encounters. Professional development for teachers needs to realize this fact, and specific attention needs to be placed on teaching teachers how to differentiate their options when it comes to technological adoption of interventions. "…[T]here are multiple roles for technology in the teaching and learning process, and thus, any research and evaluation of professional development about technology in instruction must take into account the depth, the breadth, and the precise focus of the professional development activities" (Lawless & Pellegrino, 2007, p. 580).

"… [D]espite national recognition of the importance of teacher professional development, report after report depicts the state of teacher professional development as inadequate" (Lawless & Pellegrino, 2007, p. 575), teachers must be offered opportunities to learn how to effectively integrate and utilize technology in their classroom. This is due to the ever changing state of technology applications, and their potential targeted utilization in classrooms to differentiate instruction. Technology is here to stay, and calls for increased utilization continuing to be integrated will probably not abate. Even the most prolific user of technology finds it difficult to stay on top of the situation. "The sheer increase in the availability of electronic resources in schools and classrooms makes it important for teachers to be prepared to effectively integrate technology into their instructional practices" (Lawless & Pellegrino, 2007, p. 575).

As technology increases, and demands for increased technology integration also increases, stress will be created within the classroom environment. Teachers will be expected to effectively integrate these new capabilities within their environment, with a corresponding return on investment occurring in the form of increased student achievement. The potential for increased professional anxiety on top of an already anxiety producing situation will need to be addressed. "…[T]eachers need some mechanism at their disposal—ongoing education, for example—that continues to reduce their anxiety more rapidly than the advancing skill level of their students, which tends to put pressure on them, causing teacher anxiety levels to increase" (Christensen, 2002, p. 431).

Professional development activities centered on helping teachers effectively integrate technology within their programs will need to be assessed and evaluated to help

insure that the interventions are specific enough to be efficacious. However, this is not

an easy task, especially in classroom environments where variables tend to have a

confounding impact of program evaluation.

> Any attempt to evaluate professional development efforts for technology and
>
> instruction must of necessity carefully examine what was the content focus of the
>
> professional development and what were the measures used to ascertain whether
>
> that professional development had an impact on teacher knowledge and behavior
>
> and/or specific student-learning outcomes. (Lawless & Pellegrino, 2007, p. 582)

> Part of my study ascertained whether or not the principals that are surveyed

believe that the professional development and support offered to their teachers to help

then effectively integrate technology into their programs is appropriate. Feedback from

these responses provided insight to the existing professional development landscape

across the state.

Technology Impact on Administrative Staff

> Strong, district leadership is essential for successful schools. All levels of district
>
> leadership are important, individually and collectively, including school boards,
>
> superintendents, and assistant superintendents for curriculum, instruction,
>
> technology, finance, and operations. However, the principal is the primary
>
> influence of professional development within a school. The quality of a
>
> principal's leadership has a major impact on education technology usage, leading
>
> to improved student outcomes. (Greaves, Hayes, Wilson, Gielniak, & Peterson,
>
> 2012, p. 14)

Just as teachers need a great deal of support and training in the area of effective utilization of technology into education, administrators need the same type of supports. We tend to have more information related the needs of technology support for direct instructional staff, and less supportive information related to the needs of administrative staff.

The role of administrators has been considerably less prominent in conversations about effective use of information and communication technology in schools. But it is clear that what administrators do—or don't do—is of great importance in deter- mining whether information technology will yield optimal benefits for students. As accountability for the consequences of investments in technology increases, the role of administrators will be under greater scrutiny. School boards, institutions of higher education, professional development providers, policy makers, and others who wish to address the leadership role of school administrators require clear statements of what school administrators need to know about and be able to do with technology. They require specific information to guide their efforts in ensuring that technology is used for more effective and efficient administration and improved learning for students. (McCampbell, 2001, p. 68)

The concerns about the dearth of research continue today: "… a few researchers have begun to investigate what it means to connect the spheres of school leadership and digital technology" (McLeod, Bathon, & Richardson, 2011, p. 288).

Like the teachers mentioned in the previous section, it appears that support needs to be provided to administrators to help them not only learn the technical aspects of the

technologies provided, but to also consider how those technologies can most appropriately be integrated within the current instructional sequence structure. "…[I]f technology leaders hope teachers will integrate technology they should attend to the instructional aspects of technology support, such as professional development opportunities and learning environments, as well as its technical components" (Dexter, Anderson, & Ronnkvist, 2002, p. 265).

This is especially true in our ever-evolving technological reality of today. We need to attend to curriculum and instruction to insure that we successfully integrate effective educational technology into programs.

> For every field of school leadership preparation and scholarship, individual and programmatic adoption of a technological lens could be incredibly helpful. Instead, the vast majority of us continue to produce new articles that ignore the digital world around us. We also continue to turn out new administrators that are woefully unprepared to be effective leaders in the area of technology, even though we know that if the leaders do not "get it," their systems—most importantly their students—surely will not either. We cannot continue to go on this way. If we care about societal and school relevance, it is time for us to pay more attention to digital technologies. (McLeod, Bathon, & Richardson, 2011, p. 294)

My research measured the perceptions of front line administrators in high schools across Michigan about their own need for technology training and support to better integrate online educational opportunities into their school curriculums. This information may be helpful to the field since "… faculty that are interested in staff development issues have ripe opportunities to study the impacts of online learning systems (both

formal and informal) on teachers and administrators' professional growth" (McLeod,

Bathon, & Richardson, 2011, p. 294).

Administrative Staff Impact on Technology Adoption

As described above, technology has an impact on the administrators of the school.

However, the impact is reciprocal, and in a very special way. "Technology has become a

focal point of educational reform; federal, state, and local funds have been provided to

implement educational policies and new technology integrations in school districts, and

effective leadership during the implementation process is vital" (Berrett, Murphy, &

Sullivan, 2012, p. 200). The No Child Left Behind Act of 2001 (Part D, Title II) stated

that technology leadership skills are a core need in educational programs (ED, 2004a).

Hew and Brush (2007) state that there are "… general barriers typically faced by

K-12 schools, both in the United States as well as other countries, when integrating

technology into the curriculum for instructional purposes, namely: (a) resources, (b)

institution, (c) subject culture, (d) attitudes and beliefs, (e) knowledge and skills, and (f)

assessment" (p. 233). They then described "… strategies to overcome such barriers: (a)

having a shared vision and technology integration plan, (b) overcoming the scarcity of

resources, (c) changing attitudes and beliefs, (d) conducting professional development,

and (e) reconsidering assessments" (p. 223). School administrators generally impact all

of the issues related to integrating and overcoming barriers described by Hew and Brush

(2007).

The ways in which administrators view, support, train, and implement technology

into their programs has a dramatic impact on adoption by staff and students. However,

"…[t]he dilemma is that school leaders often lack the necessary technology skills and

knowledge to achieve their schools' technology oriented goals" (Geer, 1996, p. 56). Not only are administrators ill-prepared to take on the challenges of technology, they are aware of their shortcomings. "…[M]any school administrators consider themselves ill prepared to assume the role of technology leader" (Leonard & Leonard, 2006, p. 212). Greaves, Hayes, Wilson, Gielniak, & Peterson (2012) state "…properly implemented educational technology leads to improved student outcome as well as cost savings" (p. 23), and that principal training is one of the key implementation factors. "Principals are trained to lead effective implementation. Principals must ensure teacher buy-in and model best practices" (p. 23).

The lack of training for administrators is difficult in this day and age of increased technological integration. "…[W]ith the increasingly ubiquitous presence of technology in schools-98 percent are now hooked up to the Internet-the need for an overarching vision and cohesive plan has meant that administrators can no longer avoid stepping up to the plate to provide the same kind of leadership with technology as they have in more traditional areas" (Schmeltzer, 2001, p. 16).

> Administrators and teacher leaders have to take personal responsibility for understanding changes in tech implementation and integration in their buildings and classrooms rather than simply relying on technology support staff. It is up to the building-level staff, district personnel, and educational leaders to move schools into the digital age. (Larson, Miller, & Ribble, 2009, p. 12)

Without the focused attention and support of an informed administrator, appropriate technological integration into educational programs probably will be hindered. "Administrative support is a key factor in the success of any kind of school

reform, particularly reform dealing with the integration of technology into instruction" (Brooks-Young, 2002, p. 42).

To be most effective in supporting frontline instructional staff with technology integration, administrators themselves need a corresponding level of support. "School administrators require technology skills and knowledge in two areas: (a) utilizing technology for teaching and learning and (b) utilizing technology in the non-instructional processes of managing and leading schools" (Geer, 1996, p. 56). It is only after administrative support has been given will we see technology truly be implemented. "…[P]rincipals must reeducate themselves to understand better the value and use of technology if its benefits are to be realized" (Testerman, Flowers, & Algozzine, 2001, p. 58).

Overreaching pronouncements about administrative need have to be tempered since "[w]hile the evidence for need is widespread and overwhelming, evidence of levels of skills of school administrators is less pervasive. Little research has been completed documenting the technology competencies of leadership personnel" (Testerman, Flowers, & Algozzine, 2001, p. 58).

Some of the technological competencies necessary to help administrators better integrate technology into their programs focus more on the potential of the technology to impact teaching, and less on the functionality of the systems.

> …[A]dministrators should know how to apply the right tools and make
> technology decisions that increase productivity and enhance learning. They
> should be able to better facilitate communication between students, teachers,

parents, and the community; and be able to use technology more effectively to run

the business aspects of a school. (Schmeltzer, 2001, p. 20)

"Above all, administrators must be able to understand how technology can be

successfully implemented in schools, and how to set reasonable expectations for its use.

In short, they must have a *vision* for education and a *plan* to make it happen"

(Schmeltzer, 2001, p. 16-17).

They must understand how technology can improve instructional practices, and

develop strategies for helping teachers use technology in their classrooms. In

addition, they must hone their team-building and mentoring skills to create a

system of ongoing support for the entire educational community as it moves

forward in using new technologies. (Schmeltzer, 2001, p. 16)

The long and short of it is this: "Educational administrators are the keys to

successful technology planning and integration" (Geer, 1996, p. 56).

Organizational Impacts on Educational Technology Implementation

Implementing educational technology into the school environment creates ripples

of impact across many existing systems. There are new capabilities that exist with

technology, but these often come at a cost. In order to adequately address the total

impact the mandate for online learning opportunities has on a district as a whole, it is

important to understand what the research says about potential implications of

implementation.

Educational Technology Implementation Impact on School Decision Makers

Before schools can effectively provide online educational opportunities for their

students, there needs to be a great deal of planning for technological integration within

the curriculum. What classes will be targeted for online experiences, what fully online

courses will be made available and through whom, as well as other logistical, technical,

curricular and financial decisions will all be made by a person or a group. This is done

differently in school districts across the state.

It has been shown that "… in effective schools, professionals tend to have

opportunities to make important decisions at the school level" (Hawley, Rosenholtz,

Goodstein, & Hasselbring, 1984, p. 85). This is not always easy due to competing goals

of different groups, different perspectives related to the efficacy of interventions, or due

to resource constraints such as time or money. It has been shown, however, that a mix of

front line staff and administration is an effective way for decisions to be made that impact

the entire program. "…[G]oal consensus in effective schools is achieved

is{sic}administrative-staff joint participation in 'technical decision making'-that is,

selecting instructional material, determining appropriate instructional methods and

techniques, establishing general instructional policies, etc." (Hawley, Rosenholtz,

Goodstein, & Hasselbring, 1984, p. 57).

No matter how decisions are made, it is important to identify the impact that the

mandate for online educational opportunities has on the decision makers and the decision

making process within schools. Effective technology integration impacts all aspects of

the school, and brings with it specialized needs of staff, students and the community as a

whole.

The most recent policy reports begin to address these needs, and are once again

placing technology in the context of broader educational challenges that are of

immediate concern to educators and which technology may be well positioned to

address, such as the need to make productive use of assessment data; to provide

increasingly individualized and flexible but sustained and substantive professional

development; and to create administrative efficiencies that support educators in

day-to-day work with students and colleagues. (Culp, Honey, & Mandinach,

2003, p. 22)

My study identified ways that the mandate for online educational opportunities

prior to graduation has impacted the decision makers and the decision-making process

within schools and districts, as measured by the perception of building principals.

Impact on Finances

Increasing demands on public schools brings an increase in programs, and

increase in programs usually brings an increase in costs. If a system needs to hire more

staff to meet the mandate, or to improve infrastructure to provide access, there might be a

strain on the existing stretched school budget.

Over the years, there has been an increase in federal programs supporting

infrastructure and hardware development in the nation's schools. "The increase in

funding has led to increased pressure on schools to demonstrate that the investments in

technology are improving student learning" (McCampbell, 2001, p. 68).

When discussing how schools in Michigan are implementing the requirement for

online educational opportunities for all students prior to graduation, it is important to

remember, "… the bulk of the money school systems expend goes for salaries and more

or less 'fixed' costs of maintenance and debt service. But the most frequent discussions

about resources available for education focus on those things that are used in the

instructional process by teachers and students" (Hawley, Rosenholtz, Goodstein, &

Hasselbring, 1984, p. 90). There needs to be broad discussions how non-personnel related funds are best utilized to access online educational opportunities for students.

Although the topic of fund allocation to meet the mandate could be a study in itself, my study provided a basic glimpse (through the perceptions of high school principals) into school systems' finances that are being utilized to support the mandated online educational opportunities.

Impact on Curriculum

It is difficult to discuss increased technological adoption within school environments without a corresponding discussion related to the curriculum of the school. This is due to the fact that "…just as technologies themselves have evolved over the past twenty years, so, too, have our goals for student learning, in general, and for the use of technology to support teaching and learning, in particular" (Culp, Honey, & Mandinach, 2003, p. 24). Increased functionality and capability brought about through the current technological advances that we enjoy leads to the idea that there should be corresponding increase in functionality and capability within schools. However, the increased productivity that accompanies technology integration in the workplace seldom is equated within the school system. "While it is appropriate and desirable to transform the technology tool usage of both our students and ourselves as faculty, neither of those specifically target one of the most critical educational issues of our time: the need to create and facilitate learning environments for P-12 students that prepare them for the digital, global world in which we now live" (McLeod, Bathon, & Richardson, 2011, p. 292).

The curricular changes that have come about due to technological integration in schools have led to an increased expectation that these same technologies could help support school reform efforts. "… [E]ducational reformers historically have seen curriculum changes as the key to more effective schools" (Hawley, Rosenholtz, Goodstein, & Hasselbring, 1984, p. 90). However, it is difficult to draw a straight line between technology driven curricular changes and increased student achievement. "… [T]he goals of innovative curricula may not be well measured by standardized tests used to measure student performance generally" (Hawley, Rosenholtz, Goodstein, & Hasselbring, 1984, p. 101).

"…[T]he potential value of technology as a tool for teaching and learning has not gone unnoticed by major actors in education. These include federal, state, and local education agencies; professional organizations; and institutions of higher education" (McCampbell, 2001, p. 68). Many have seen technology as a way to increase curricular expectations for students in our school systems. "To date, there has been very little research on the educational potential of hypermedia environments. Therefore, in assessing the instructional value of this technology, we recommend keeping in mind that psychologists are at a very early stage of understanding how students learn with these environments" (Azevedo & Cromley, 2004, p. 531).

The increased curricular demands placed on Michigan schools with the advent of the requirement for Online Educational Opportunities prior to high school graduation was addressed in my study. A cursory exploration was conducted and the perceptions of high school principals on the impact the mandate has on the curriculum of schools was ascertained.

Impact on Supports Needed by Local Districts

Providing powerful instructional tools is not enough to support the integration of technology into education. Local school districts need support to help identify the most effective and efficient ways to not only get the resources into the hands of the students, teachers and parents, but also how to effectively integrate those tools into instructional realities on a daily basis. "… [E]ducational technologists have begun to understand with more nuance that technology needs to work in concert with other factors like effective leadership, instructional priorities, and the day-to-day demands of classroom practice" (Culp, Honey, & Mandinach, 2003, p. 22).

This study identified the types of supports that are required by local school districts as they have attempted to integrate Online Educational Opportunities prior to graduation for their students. The information about the high school principals' perceptions of the need of the local district was helpful in identifying trends so more support can possibly be provided to make the mandate more effective.

Chapter 2 Conclusion

As we have seen, there are a number of national and state initiatives that have encouraged the integration of Online Educational Opportunities for students prior to graduation from high school. Although there has been some direction from both levels as to what basic expenditures for technological integration looks like in schools, there is not set uniform policy, procedure or piece of legislation that mandates a specific type of Online Educational Opportunity.

The changing patterns of education governance is not easy to discern, is far from complete, and is uncertain of outcome. No single national law has been passed

that marks a formal shift in policy. Instead, multiple, partially overlapping

jurisdictions-school districts, states, federal agencies-are, bit by bit, changing the

ways in which they oversee and monitor the expenditure of public funds for

education. (Resnick, Nolan, & Resnick, 1995, p. 438)

Instead of a clear direction from the federal or state governments as to how they

need to proceed, schools have been provided with the flexibility to integrate Online

Educational Opportunities prior to high school graduation as they best see fit. This has

created a non-uniform patchwork of compliance across the State of Michigan that has not

been studied. "Determining how best to support and advance high-quality use of

educational technology in K-12 settings has continued to be a prominent concern for both

practitioners and policymakers" (Culp, Honey, & Mandinach, 2003, p. 1).

Michigan public schools are currently mandated to provide Online Educational

Opportunities to all high school students prior to graduation to meet the requirements of

the Michigan Merit Curriculum (MDE, 2006b). We currently do not have a cursory

understanding of how schools are responding to meeting these mandates for Online

Educational Opportunities prior to their students' graduation. This study looked at the

current situation and attempted to provide some data. Now, let us turn to the detailed

methods for my study as described in Chapter 3.

CHAPTER 3 METHODOLOGY

The purpose of this descriptive quantitative study was to assess the ways schools in Michigan were currently meeting the requirements for online education to meet the graduation requirements set forth by the Michigan Legislature.

In order to identify trends of implementation across schools in Michigan, the study attempted to answer the following research questions:

1. How were Michigan high schools meeting the requirements that all graduating students must now have an online experience, specifically:

   a) the types and percentage of utilization of Fully Online Semester Long Courses being offered; and

   b) the types and percentage of utilization of traditional classes, which integrate online experiences into their content (Online Experiences Incorporated within Classes)?

2. Why were these types of online experiences chosen by the district or school as the way to meet this mandate, and how were such decisions made?

3. What positive and negative outcomes issues have arisen as schools work to implement this mandate, specifically the impacts on students, faculty and staff, as well as finance, curriculum, and school and district educational structures, and what relationship, if any, exist between various input variables (e.g., type of online opportunities utilized, technology access and training) and various outcome variables (e.g., impact on program, impact on students)?

4. To what extent were districts receiving support for implementation of the mandate?

5. To what extent are there differences between schools based on various demographic variables (e.g., total school population, region of the state)?

Research Design Overview

My study utilized an *ex post facto* design that also allowed participants to respond to selected questions regarding their perception of how their schools met the mandate for Online Educational Experiences as a condition of graduation. The self-administered survey was made available online to potential participants. A survey was selected due to the "… ability to generalize about an entire population by drawing inferences based upon data drawn from a small portion of that population (Rea & Parker, 1997, p. 5).

Survey research was selected because it is "… the collection of quantified data from a population for purposes of description or to identify covariation between variables that may point to causal relationships or predictive patterns of influence" (Sapsford, 2007, p. 3).

The purpose of this study was to identify the perceptions of high school principals at one point in time after the mandate for Online Educational Opportunities had been fully implemented statewide. The initial perceptions of the impact of Online Educational Opportunities were having on districts were ascertained. The utilization of descriptive, as well as open-ended questions, allowed the researcher to provide observations related to the trends of implementation across the state.

The question as to how high schools in Michigan are meeting the requirements for online education to meet graduation requirements were answered by utilizing survey data collected at a specific point in time across the study. All participants were questioned via a web-based survey, and responded to questions based on the previous school year's

provision of services. Web-based surveys have distinct advantages in comparison to other forms of data collection. According to Umbach (2004), web-based surveys offer researchers low-cost options to collect data from participants, reduce the researcher's turn-around time due to the almost instantaneous aspect of the Internet, reduce the errors resulting from coding of participant responses, flexibility in survey design and construction, and may actually increase response rates due to the relative anonymity of the internet. Utilizing an online survey, participants were asked a series of questions related to the research questions. Descriptive data were drawn from participants, and analyzed utilizing both descriptive and inferential statistics procedures.

There were selected items on the survey instrument that were forced-response design. Likert scales were selected as the questioning vehicle to identify the participants' current state of implementation, as well as to obtain the respondents' degree of agreement or disagreement (Alreck & Settle, 1995) on their opinion of matters related to implementation of the mandate. A series of questions were asked of participants regarding their perception of the Michigan mandate across curriculum, professional development, achievement, finance and programmatic domains pertaining to the utilization and impact Online Educational Experiences were having on their programs. Questions utilizing limited choice responses were related to the administrators' perceptions related to the overall mandate, the way the mandate was being implemented, as well as the impact the mandate is having on aspects of the program and participants.

In addition to these Likert format questions, the participants were also asked six open-ended questions. The purpose of these questions allowed the participants to

elaborate on general themes that may not necessarily be addressed through the survey instrument.

Sample, Population and Participants

This study surveyed school administrative personnel from all of the public high schools across the State of Michigan. Participants were selected from the entire population of principals that worked in public and charter schools that educated students in schools that served students in 9-12 grades. Participants were contacted directly by the researcher via email and were asked for their consideration to participate in the study.

During the months of August through September 2012, the survey was available online to all Michigan high school administrators that served students in 9-12 grades during the 2011-2012 school year.

Instrumentation

My study incorporated a researcher designed, quantitative concurrent online survey. The survey was designed to provide a numeric and open-ended language description of the trends of adoption for mandated online learning experiences in public high schools in Michigan. It was designed in order to obtain responses from high school administrators, utilizing open- and closed-ended questions. Using SurveyMonkey.com, a survey instrument was developed by the researcher (Appendix A), that was based on a literature review and documentation from the Michigan Department of Education. SurveyMonlkey.com was utilized exclusively to obtain responses from participants.

The closed-ended questions utilized scales and rankings to report data. These survey questions were supplemented by open-ended response opportunities so respondents could elaborate on items as they see fit. The questions asked were based on

current research related to online education and were also based largely upon the language contained within the State of Michigan mandate for online education. The questions included in the survey focused primarily on the what, when, how and why's of implementation. Demographic data was also collected and reported descriptively, to assist with the understanding of the trends in results.

Data from the online survey was analyzed using descriptive statistics. Prevailing trends to provide an overview of the ways that high schools in Michigan are meeting the mandate for online educational experiences were identified, and commonalities across demographics noted. Descriptive statistics were incorporated to "… determine overall trends and the distribution of the data" (Creswell, 2008, p. 638) related to responses obtained from the participants of the survey.

The demographic information collected was utilized for improved aggregation of data responses. The demographics collected include the following independent variables:

1. School district region;

2. School district type (e.g., urban, suburban, rural) and

3. School size based upon student enrollment.

Pilot Study and IRB Approval

The survey was pilot-tested using a convenience sample of school administrators. Feedback provided by these individuals was utilized by the researcher to refine the final survey questions and to clarify the instructions. The final survey instrument, as well as the research proposal was reviewed by the Human Subjects Institutional Review Board (IRB) at Western Michigan University, with IRB approval being received prior to final dissemination of the survey to the potential participants online (Appendix B).

Survey Distribution and Data Collection

The survey was available online to all high school administrators operating programs grades 9-12 in Michigan's traditional and charter public schools during the months of August through September 2012.

Upon completion of the assessment window, the surveys were tallied and analyzed. The researcher analyzed the data from the descriptive and open-ended questions.

The analysis of the descriptive data examined the means, standard deviations (when appropriate), range of scores for each question (Creswell, 2003). The information was gathered and descriptive analysis was computed for each question and described individually. The analysis of the open-ended data involved coding of the answers into logical categories, then determining a frequency and percentage for each (Kent, 2001). As with the descriptive data, the information related to the open-ended questions were computed for each question and described individually.

All Michigan school administrators operating programs grades 9-12 in Michigan traditional public and charter schools were contacted by email and invited to participate in the research. The email addresses for the administrators were obtained from the Center for Educational Performance and Information (CEPI) through Michigan's State Budget Office (Michigan State Budget Office, 2012).

The potential participant administrators were initially asked for their consent to participate and, when provided, they continued forward to access additional survey questions via an online website. If the principal was not the individual within their organization that was responsible for the oversight of graduation requirements, the email

recipients were asked to forward the email to the appropriate person within their organization.

In order to provide gravitas to the study to try to increase response rates from the participants, an opening invitation (Appendix C) to the potential participants to participate came from the student investigator, Jamey Fitzpatrick, CEO of the Michigan Virtual University (MVU), and from Ric Wiltse, Executive Director of the Michigan Association of Computer Users in Learning (MACUL). Permission was obtained verbally and through email (Appendix D) from both of these persons for inclusion of their name and title for purposes of this study. This was done to demonstrate to the potential participants that the collection of the information was being supported by the MVU and MACUL, which the researcher hopes would help elicit participation and ultimately improve the rate of return by the administrators. Porter (2004) suggests, "… surveys sponsored by governmental or academic organizations achieve higher response rates than surveys conducted by commercial businesses" (p. 15). The letter of introduction provided the potential participants with information related to the purpose of the study. Information was also provided on how the researcher could be contacted if there were questions about the study.

Porter (2004) suggests that multiple contacts with participants in a study are "… one of the most successful techniques to increase response rates" (p. 10). Since all submissions remained confidential, and were not be tracked, a reminder email was sent to all potential participants five days after the survey is launched (Appendix E), with another follow-up email 10 days after that (Appendix F).

It was originally planned that only two follow-up emails would be sent to encourage participation. However, due to lack of permission to survey administrative staff from a large urban school system without prior approval, it was felt more time would be needed in order to go through that district's approval process in hopes of obtaining permission to survey their staff. A change of study parameters was requested from IRB (Appendix G) and the timeframe for assessment was extended (Appendix H). A final email requesting participation was sent to potential respondents (Appendix I). As of the writing of this paper, approval from the district in question has not been given, with no correspondence of any kind being received from the application that was submitted.

Before participants began the survey, there was an opening page to the study. There, information was presented related to their provision of consent for their participation and the researcher's provision of confidentiality of information. It will be stated again that if the participant continues with the process consent will be implied, and the next step would be to the actual survey. "Providing an assurance of confidentiality to the respondent may lower the perceived cost of their response being made public and should foster a sense of trust, both key elements in the social exchange view of survey response costs" (Porter, 2004, p. 14).

Data Analysis

The analysis of the online survey utilized descriptive statistics and quantitative inferential statistics to look for any differential relationships. Prevailing trends to provide an overview of the ways that high schools in Michigan are meeting the mandate for online educational experiences were identified. According to Creswell (2008) descriptive

statistics are appropriate to "… determine overall trends and the distribution of the data" (p. 638). Results of the descriptive data of the survey were compiled and aggregated utilizing Microsoft Excel.

Means and percentages were calculated from the key demographic variables of school district classification (Michigan High School Athletic Association, 2012) (based on total high school enrollment), and school district region (Michigan Association of School Administrators, 2012) (based on county of district residence). These were explored for possible relationships. Analysis of variance (ANOVA) was utilized to determine differences in means when making comparisons between school sizes based upon enrollment, school district location of the school based on MASA region in Michigan, and school type based (e.g., rural, urban, suburban). The Tukey-Kramer procedure was completed to identify which pairs of means were significantly different.

A yes-no format was used for selected survey items and data were tabulated and analyzed by examining the number of occurrences for each answer, and percentage of the total response each answer represented.

The open-ended data of the survey were analyzed utilizing Microsoft Excel. Due to the nature of the information they contain, the open-ended questions were grouped according to similarity of topic, and tabulated with the number or participant responses as well as percentages of the total response.

Demographic information related to the schools were included in this data assessment. Descriptive statistics were utilized, and presented in narrative, tabular, graphic and demographic form in Chapter 4 of the study. The information presented

were provided to demonstrate how high schools in Michigan met the requirement for

online education for graduating seniors during the 2011-2012 school year.

In all statistical test applications, the 0.05 confidence level was used for

determining statistical significance.

Reduction of Data

When data analysis was conducted upon the survey results, any unusable or

missing data was be noted. When necessary, the situation were explained thoroughly,

and were either included or excluded depending upon the situation. However, in each

case, a clear delineation as to the issue in question, its potential impact on the study, and

the methods in which the data was included or excluded was properly elucidated.

Table 1

Breakdown of Survey Questions

Research Questions	Survey Question(s)
Research Question 1	Descriptive Statistics Questions 6, 7, 8, 14, 15, 16
Research Question 2	Descriptive Statistics Questions 10, 11, 17, 27, 28
Research Question 3	Descriptive Statistics Questions - 12, 13, 18, 19, 21, 22, 23, 29, 30, 31
	Inferential Regression Statistics - Questions 8, 11, 16, 21, 22, 23, 24, 25, 26
Research Question 4	Descriptive Statistics Questions 9, 20
Research Question 5	Inferential ANOVA Statistics - Questions 8, 9, 10, 11, 16, 17, 20, 21, 22, 23, 24, 25, 26, 27, 30

Table 1 provides a breakdown of the types of questions asked in the survey.

Survey Question 1 provided information related to the participants' usage of Online

Educational Opportunities. Survey Question 2 discussed the decisions that were made as

to why the online options were provided. Survey Question 3 looked at the impact the

mandate has had on schools. Survey Question 4 investigated the support districts are

getting for implementation. Finally, Survey Question 5 identified significant differences that exist across respondents based on demographic characteristics of the respondents and their districts.

<div align="center">**Delimitations and Limitations of the Study**</div>

A delimitation of this study is the lack of generalization of findings beyond the confines of the participant pool. This lack of generalization of research results will be limited due to the fact that the participants were part of convenience sample: they were not able to be randomly assigned (Creswell, 2003). Although the information obtained provided a deeper understanding of the issues raised in the study's research questions, and the study was potentially available to representatives of all public high schools in Michigan, caution should be made when trying to generalize the results to the entire population of public high schools within the state.

During the construction of the survey, the researcher was cognizant of and focused on the reduction or instrumentation bias and error. "The way questions are expressed can all too often introduce systematic bias, random error, or both. Even questions expressed with focus, brevity, and clarity may jeopardize reliability" (Alreck & Settle, 1995, p. 93). This may be exacerbated by the participants involved in the research. The information will be exclusively obtained from educators.

> Teachers … have considerable experience with the complexities of human
> behavior; moreover, they tend to be thoughtful and reflective by temperament and
> training. They are or often feel themselves to be 'experts' in the problems in
> education which the survey analyst is often studying when he approaches them.
> All these factors lead many teachers to resent the structured questions about

complicated issues, the forced choices among limited alternatives, above all the

sense that they are being studied rather than consulted, through methods that

appear to them mechanical and stereotyped. (Trow, 1967, pp. 350-351)

The reduce the potential problems with the survey questions, areas especially

attended to during the survey development were unstated criteria, inapplicable questions,

example containment, over demanding recall, overgeneralization, over specificity,

overemphasis, ambiguity of wording, double-barreled questions, leading questions, and

loaded questions (Alreck & Settle, 1995).

Another area of concern during the development of the survey was response bias.

"When bias is introduced because of the mentality or predispositions of respondents, it is

called *response bias*" (Alreck & Settle, 1995, p. 99). Social desirability issues were

intentionally addressed during instrument construction due to the legal and compliance

aspects of the mandate. "When personal preferences, opinions, or behavior deviate from

what is socially prescribed, respondents are very prone to report what is socially

acceptable, rather than their true answers" (Alreck & Settle, 1995, p. 99).

Respondents were encouraged to provide candid, appropriate, and honest answers

to the questions to reduce problems related to acquiescence. "People are usually

cooperative. Their agreement to respond to a survey indicates their tendency to

cooperate. If they feel that a certain response will be more welcome to the sponsor,

researcher, or interviewer, then many will almost automatically provide it" (Alreck &

Settle, 1995, p. 101). When interpreting the results of this study it is important to realize

that respondents may have provided answers that present themselves in the best light,

especially since we were asking for information related to practical and technical compliance with a legal mandate.

Response rates of participants were also a limitation to the study. Porter, Whitcomb, and Weitzer (2004) make the point that survey nonresponse rates have been increasing in research. "… [M]uch of this nonresponse is due to rising rates of refusal. In many discussions about the rise in survey nonresponse, survey fatigue is often cited as one potential cause" (p. 63). The timing of the survey administration needs to be considered in the context of survey fatigue. The time of year that the survey was conducted might have impacted participant completion response. "Format is another area of concern related to nonresponse rates. … many researchers worry that their response rate will fall if they switch from paper to Web surveys" (Porter, 2004, p. 9). Finally, surveys that are excessively lengthy are seen as an inhibitor to response, and may have a deleterious impact on response rates (Porter, 2004).

In order to increase response rate, the researcher made attempts in the recruitment emails to focus on the salience of the research. "Salience is simply how important or relevant a survey topic is to the survey respondent" (Porter, 2004, p. 14). Although salience is an important factor to consider when discussing respondent behavior, Porter (2004) cautions that the perceived salience to the participant is difficult to alter in the minds of the respondents. However, in an attempt to raise the level of understanding on the part of the participants "…salience should be emphasized in messages accompanying a survey" (Porter, 2004, p.14).

Even with attempts to raise the response rates, the researcher was not allowed to survey administrators in a large urban district in the state, due to that district's internal

policies. The research submitted the proper documentation once this situation was made apparent, yet no response has been provided to the researcher at the time of this writing.

Chapter 3 Conclusion

In Chapter 3 we discussed the research questions; research design; the research sample, population, and participants; the instrumentation utilized; the pilot study and the IRB approval; survey distribution and data collection; data analysis; data reduction; and the delimitations and limitations of the research study. The results of the measures utilized for each research question will be fully discussed in Chapter 4.

CHAPTER 4 RESULTS

In Chapter 3, the methodology for my research project was discussed at length. The research questions; research design; the research sample, population, and participants; the instrumentation utilized; the pilot study and the IRB approval; survey distribution and data collection; data analysis; data reduction; and the delimitations and limitations of the research study for the dissertation were described. In Chapter 4, the results of the descriptive and inferential statistics analyses of the measures obtained from the results of my study for each research question are fully discussed and described, and are presented in narrative, and when appropriate, table fashion.

The survey utilized for this investigation included 31 questions: four demographic questions, two percentage questions, 13 Likert scaled perception questions, two Likert perception questions with an additional open ended question option, five yes-no questions, and six open ended questions.

Table 2 presents the types of questions utilized in the survey.

Table 2

Type of Questions Utilized in the Survey

Type of Question	Survey Question(s)
Implied Consent of the Potential Participants	Question 1
Demographic Information	Questions 2, 3, 4 and 5
Yes-No Question	Questions 1, 6, 8, 14 and 16
Percentage Questions	Questions 7 and 15
Likert Scaled Questions	Questions 9, 11, 16, 20, 21, 22, 23, 24, 25, 26, 27, 29, and 30
Likert Scaled Question with Open Ended Option	Questions 10 and 17
Open Ended Questions	Questions 12, 13, 18, 19, 28, and 31

For the purposes of data interpretation for this study I have assumed that the responses contained within each of the Likert Scales in the survey are interval in nature. Interval scales have numerical values that are equidistant from one another (Alreck & Settle, 1995). "…[I]nterval scales used in survey questionnaires … permit the analyst to use the most common statistical tools" (Alreck & Settle, 1995, p. 257). Interval scales also permit "…the use of more sensitive data analysis procedures (Fraenkel & Wallen, 2009, p. 139). Clason and Dormody (1984) state "[l]ikert scaling presumes the existence of an underlying (or latent or natural) continuous variable whose value characterizes the respondents' attitudes and opinions. If it were possible to measure the latent variable directly, the measurement scale would be, at best, an interval scale" (p. 31). "…[T]he uniform scoring of Likert-item response categories assumes that each item has about the same intensity as the rest" (Babbie, 1990, p. 164).

Each survey question was analyzed descriptively. When appropriate, the survey questions were analyzed inferentially. The statistical processes utilized for each type of analysis are discussed in their subsequent sections.

Once I created the survey, and conducted a field test, an email was sent out to building principals of all public and charter schools that ran 9-12 programs within the state. The email addresses of potential participants were gathered from a Michigan state budget office resource entitled Center For Educational Performance and Information (CEPI) (Michigan State Budget Office, 2012). Based on the characteristics of the potential participant pool, 1,083 valid emails were identified. Unfortunately, due to research limitations of a particular district that were not immediately evident to the researcher, 43 of the emails had to be purged because the researcher did not have

permission from said district to survey their staff. Of the remaining 1,040 emails, 891

were finally determined to be valid after the HSIRB approved number of email contacts

were exhausted, in that there were no more emails error messages being returned to the

researcher. Of the potential pool of 891 respondents, 139 administrators completed at the

first survey question, agreeing to participate in the survey (a 15.6% response rate). One

individual declined the invitation for participation.

Demographic Descriptive Statistics Analysis

Descriptive statistics provided for each individual survey question included the

number of respondents for each question and sub question, the calculated mean of the

respondents' answers, and when appropriate, the percentage each responses is in relation

to the total score. Descriptive statistics are useful to "… indicate general tendencies in

the data (mean, mode, median), the spread of scores (variance, standard deviation, and

range), or a comparison of how one score relates to all other scores (z scores, percentile

rank)" (Cresswell, 2008, p. 190).

Rea and Parker (2005) discuss the issue of scaled frequency distributions. They

state

> … it is recommended that in the case of scaled responses, the proper measure of
>
> central tendency should be considered to be the arithmetic mean, and in the case
>
> of a series of such responses, an arithmetic mean is an acceptable summary
>
> measure of the subject matter under study. (p. 108)

In addition to Survey Question 1, which provided implied consent on the part of

the participant to continue with the survey, four additional foundational demographic

survey questions were asked to provide the basis from which inferential statistics

regression and ANOVA analysis could be conducted on the data.

Descriptive Statistics Analyses: Respondent Positions (Survey Question 2)

The CEPI document identified personnel who were high school principals of

traditional or charter public schools in Michigan. However, it was recognized that

administrators other than the principal might be responsible for the high school

graduation compliance for their district. In Survey Question 2, the respondents were

asked to define the role that they held within their institution: "Please identify your role:

Superintendent, Principal, Assistant Principal, Curriculum Director, Other."

Of the 134 participants who responded to Survey Question 2, 112 were Principals

(83.6%), 13 were Superintendents (9.7%), five were self-identified as Other (3.7%), three

were Assistant Principals (2.2%), and one was a Curriculum Director (0.7%).

Table 3 displays the total number of respondents for each type of role within the

public school district, and the percentage that each type represented.

Table 3

Role of Respondent within the Public School District (Survey Question 2)

Role	Total Respondent N	Percentage
Principal	112	83.6
Superintendent	13	9.7
Other	5	3.7
Assistant Principal	3	2.2
Curriculum Director	1	0.7
Total	134	≈100

Descriptive Statistics Analyses: Geographic Location (Survey Question 3)

Survey Question 3 asked the school administrators to indicate the geographic

location of their district: "How would you describe your district: Rural, Suburban,

Urban?"

Eighty-three (61.9%) respondents to the survey self-identified as coming from a

rural part of Michigan, 37 (27.6%) self-identified as coming from a suburban part of

Michigan, and 14 (10.4%) self-identified as coming from an urban part of Michigan.

This compares to information from VanBeek (2011a) where he states there are 284

(51.4%) rural school districts in Michigan, 134 (24.3%) suburban districts in Michigan,

98 (17.8%) town school districts, and 36 (6.5%) urban districts in Michigan. For

purposes of comparison, VanBeek's "city" designation is considered to be "urban" in

Survey Question 2, VanBeek's "town" and "rural" designations are labeled ""rural" in

Survey Question 2, and VanBeek's "suburban" is commensurate with the "suburban"

designation in Survey Question 2.

Table 4

Type of District (Survey Question 3)

Type	Districts in Michigan N(%) (VanBeek, 2011a)	Total Respondent N(%)
Rural (VanBeek, 2011a Town + Rural)	382(69.2)	83(61.9)
Suburban	134(24.3)	37(27.6)
Urban (VanBeek, 2011a City)	36(6.5)	14(10.4)
Total	552(100)	134(≈100)

Table 4 provides the distribution of Michigan counties represented by VanBeek

(2011a), my study's respondent as well a percentage of the total distribution of

respondents. One can see that the overall distribution of respondents to my study is not

that different from the state distribution, although I have a slightly smaller percentage from rural/town, and a slightly larger percentage from suburban and urban school districts.

Descriptive Statistics Analyses: MHSAA Region (Survey Question 4)

In Survey Question 4, the school administrators were asked to indicate the region of the state of Michigan where their high school is located within: "The Michigan Association of School Administrators has developed a regional system based on your school district's county of residence. The regions are as follows: Region 1 Area: Upper Peninsula Region; 2 Area: Alcona, Alpena, Antrim, Benzie, Charlevoix, Cheboygan, Crawford, Emmet, Grand Traverse, Iosco, Kalkaska, Leelanau, Manistee, Missaukee, Montmorency, Ogemaw, Oscoda, Otsego, Presque Isle, Roscommon, Wexford; Region 3 Area: Allegan, Barry, Ionia, Kent, Lake, Mason, Mecosta, Montcalm, Muskegon, Newaygo, Oceana, Osceola, Ottawa; Region 4 Area: Arenac, Bay, Clare, Gladwin, Gratiot, Isabella, Midland, Saginaw; Region 5 Area: Huron, Genesee, Lapeer, St Clair, Sanilac, Tuscola; Region 6 Area: Clinton, Eaton, Ingham, Livingston, Shiawassee; Region 7 Area: Berrien, Branch, Calhoun, Cass, Kalamazoo, St Joseph, Van Buren; Region 8 Area: Hillsdale, Jackson, Lenawee, Monroe, Washtenaw; Region 9 Area: Macomb, Oakland, Wayne; Region 10 Area: City of Detroit. Based on this information, what region would your school fall within?"

The regional configuration helps to explain the percentage of respondents by region. Utilizing the Michigan Association of School Administrators region classification scheme, Region 3 had the largest percentage of respondents (18%), followed by Region 9 with 17.3% of respondents. Respondents in Region 7 accounted

for 15% of the total, respondents in Region 2 accounted for 11.3%, and respondents from

Region 1 accounted for 10.5%. 8.3% of the respondents originated from Region 6; 7.5%

of the respondents came from Region 4; 6.0% of the total respondents were from Region

5; and 3.8% emanated from Region 8. Region 10 had 2.3% of the respondents, even

though this area traditionally has a substantial percentage of the total school aged

population in the state.

The lack of a representative response rate could be the result of not being able to

survey the administrative staff of a large urban district due to limitations that were

unknown prior to the survey being administered. Once the researcher became aware of

the limitations, the prescribed applications required by the district in question were

submitted to the district. As of the time of the writing of this paper, no response has been

received from the district in question. Therefore, responses from Region 10 cannot be

considered representative of that area, and this will be considered in the analysis of the

data.

Table 5

State of Michigan Region where the High School is Located (Survey Question 4)

MASA Region	% of Total K-12 Student Enrollment (Michigan State Budget Office, 2012)	Total Respondent N(%)	Percentage
Region 3	15.8	24	18.0
Region 9	34.7	23	17.3
Region 7	7.8	20	15.0
Region 2	4.6	15	11.3
Region 1	2.7	14	10.5
Region 6	7.1	11	8.3
Region 4	5.4	10	7.5
Region 5	8.6	8	6.0
Region 8	7.5	5	3.8
Region 10	5.9	3	2.3
Total Respondents		133	100

In Table 5, the frequency and percentages of the student enrollment for the respondent schools in each region is provided. There is also data from the Michigan State Budget Office (2012) related to the percentage of the total student population of the state each region provides education. This is being done for comparison purposes between the regions of respondents as a percentage of the total respondents, with the percentage of the total school aged population in each region.

Descriptive Statistics Analyses: Student Enrollment (Survey Question 5)

In Survey Question 5, the respondents were asked to indicate their total student enrollment for the 2011-2012 school year: "What was the total student enrollment of your school during the past school year? If you are responsible for more than one school, please provide an estimate of your average student enrollment across schools."

In order to facilitate analysis and record keeping, the data was transposed into a classification system commonly utilized by schools to determine athletic leagues. The Michigan High School Athletic Association (MHSAA) (Michigan High School Athletic Association, 2012) utilizes a formula to determine placement into their different "classes" based on enrollment changes from one academic year to the next. Incorporating these categories based on raw numbers provided by the respondents, 41 (30%) of the respondents represented a Class C school, 37 (28%) of the respondents were from a Class B school, 33 (25%) of the respondents worked in a Class A school, and 23 (17%) of the respondents were from a Class D school. This compares to a state-wide percentage where, during the 2011-2012 school year 56.8% of the students in the state attended Class A schools, 25.8% of students in the state attended Class B schools, 12.8% of the students

in the state attended Class C schools, and 4.5% of the students in the state attended Class

D schools (Michigan High School Athletic Association, 2012).

Table 6 provides a comparison tool providing information related to student

distribution across the state by class size, as well a distribution of respondents to the

survey by class size.

Table 6

Student Enrollment (Survey Question 5)

MHSAA 2011-2012 Class of School	% of Total K-12 Student Enrollment (Michigan High School Athletic Association, 2012)	Number of Respondents from each Class	Percentage
Class C (216-465 students)	12.8	41	30.0
Class B (466-951 students)	25.8	37	28.0
Class A (952 students and above)	56.8	33	25.0
Class D (215 and below)	4.5	23	17.0
Total in all Classes	≈100	134	100

Statistics Analyses for Research Question 1

Research Question 1 sought to discover how during the 2011-2012 school year

Michigan high schools met the requirements that all graduating students have an online

experience, specifically: a) the types and percentage of utilization of Fully Online

Semester Long Courses being offered; and b) the types and percentage of utilization of

traditional classes, which integrate online experiences into their content (Online

Experiences Incorporated within Classes). Due to the nature of the question, it was

decided that descriptive statistics were enough to adequately provide an answer to

Research Question 1. Descriptive statistics analysis was therefore utilized to analyze

Survey Questions 6, 7, 8, 14, 15 and 16, all that directly address Research Question 1.

Descriptive Statistics Analyses: Utilization of Online Courses (Survey Question 6)

In Survey Question 6, the respondents were asked to indicate whether their school utilized any fully online courses in their educational programs for students during the 2011-2012 school year by addressing the question: "Did your school utilize any Fully Online Semester Long Courses for any students during the past school year?"

A skip function was embedded into this question so any respondent who replied "no" would immediately have the survey skip to Survey Question 14, since the remaining questions in this group delved into the usage of Fully Online Semester Long Courses at a deeper level of understanding. It was assumed that there might be some schools that did not utilize Fully Online Semester Long Courses to meet the mandate, but did provide Online Experiences Incorporated within Classes.

With Survey Question 6, there were 117 (87.3%) of the respondents who came from schools that offered Fully Online Semester Long Courses. Seventeen (12.7%) of the respondents came from schools that did not offer Fully Online Semester Long Courses as an option for their students.

Table 7

Student Participation in Online Courses (Survey Question 6)

Offer Fully Online Semester Long Courses	Total Respondent N	Percentage
Yes	117	87.3
No	17	12.7
Total	134	100

Table 7 provides information related to the percentage of respondent schools that offered Fully Online Semester Long Courses.

Descriptive Statistics Analyses: Percentage of Population Utilizing Online Courses (Survey Question 7)

In Survey Question 7, the administrators who responded in the affirmative that they offer Fully Online Semester Long Courses were asked to indicate approximately what percentage of their student population were enrolled in a Fully Online Semester Long Courses at any time during the 2011-2012 school year: "During the past school year, approximately what percent of your students were enrolled in a Fully Online Semester Long Courses?"

To get a better understanding of the distribution of responding schools, the range of responses for each is presented in Table 8. The aggregate distribution from all respondents is also calculated, with the corresponding mean also being computed. This provides a dispersion of scores that makes interpretation of the data easier to understand. One hundred thirty-four respondents answered Survey Question 7, with a mean 19.27% of the student population taking Fully Online Semester Long Courses.

Table 8

Students Enrolled in Fully Online Courses (Survey Question 7)

Class of School	Range(%)	Mean(%)
Class A (952 students and above)	1-40	8.47
Class B (466-951 students)	1-75	13.01
Class C (216-465 students)	1-100	14.23
Class D (215 and below)	1-100	37.20
Total Respondents in all Classes	91	19.27

Table 8 provides information related to the percentage of students enrolled in Fully Online Semester Long Courses in each of the school classes.

Descriptive Statistics Analyses: Content Areas Utilizing Online Courses (Survey Question 8)

In Survey Question 8, the respondents were asked to indicate the content area courses that utilized one or more Fully Online Semester Long Courses in the 2011-2012 school year by addressing the question, "Of the Fully Online Semester Long Courses taken by your students this past school year, which curriculum content areas were one or more of the classes in: English Language Arts; Mathematics; Science; Social Studies; Visual, Performing and Applied Arts; Physical and Health Education; Languages Other Than English; and Career or Vocational Education?"

Eighty-eight (91.7%) of the respondents offered students Fully Online Semester Long Courses in Social Studies, 90 (90.0%) offered students Fully Online Semester Long Courses in Mathematics, 87 (86.1%) offered students Fully Online Semester Long Courses in English Language Arts, 83 (83.0%) offered students Fully Online Semester Long Courses in Science, 56 (63.6%) offered students Fully Online Semester Long Courses in languages other than English, 45 (54.2%) offered students Fully Online Semester Long Courses in physical and health education, 34 (41.5%) offered students Fully Online Semester Long Courses in visual performing and applied arts, and 32 (39.0%) offered students Fully Online Semester Long Courses in career or vocational education.

The three subject matter content areas least utilized by respondents for Fully Online Semester Long Courses were Physical and Health Education, where 34 respondents (41%) said they did not offer Fully Online Semester Long Courses to their students, Visual Performing and Applied Arts, where 40 respondents (48.8%) said they

did not offer Fully Online Semester Long Courses, and Career or Vocational Education, where 45 (54.9%) of the respondents relayed that they did not Fully Online Semester Long Courses.

Table 9 provides a breakdown of content areas utilized by respondents to provide subject matter content for Fully Online Semester Long Courses, as listed in order from the largest to lowest percentage of content area enrollment.

Table 9

Content Subject Breakdown of Fully Online Courses (Survey Question 8)

Content Area of Fully Online Semester Long Courses Offered	Yes N(%)	No N(%)	Do Not Know N(%)	Total Respondent N
Social Studies	88(91.7)	5(5.2)	3(3.1)	96
Mathematics	90(90.0)	9(9.0)	1(1.0)	100
English Language Arts	87(86.1)	12(11.9)	2(2.0)	101
Science	83(83.0)	14(14.0)	3(3.0)	100
Languages Other Than English	56(63.6)	27(30.7)	5(5.7)	88
Physical and Health Education	45(54.2)	34(41.0)	4(4.8)	83
Visual Performing and Applied Arts	34(41.5)	40(48.8)	8(9.8)	82
Career or Vocational Education	32(39.0)	45(54.9)	5(6.1)	82

Descriptive Statistics Analyses: Utilization of Online Educational Experiences (Survey Question 14)

In Survey Question 14, the administrators were asked to indicate if any of their student population was enrolled in a class that had online educational experiences embedded within their courses during the 2011-2012 school year by addressing the question, "Did your school utilize any online experiences incorporated within traditional classes for any students during the past school year?"

Of the 120 participants who responded to the question, 91 (75.8%) said that their

schools offer online educational experiences embedded within their courses. Twenty-

nine (24.2%) stated that their schools did not offer this type of program.

Table 10 provides a breakdown of the respondents answers related to their

students' participation in Online Experiences Incorporated within Classes offered during

the 2011-2012 school year.

Table 10

*Student Participation in Online Experiences Incorporated within Classes (Survey
Question 14)*

Type	Total	Percentage
Yes	91	75.8
No	29	24.2
Total	120	100

**Descriptive Statistics Analyses: Percentage of Population Utilizing Online
Educational Experiences (Survey Question 15)**

In Survey Question 15, the administrators were asked to indicate approximately

what percentage of their student population was enrolled in a class that had Online

Experiences Incorporated within Classes during the 2011-2012 school year by addressing

the question, "During the past school year, approximately what percentage of your

students were enrolled in an online experience incorporated within traditional classes?

Approximate Percentage of Students."

Taking into account the MHSAA classification scheme, the number of responses

for the separate stems of the questions ranged from one to 100%, with answers having a

percentage range from 48.26% to 51.59%. There was a wide variance in the scores not

only between classes, but also within each individual class. Scores obtained were often at

the extremes, with many administrators portraying an "all or none" position on this type of programming.

To get a better understanding of the distribution of schools, the range of responses for each are broken down by the size of the district. The aggregate distribution from all respondents is calculated, along with the corresponding mean. Seventy-four respondents provided information, with 48.12% of the student population having Online Experiences Incorporated within Classes. Table 11 provides a visual of the information related to Survey Question 15.

Table 11

Online Experiences Incorporated within Classes, as Broken Down by District Size (Survey Question 15)

Class of School	Range(%)	Mean(%)
Class A (952 students and above)	1-100	48.26
Class B (466-951 students)	1-100	49.93
Class C (216-465 students)	2-100	40.41
Class D (215 and below)	10-100	51.59
Total Respondents in all Classes	74	47.73

Descriptive Statistics Analyses: Content Areas Utilizing Online Educational Experiences (Survey Question 16)

In Survey Question 16, the respondents were asked to indicate the content area courses that utilized Online Experiences Incorporated within Classes during the 2011-2012 school year by addressing the question, "Of the online experiences incorporated within traditional classes taken by your students this past school year, which curriculum content areas were one or more of the classes in? English Language Arts; Mathematics; Science; Social Studies; Visual, Performing and Applied Arts; Physical and Health Education; Languages Other Than English; and Career or Vocational Education."

Table 12 provides a breakdown of the content areas utilized by the respondents'
schools within which they incorporated Online Experiences Incorporated within Classes,
as listed from the largest percentage of "yes" responses for a given subject.

Table 12

*Content Subject Breakdown in Online Experiences Incorporated within Classes (Survey
Question 16)*

Type	Yes	No	Do Not Know	Total Respondent N
	N(%)	N(%)	N(%)	
English Language Arts	62(74.7)	20(24.1)	1(1.2)	83
Social Studies	55(70.5)	21(26.9)	2(2.6)	78
Mathematics	54(67.5)	21(26.3)	5(6.3)	80
Science	48(61.5)	28(35.9)	2(2.6)	78
Languages Other Than English	36(48.6)	36(48.6)	2(2.7)	74
Career or Vocational Education	39(47.5)	38(47.5)	4(5.0)	80
Visual Performing and Applied Arts	30(41.1)	39(53.4)	4(5.5)	73
Physical and Health Education	21(28.4)	45(60.8)	8(10.8)	74

The number of responses for the separate stems of the questions ranged from 73
to 83, with answers having a range of no responses from 24.1% to 60.8%, and yes
responses from 28.4% to 74.7%.

Sixty-two (74.7%) respondents stated that their programs utilized Online
Experiences Incorporated within their English Language Arts courses, 55 (70.5%) within
Social Studies courses, 54 (67.5%) within Mathematics courses, 48 (61.5%) within
Science courses, and 36 (48.6%) within Languages Other than English courses. The
more hands-on curriculum areas courses were also utilized: 38 respondents (47.5%)
incorporated online learning experiences within their Career or Vocational Education
courses, 30 respondents (41.1%) utilized the online experiences within their Visual

Performing and Applied Arts courses, and 21 (28.4%) within their Physical and Health Education courses.

Statistics Analyses for Research Question 2

Research Question 2 sought to discover why the types of Online Educational Opportunities were chosen by the district or school as the way to meet this mandate, and how were such decisions made. Survey Questions 10, 11, 17 and 28 were utilized to answer that research question.

Descriptive Statistics Analyses: Reasons for Utilization of Online Courses (Survey Question 10)

In Survey Question 10, the school administrators were asked to indicate the reasons why Fully Online Semester Long Courses were included in their curriculum offering during the 2011-2012 school year by addressing the question, "Please rate the following factors as to why Fully Online Semester Long Courses are being utilized for your students: ease of use for staff; ease of use for students; affordability they offer; research-based curriculum; recommended by another educational professional or organization; recommended by a vendor; belief it will help us meet the needs of students requiring an accelerated curriculum; belief it will help us meet the needs of students considered at risk for school failure; belief it will help us meet the needs of students requiring credit recovery options; belief it will help us meet the needs of students receiving special education services; or help student acquire 21st century skills?"

Arranged from highest to lowest, Table 13 provides a hierarchy of the reasons why respondent schools utilized Fully Online Semester Long Courses with their students to meet their academic needs.

Table 13

Reasons for Utilization of Fully Online Courses (Survey Question 10)

Reason	Not a factor at all N(%)	A small factor N(%)	A moderate factor N(%)	A large factor N(%)	A very large factor N(%)	M	Total Respondent N
Will help meet needs of students requiring credit recovery options	0(0.0)	3(2.9)	12(11.8)	42(41.2)	45(44.1)	4.26	102
Will help meet needs of students considered at-risk for school failure	4(4.0)	10(9.9)	21(20.8)	31(30.7)	35(34.7)	3.82	101
Ease of Use for Students	18(18.8)	17(17.7)	19(19.8)	32(33.3)	10(10.4)	2.99	96
Will help meet needs of students requiring accelerated curriculum	19(19.0)	14(14.0)	25(25.0)	34(34.0)	8(8.0)	2.98	100
Research-based curriculum	20(20.6)	15(15.5)	24(24.7)	28(28.9)	10(10.3)	2.93	97
Affordability they offer	27(27.8)	12(12.4)	22(22.7)	25(25.8)	11(11.3)	2.80	97
Will help students acquire 21st century skills	19(19.4)	21(21.4)	28(28.6)	21(21.4)	9(9.2)	2.80	98
Recommended by another educational professional organization	47(48.5)	17(17.5)	11(11.3)	18(18.6)	4(4.1)	2.12	97
Will help meet needs of students receiving special education services	44(44.9)	22(22.4)	18(18.4)	12(12.2)	2(2.0)	2.04	98
Ease of use for staff	51(52.6)	26(26.8)	11(11.3)	6(6.2)	3(3.1)	1.80	97
Recommended by a vendor	60(61.2)	21(21.4)	11(11.2)	3(3.1)	3(3.1)	1.65	98

The respondents stated the belief that providing Fully Online Semester Long

Courses would help them meet the credit recovery needs of their students as the most

important factor, with a mean score of 4.26 out of 5.0. The next most important factor

that led their district to utilize Fully Online Semester Long Courses was the belief it

would help meet the needs of students considered at-risk for school failure, with a mean

calculated score of 3.82 out of 5.0. Ease of use for students was the third most important

consideration by the respondents (2.99 out of 5.0), followed by the belief that it will help meet the needs of students requiring an accelerated curriculum (2.98 out of 5.0), and the fact that the courses offered a research-based curriculum (2.93 out of 5.0). The affordability such courses offer and the belief that the courses will help students acquire 21st century skills were tied at 2.80 out of 5.0. Of lesser importance to the respondents were the facts that Fully Online Semester Long Courses were recommended by another educational professional organization (2.12 out of 5.0), the belief that those courses will help meet the needs of students receiving special education services (2.04 out of 5.0), the ease of use for staff (1.80 out of 5.0), finally followed by the fact that the course was recommended by a vendor (1.65 out of 5.0). Appendix J contains the respondents' thoughts to the open-ended question that allowed respondents to list "other factors" with such comments discussed later in the analysis.

Descriptive Statistics Analyses: Pedagogical Constructs of Fully Online Semester Long Courses (Survey Question 11)

In Survey Question 11, the respondents were asked to indicate their perception of how Fully Online Semester Long Courses were developed from a pedagogical perspective by addressing the question, "To what extent have the Fully Online Semester Long Courses offered to students: been organized in a coherent, sequential manner; have instructional goals, objectives, strategies, and assessments that are aligned with state standards, benchmarks and expectations; and provide comparable in rigor, depth, and breadth to traditionally delivered courses?"

An average response of 3.95 of 5.0 was elicited from the respondents when questioned to what factor the Fully Online Semester Long Courses offered students have

instructional goals, objectives, strategies, and assessments that are aligned with state standards, benchmarks and expectations. Having courses that have been organized in a coherent, sequential manner received a mean score of 3.62, followed by the fact that the Fully Online Semester Long Courses provide comparable in rigor, depth, and breadth to traditionally delivered courses with a mean score of 3.51.

Table 14

Pedagogical Constructs of Fully Online Semester Long Courses (Survey Question 11)

	Not a factor at all N(%)	A small factor N(%)	A moderate factor N(%)	A large factor N(%)	A very large factor N(%)	M	N
Have instructional goals, objectives, strategies, and assessments aligned with state standards, benchmarks and expectations?	0(0.0)	5(5.0)	20(20.0)	50(50.0)	25(25.0)	3.95	100
Been organized in coherent, sequential manner	4(4.0)	14(14.1)	19(19.2)	41(41.4)	21(21.2)	3.62	99
Provide comparable rigor, depth, and breadth to traditionally delivered courses	0(0.0)	12(12.1)	37(37.4)	38(38.4)	12(12.1)	3.51	99

Arranged from highest to lowest, Table 14 provides a hierarchy of the extent to which pedagogical constructs of Fully Online Semester Long Courses were considered to be important for inclusion into their curriculum by districts when they implemented during the 2011-2012 school year.

Descriptive Statistics Analyses: Reasons for Utilization of Online Experiences Incorporated within Classes (Survey Question 17)

In Survey Question 17, the school administrators were asked to indicate the reasons why online educational experiences were incorporated within classes during the 2011-2012 school year by addressing the question, "Please rate the following factors as to why online experiences incorporated within traditional classes are being utilized by your teachers: ease of use for staff; ease of use for students; affordability they offer; research-based curriculum; recommended by another educational professional or organization; recommended by a vendor; belief it will help us meet the needs of students requiring an accelerated curriculum; belief it will help us meet the needs of students considered at risk for school failure; belief it will help us meet the needs of students requiring credit recovery options; belief it will help us meet the needs of students receiving special education services; and belief it will help students acquire 21st century skills; and other factors?"

The number of responses for the separate stems of the questions ranged from 78 to 81, with answers having a mean range from 1.59 to 3.74 out of 5.0. Eighty respondents rated the belief that Online Experiences Incorporated within Classes will help students acquire 21st skills the greatest factor, with a mean respondent score of 3.74 out of 5.0. Eighty-one respondents held the belief that online experiences will help the schools meet the needs of students considered at-risk for school failure, with a mean of 3.53. Utilizing Online Experiences Incorporated within Classes that had a research-based curriculum received a mean respondent score of 3.19 from eighty respondents. Ease of use for students was cited by eighty-one respondents (with a mean score of 3.09) as an

important reason why online experiences were incorporated within courses. The belief the Online Experiences Incorporated within Classes will help schools meet the needs of students requiring an accelerated curriculum had a mean respondent score of 3.03 and was cited by 80 participants. Eighty-one respondents stated that they believe Online Experiences Incorporated within Classes will help them meet the needs of students requiring credit recovery options, with a mean score of 3.01. A belief that Online Experiences Incorporated within Classes will help schools meet the needs of students receiving special education services was mentioned by 80 respondents with a mean score of 2.75. Eighty-one respondents (with a mean score of 2.64) mentioned ease of use for staff as a factor for using online experiences. Affordability of the Online Experiences Incorporated within Classes offer schools was important to 78 participants, with a 2.62 mean score. Eighty respondents considered a recommendation by another educational professional organization low by only giving that a mean score of 2.19. Eighty respondents were even less enthusiastic of a recommendation by a vendor; it had a mean score of 1.59.

In addition to the Likert questions presented in the online survey, Survey Question 17 also provided for comments from the respondents. It was hoped that by providing the participants an ability to elaborate on their situations, a more complete view of implementation would occur. Their responses to this open-ended question option that were generated by the participants are presented in Appendix M

Table 15 summarizes the responses provided by the respondents when they were asked for the reasons that they utilized Online Experiences Incorporated within Classes as a way to potentially meet the Michigan mandate for Online Educational Opportunities as

a condition for high school graduation. The results of their responses have been

recorded, and they appear in the following table listed from highest to lowest mean.

Table 15

Reasons for Utilization of Online Experiences Incorporated within Classes (Survey Question 17)

Reason	Not a factor at all N(%)	A small factor N(%)	A moderate factor N(%)	A large factor N(%)	A very large factor N(%)	M	N
Will help students acquire 21st century skills	8(10.0)	6(7.5)	10(12.5)	31(38.8)	25(31.3)	3.74	80
Will help us meet needs of students considered at-risk for school failure	9(11.1)	8(9.9)	12(14.8)	35(43.2)	17(21.0)	3.53	81
Research-based curriculum	10(12.5)	10(12.5)	25(31.3)	25(31.3)	10(12.5)	3.19	80
Ease of Use for Students	13(16.0)	11(13.6)	21(25.9)	28(34.6)	8(9.9)	3.09	81
Will help us meet needs of students requiring an accelerated curriculum	16(20.0)	9(11.3)	18(22.5)	31(38.8)	6(7.5)	3.03	80
Will help us meet needs of students requiring credit recovery options	23(28.4)	6(7.4)	13(16.0)	25(30.9)	14(17.3)	3.01	81
Will help us meet needs of students receiving special education services	19(23.8)	18(22.5)	15(18.8)	20(25.0)	8(10.0)	2.75	80
Ease of use for staff	22(27.2)	13(16.0)	24(29.6)	16(19.8)	6(7.4)	2.64	81
Affordability they offer	24(30.8)	13(16.7)	17(21.8)	17(21.8)	7(9.0)	2.62	78
Recommended by another educational professional organization	37(46.3)	10(12.5)	17(21.3)	13(16.3)	3(3.8)	2.19	80
Recommended by a vendor	56(70.0)	9(11.3)	9(11.3)	4(5.0)	2(2.5)	1.59	80

Descriptive Statistics Analyses: Influence of Decision Makers on Types of Offerings (Survey Question 27)

In Survey Question 27, the administrators were asked to indicate who influenced

district in deciding which Online Educational Opportunities would be offered during the

2011-2012 school year by addressing the question, "What influence do the following entities have on decisions related to how your school meets the Michigan mandate for Online Educational Opportunities for each student: local employers expecting graduates have 21st century online skills; your building instructional departments; your building Professional Learning Committees; your building Curriculum Committee; your building Technology Committee; your building administrators; your district administrators; your school board; your parents; and your students?"

The number of responses for the separate stems of the questions ranged from 81 to 83, with answers having a mean range from 2.90 to 3.87 out of 5.0. Eighty-two respondents stated their building administrators offered the greatest support for the offerings selected by the schools at a rate of 3.87 out of 5.0. District administrators supported the offerings selected by the schools at a rate of 3.70 out of 5.0 according to 82 of the respondents. Eighty-three respondents stated that their students supported the Online Educational Opportunities at a rate of 3.52 out of 5.0.

At a rate of 3.37 out of 5.0, 81 respondents replied that their building technology committee supported the type of Online Educational Opportunities for their programs. The building curriculum committee supported offering decisions at a rate of 3.32 out of 5.0 according to 82 respondents. Eighty-two respondents stated that their building's instructional departments supported the online educational offerings at a rate of 3.24 out of 5.0. The professional learning communities in 82 respondents' buildings supported the offerings at a rate of 3.13 out of 5.0. Eighty-two respondents stated that their school board supported the online educational offerings at a rate of 2.95 out of 5.0. Local employers expecting graduates with 21st Century job skills also supported the decisions at

a rate of 2.95 out of 5.0 according to eighty-one respondents. Finally, 82 respondents

stated their parents supported the decisions at a rate of 2.90 out of 5.0.

Table 16

Support for Decision Makers on Types of Offerings (Survey Question 27)

Support for Decision Makers	No Influence at All N(%)	A Small Influence N(%)	A Moderate Influence N(%)	A Large Influence N(%)	A Very Large Influence N(%)	M	N
Building administrators	1(1.2)	4(4.9)	17(20.7)	43(52.4)	17(20.7)	3.87	82
District administrators	1(1.2)	8(9.8)	19(23.2)	41(50.0)	13(15.9)	3.70	82
Your students	2(2.4)	9(10.8)	26(31.3)	36(43.4)	10(12.0)	3.52	83
Building Technology Committee	6(7.4)	10(12.3)	25(30.9)	28(34.6)	12(14.8)	3.37	81
Building Curriculum Committee	2(2.4)	15(18.3)	28(34.1)	29(35.4)	8(9.8)	3.32	82
Building instructional departments	4(4.9)	14(17.1)	27(32.9)	32(39.0)	5(6.1)	3.24	82
Building Professional Learning Communities	7(8.5)	14(17.1)	28(34.1)	27(32.9)	6(7.3)	3.13	82
Your school board	10(12.2)	18(22.0)	23(28.0)	28(34.1)	3(3.7)	2.95	82
Local employers expecting graduates have 21st century online skills	7(8.6)	17(21.0)	33(40.7)	21(25.9)	3(3.7)	2.95	81
Your parents	7(8.5)	20(24.4)	32(39.0)	20(24.4)	3(3.7)	2.90	82

Table 16 provides a hierarchy of score distributions of the extent of support

certain groups had upon the integration of Online Educational Opportunities within their

programs, as ranked from the highest to the lowest mean.

Descriptive Statistics Analyses: Decision-Making Process Description (Survey Question 28)

In Survey Question 28, the administrators were asked to indicate (in an open

ended fashion) the process by which decision makers determined which Online

Educational Opportunities would be utilized during the 2011-2012 school year by

addressing the question, "Please describe the decision making process your district used

to decide which Online Educational Opportunities your school would utilize to meet the

Michigan mandate?"

As with the other open-ended questions in the survey, the researcher had hoped

that allowing the participant the ability to answer in an open-ended manner would

encourage them to be more elaborative in their insights; thus providing a window into

their thought processes. It was anticipated that there would be a level of anecdotal

narrative support for any of the items that were found to be statistically significant by the

inferential statistics analysis.

Of the 54 responses received, nine distinct categories were identified by the

researcher with responses for the questions ranging from 1 to 14; the answers had a

percentage range from 1.9% to 26%. A listing of the complete answers to the open-

ended questions of Survey Question 28 are listed in Appendix P.

Table 17

Decision Maker Process Description (offered via Open-Ended Response) (Survey Question 28)

Type	Frequency	Percentage
District Level Review	14	26.0
School Improvement Process/Professional Learning Communities	9	16.7
General Comments	9	16.7
Administratively Directed	8	14.8
Support from Outside of the District	5	9.3
Collaboration Between Faculty and Administration	4	7.4
Cost	2	3.7
The Programs Were Already in Existence	2	3.7
Involvement of Students	1	1.9
Total	54	100

Results were tallied and have been assembled into logical groupings identified by

the researcher in Table 17. The information provided is listed in a most to least fashion,

in order to assist with an understanding of the information that was elicited from the

participants.

Table 18

Categorical Narratives of Respondents Related to the Decision Making Process (offered via Open-Ended Response) (Survey Question 28)

Research Identified Category	Illustrative Actual Respondent Narratives
District Level Review	• "We have an acceptable use policy and an IT department that determines which sites on line we can access as a district. It is important to note there are two schools within one building that I oversee as principal - one is an alternative - credit recovery high school and the other a STEM program. The former has limited access to technology but the latter interacts with technology in every class every hour of every day." • "The School Improvement Plan drives the influence of online experiences within the school curriculum. For individual students taking online classes, the chain of decisions begins with the building counselor and leads up to the principal for approval."
School Improvement Process / Professional Learning Communities	• "A committee is formed to examine the on-line and technology opportunities for the students/teachers. The recommendations are based on research and then referred to the superintendent/board for action. The Technology Committee assures the recommendations are aligned to the State standards and requirements." • "Building School Improvement Team recommends to Principal's Department Advisory Team who recommends to full faculty; Principal then takes recommendation to Director of Curriculum & Instruction/Technology Director who facilitates recommendation to the District Technology Team. What comes out of that is then brought to the Superintendent & Asst. Superintendent of Finance prior to deciding if the recommendation will go before the Board of Education."
Administratively Directed	• "We look at the options through departmental meeting and general staff meetings. Discussion within the high school facilitated and approved by the Superintendent." • "HS principal and Curriculum Director, along with our Online Learning Coordinator meet often to review the curricular offerings available for students." • "All of the above groups give input. Decisions are made by administrators."
Support from Outside of the District	• "We explored the companies being used in our county, then brought them in to present to our administrative team. We then tried two different vendors and compared the two. When these did not meet our needs, we shopped around again to find a third. This "third" is what is currently being used in our school to deliver on-line curriculum. The director of our on-line program made the final decision on the matter." • "The district investigated multiple options, then encouraged visitations to programs utilizing programs. Once a decision was reached, piloting of program in summer school and after-school campus started, then within the alternative programming, then to our large, comprehensive high schools." • "Research, discussion with on-line providers, collaboration with colleagues within and outside of the district."

Table 18 *Continued*

Collaboration Between Faculty and Administration	• "Decided on at the district and building level" • "The district investigated different online tools and ultimately agreed to one with teacher, admin and parent input." • "Administration and teachers make the decisions regarding online educational opportunities together"
Costs	• "Cost and curriculum standards" • "consortium price from vendor for the ISD, local school board approval" • "Curriculum Committee to Superintendent then finance committee of the board"
The Programs Were Already in Existence	• "They were place before I arrived. However I am increasing the opportunities this coming year by adding an online classroom where students can take accelerated classes through MVHS" • "The programs we already in place so new decisions needed to be made."
Involvement of Students	• "Through meeting with staff, administrators, board members, parents, and certainly students."

In order to better understand the depth and breadth of the concerns expressed by the respondents, Table 18 provides illustrative responses as provided by the respondents in Survey Question 28.

Statistics Analyses for Research Question 3

Research Question 3 attempted to identify what positive and negative issues have arisen as schools work to implement this mandate, specifically the impacts on students, faculty and staff, as well as finance, curriculum, and school and district educational structures, and what relationship, if any, exist between various input variables (e.g., type of online opportunities utilized, technology access and training) and various outcome variables (e.g., impact on program, impact on students). Although this research question relied heavily on inferential statistics regression analysis, Survey Question 12, 13, 18, 19, 29 and 31 were also incorporated in the final analysis.

Descriptive Statistics Analyses: Advantages of Fully Online Courses (Survey Question 12)

In Survey Question 12, the school administrators were asked to indicate (in an open-ended fashion) the advantages of providing Fully Online Semester Long Courses to their students during the 2011-2012 school year by addressing the question, "Overall, what are the advantages related to the provision of Fully Online Semester Long Courses within your school program?"

All open-ended results for Survey Question 12 were tallied and assembled into logical groupings (see Table 19). A complete listing of the all of the open ended answers provided by the respondents to Survey Question 12 are listed in Appendix K.

Table 19

Advantages of Fully Online Courses (offered via Open-Ended Response) (Survey Question 12)

Category	Frequency	Percentage
Flexibility	18	19.8
Credit Recovery	14	15.4
Expands Course Opportunities	12	13.2
Self-Directed Learning	9	9.9
Assists with Scheduling	9	9.9
Meets Individual Needs	7	7.7
Cost Effectiveness	6	6.6
Anytime, Anywhere, Anyplace	5	5.5
Reduction in Staff	4	4.4
Multiple Reasons Listed	4	4.4
Provides Alternative Education Opportunities	2	2.2
21st Century Skills	1	1.1
Total	91	≈100

Of the 91 respondents, 18 (19.8%) stated that the flexibility that Fully Online Semester Long Courses offer is an advantage; 14 respondents (15.4%) saw Fully Online Semester Long Course as an advantage in providing credit recovery options to their students; and 12 (13.2%) utilize Fully Online Semester Long Courses as a way to expand

the course options that they are able to offer their students. Assisting with scheduling issues and helping students with self-directed learning needs were both rated by nine respondents (9.9% each) as advantages to providing the Fully Online Semester Long Courses. Seven (7.7%) said that Fully Online Semester Long Courses help meet individual student needs, while six (6.6%) said they are a cost effective way to provide content. Five (5.5%) of the respondents liked the feature that Fully Online Semester Long Courses could be accessed anytime, anywhere, any place by the students. Four respondents (4.4%) said the Fully Online Semester Long Courses could allow for content to still be provided to students while staffing could be reduced. Four (4.4%) also provided multiple reasons for advantages for Fully Online Semester Long Courses. Two respondents (2.2%) said they used Fully Online Semester Long Courses as a way to help provide alternate educational opportunities to their students that needed that level of specialized programming. One respondent (1.1%) saw an advantage to Fully Online Semester Long Courses in that they provided students with 21st century skills that they need for the future.

Table 20 provides some illustrative responses to the open-ended narratives provided by the respondents in Survey Question 12. The grouping provided in Table 18 are utilized with the general commonalities of thought processes of the respondents were utilized.

To provide a greater feel for the breadth and depth of the respondents' responses to the survey question, it would be beneficial to see the information presented visually.

Table 20

Categorical Narratives of Respondents Related to the Advantages of Fully Online Courses (offered via Open-Ended Response) (Survey Question 12)

Research Identified Category	Illustrative Actual Respondent Narratives
Flexibility	• "We are able to offer over 400 courses to students in need of credit recovery or credit advancement. This gives us a chance to service the unique credit needs of each student who enrolls here." • "Flexibility Pacing Meets on Line requirement" • "Flexibility in scheduling, opportunities for students to make up classes, take advanced classes at a convenient time and place."
Credit Recovery	• "Online courses allow students behind in credits to recover at their pace both in school and at home." • "Students can recover credit right away and not wait until the summer to do so."
Expands Course Opportunities	• "It allows us to offer courses we do not have enough personnel to offer, especially to a small student population." • "Students can have a class that is not offered in our school." • "The main factor is that online courses allow us to offer students courses that we do not provide in a traditional manner."
Self-Directed Learning	• "self-paced, acceleration for students behind in credits" • "Allows students to move at their own pace" • "Self paced with electronic progress monitoring"
Assists with Scheduling	• "flexibility in scheduling credit recovery" • "Flexibility in scheduling for students including those students participating in Dual Enrollment etc." • "Primarily, these courses offer flexible scheduling options which would otherwise be difficult to achieve in class c rural school."
Meets Individual Needs	• "Meets the needs of students" • "Allows students the opportunity and flexibility to develop an individualized curriculum plan."
Cost Effectiveness	• "As money becomes tighter and tighter and staff becomes smaller and smaller, online courses offer an opportunity for students to take courses we would not be able to offer to one or two kids."
Anytime, Anywhere, Anyplace	• "Quality learning opportunity available to students; any time, any where, any place." • "when course may be taken where course may be taken"
Reduction in Staff	• "We can place more kids taking multiple subjects in one classroom with one teacher than a multiple of classrooms and teachers." • "Less staff needed"
Provides Alternative Education Opportunities	• "ability to provide alternative education in a rural area"
21st Century Skills	• "Opportunity for students to engage in 21st century learning modalities"

Descriptive Statistics Analyses: Disadvantages or Concerns of Fully Online Courses (Survey Question 13)

In Survey Question 13, the school administrators were asked to indicate (in an open ended fashion) the disadvantages of providing Fully Online Semester Long Courses to their students during the 2011-2012 school year by addressing the question, "Overall, what are the disadvantages or concerns related to the provision of Fully Online Semester Long Courses within your school program?"

Results of the open-ended responses were tallied and assembled into logical groupings as identified by the researcher (see Table 21). The complete responses to Survey Question 13 are listed in Appendix L.

Table 21

Disadvantages or Concerns of Fully Online Courses (offered via Open-Ended Response) (Survey Question 13)

Category	Frequency	Percentage
Lack of Student Motivation	16	18.8
Lack of Rigor When Compared to Traditional Instruction	10	11.8
Lack of a Face to Face Teacher	8	9.4
Lack Of Instructional Support for Students	8	9.4
Lack of Student Course Completion	7	8.2
Multiple Disadvantages	7	8.2
Issues with Curriculum	6	7.1
Integrity of Student Work Product	5	5.9
Costs and Constraints	3	3.5
Lack of Student Time Management	3	3.5
Lack of Professional Development for Teachers to Integrate Technology into Teaching	2	2.4
Lack of Student Access to Technology at Home	2	2.4
Comments	8	9.4
Total	85	100

Of the 85 responses, 16 (18.8%) stated that lack of student motivation was a distinct disadvantage when utilizing Fully Online Semester Long Courses; 10 (11.8%)

stated that the academic rigor of Fully Online Semester Long Courses was less than the rigor expected out of students in a traditional face-to-face setting; eight (9.4%) of the respondents stated the lack of a face-to-face teacher was a disadvantage of the Fully Online Semester Long Course format; eight respondents (9.4%) also considered lack of instructional supports for students as a disadvantage to Fully Online Semester Long Course instruction; seven (8.2%) respondents said there was a lack of student course completion: seven other respondents (8.2%) provided multiple reasons for their concerns about the format. Issues with the curriculum were identified by six respondents (7.1%) as a disadvantage of the Fully Online Semester Long Course format. Five respondents (5.9%) mentioned concerns related to the integrity of the work product, fearing that students might not be actually completing their own work. Costs and constraints of online courses, and lack of student time management both were mentioned by three individuals, each corresponding to 3.5% of the total respondents. Two individuals (2.4%) were concerned about the lack of professional development for teachers so they could integrate technology into their teaching. Two respondents (2.4%) were concerned about the lack of student access to technology in their homes as a disadvantage to the format. Eight respondents (9.4%) made comments that were broad and general enough, but were isolated and did not fit neatly into a researcher identified grouping.

Table 22 provides responses to the open-ended narratives provided by the respondents in Survey Question 13. The grouping provides illustrative actual respondent narratives with the general commonalities of thought processes of the respondents. These open-ended responses provide insight into the respondents' particular situations in their own districts.

Table 22

Categorical Narratives of Respondents Related to the Disadvantages of Fully Online Courses (offered via Open-Ended Response) (Survey Question 13)

Research Identified Category	Illustrative Actual Respondent Narratives
Lack of Student Motivation	• "Unmotivated students still require structure and supervision to meet standards." • "Students must be self motivated and most are not, students typically do not do well in online classes unless it is a class that they have already been exposed to, many of the systems provide students easy ways out to get the work completed."
Lack of Rigor When Compared to Traditional Instruction	• "Quality of instruction, rigor, etc." • "Not as rigorous in the ELA area due to less writing." • "Integrity of the course is constantly reviewed to ensure rigor and fidelity of implementation."
Lack of a Face to Face Teacher	• "Even non-ADHD students need a bit more social interaction that an on-line curriculum can provide. There is nothing like a live teacher who can provide an interactive learning environment." • "Only useful for some kids; this style of learning is not conducive to many student's learning styles" • "Students struggle with the lack of teacher interaction"
Lack Of Instructional Support for Students	• "Lack of instructional support. Our lab is monitored by one person who could never aid learners in all of their challenging online courses. Some students game courses so they guess the right answers and do not actually learn content."
Lack of Student Course Completion	• "course completion" • "Students completions of courses" • "Student success in online courses continues to be our concern." • "Low completion percentage of online courses by at-risk students." • ". Many students have not been successful on fully online courses."
Issues with Curriculum	• "We have had to change grading scales and add academic requirements to commercial vendor online courses to increase the rigour of their courses used for the purpose of credit recovery. Courses used through GenNet's providers offer wonderful rigor comparable to that of a typical classroom, but very few students have been successful with them." • "not well aligned with our courses" • "World language classes didn't meet the need of our students."
Integrity of Student Work Product	• "They can cheat... academic integrity is an issue." • "As with any on-line course there is a concern that the work is being done by the student. We did have one student who was soliciting people to do his work for him." • "Students finding ways to cheat the system through a search engine."
Costs and Constraints	• "must provide teacher to oversee programs" • "Cost is a factor especially when students pay for the courses during summer school. The economy has put a crunch on needy families; and Some concerns about students having others do the work in their name."

Table 22 *Continued*

Lack of Student Time Management	• "Student time management and prioritization to meet curricular objectives because course have been asynchronous" • "Students do not budget time wisely for completing couse work with given parameters. Students tend do a lot of work at the last minute, as opposed to pacing their work over the entire timeline available to them."
Lack of Professional Development to Integrate Technology into Teaching	• "Need training for staff regarding how to be an online instructor - it is different from what they have been trained for." • "Concerns lie more with proper student placement than curriculum. Professional development is needed to help teachers who are attached to these courses learn how to construct a "blended learning' model the proper way."
Lack Tech Access to at Home	• "lack personal technology tools at home" • "lack home internet, cost"

Descriptive Statistics Analyses: Advantages of Online Experiences Incorporated within Classes (Survey Question 18)

In Survey Question 18, the respondents were offered an open-ended question that

asked them to indicate advantages of providing Online Experiences Incorporated within

Classes during the 2011-2012 school year by addressing the question, "Overall, what are

the advantages related to the provision of Online Experiences Incorporated within

Traditional Classes within your school program?"

Table 23

Advantages of Online Experiences Incorporated within Classes (offered via Open-Ended Response) (Survey Question 18)

Type	Frequency	Percentage
Differentiates Instruction	12	17.4
21st Century Skills	9	13.8
Supplements Classroom Instruction	7	10.1
Ease of Use	7	10.1
Flexibility	7	10.1
Self-Directed Learning	5	7.2
Individualizes Instruction	5	7.2
Increases Instructional Time	4	5.8
Multiple Reasons	4	5.8
Students Enjoy Technology	2	2.9
Improves Affect	2	2.9
Allows for "Flipping" of Instruction	2	2.9
Prepares Students for College	2	2.9
Meets the Michigan Merit Curriculum Requirements	1	1.4
Total	69	≈100

Results were tallied and have been assembled into logical groupings as identified by the researcher in Table 23.

As with the other open-ended questions in the survey, the researcher had hoped that allowing the participant the ability to answer in an open-ended manner would encourage them to be more elaborative in their insights; thus providing a window into their thought processes. It was also anticipated that there would be a level of anecdotal narrative support for any of the items that were found to be statistically significant by the inferential statistics analysis. The complete responses to the open-ended questions contained within Survey Question 18 are listed in Appendix N.

Of the 69 responses received, 14 distinct categories were identified by the researcher with responses for the questions ranging from 1 to 12: the answers had a percentage range from 1.04% to 17.4%. Twelve respondents (17.4%) mentioned that an advantage to the utilization of Online Experiences Incorporated within Classes to meet the Michigan mandate helps schools better differentiate instruction for their students. Nine of the respondents (13.8%) stated that Online Experiences Incorporated within Classes allowed students to gain 21st century skills. Three different responses each garnered seven comments (10.1% each) from the participants: they said that an advantage to using Online Experiences Incorporated within Classes supplements classroom instruction, provides ease of use for the faculty and students, and allows for greater flexibility. The ability for self-directed learning on the part of the students, and the ability to individualize instruction both received five responses from participants (7.2% each). Four individuals provided multiple reasons in their open-ended responses (5.8%),

and four individuals (5.8%) mentioned that utilizing Online Experiences Incorporated

within Classes increases instructional time for students. The following reasons all

garnered two responses (2.9%) each: students enjoy technology, Online Experiences

Incorporated within Classes improves affect, it allows for "flipping" of instruction, and

helps better prepare students for college. Finally, one individual (1.4%) mentioned

Online Experiences Incorporated within Classes are ways to meet the Michigan mandate.

Table 24

Categorical Narratives of Respondents Related to the Advantages of Online Experiences
Incorporated within Classes (offered via Open-Ended Response) (Survey Question 18)

Research Identified Category	Illustrative Actual Respondent Narratives
Differentiates Instruction	• "The differentiation piece is very difficult in a traditional setting." • "Differentiated instruction. Access for students 24-7." • "Real teachers that students can interact with. Lessons can be differentiated."
21st Century Skills	• "exposure to technology used in the workplace" • "Implementing an online experience within every classroom provides an additional differentiated experience as well as an opportunity for our students to practice 21st century learning skills." • "kids are more engaged, learn 21st century skills, larger audience, enrich curriculum, more options for classes, students are more organized, teach students to use tech wisely"
Supplements Classroom Instruction	• "Enhance learning experience and inquiry based learning" provides another way to access curriculum; extend curriculum; reinforce curriculum; remediate curriculum" • "The online experience allows for students and teachers to explore the curriculum from a more diverse perspective."
Ease of Use	• "Overall course management; ease of assigning work and collecting work; ease of assessment" • "Ease of use, cost effectiveness, and materials available."
Flexibility	• "Flexibility in scheduling, remediation/Credit Recovery, challenging content for advanced students" • "In the core areas it allows us to offer courses we may not have been able to otherwise; it allows us to use a blended learning model for at-risk students; it allows us to teach more than one course in a period in our business curriculum."
Self-Directed Learning	• "Students have opportunities to learn skills at their own pace." • "Student Directed Learning Self Paced Diagnostic in nature Ease in data collection Provides effective data review Provides information about learning gaps Shows areas of proficiency and weakness"

Table 24 *Continued*

Individualizes Instruction	• "More individualized instruction during class time." • "Teachers are able to monitor and personnally assist the students, more directed to gain greater experience with on-line learning." • "Allows more individualzed instruction based on teacher instruction. Able to reach almost all students during a school year."
Increases Instructional Time	• "More time for remediation and guided practice." • "Teachers are able to incorporate additional lessons/reviews utilizing technology." • "Enhances the course makes it more real life by use of technology"
Students Enjoy Technology	• "Students love to interact with a computer, especially when a curriculum can be adjusted to each student's level." • "Students like using technology"
Improves Affect	• "student-parent happy"
Allows for "Flipping" of Instruction	• "Flipped classroom-higher achievement"
Prepares Students for College	• "Students are prepared for college. The majority of students attending a college or university will be required to participate in an online course, we want to be sure they are prepared for this."
Meets the Michigan Merit Curriculum Requirement	• "Everyone is required to do it...good way to meet requirement."

Table 24 provides some illustrative responses offered for Survey Question 18.

Descriptive Statistics Analyses: Disadvantages or Concerns of Online Experiences Incorporated within Classes (Survey Question 19)

In Survey Question 19, the respondents were provided open-ended questions asking them to indicate disadvantages of providing Online Experiences Incorporated within Classes during the 2011-2012 school year: "Overall, what are the disadvantages or concerns related to the provision of Online Experiences Incorporated within Traditional Classes within your school program?"

Results were tallied and have been assembled into logical groupings identified by the researcher in Table 25. The complete answers to Survey Question 19 are offered in Appendix O.

Table 25

Disadvantages or Concerns of Online Experiences Incorporated within Classes (offered via Open-Ended Response) (Survey Question 19)

Type	Frequency	Percentage
Inaccessibility of Technology at School	13	25.0
General Comments	13	25.0
Lack of Student Completion of Content	8	15.4
Teachers' Inability to Manage the Learning Environment	6	11.5
Lack of Teacher Training	3	5.8
Students' Inability to Benefit from Online Instruction	3	5.8
Lack of Parent Acceptance	2	3.8
Inaccessibility of Technology at Students' Homes	2	3.8
Online Education Still Has Some Issues That Need to Be Addressed	1	1.9
Students May Become Distracted	1	1.9
Total	52	≈100

Of the 52 responses received, 10 distinct categories were identified by the researcher with responses for the questions ranging from 1 to 13: the answers had a percentage range from 1.9% to 25%.

The two responses that garnered the greatest number of open-ended responses was that a disadvantage of Online Experiences Incorporated within Classes were: (1) the lack of accessibility of technology at school (13 responses, 25%), and (2) general comments by the respondents (13 responses, 25%). Eight respondents (15.4%) stated a disadvantage of Online Experiences Incorporated within Classes was that students did not complete the content. Six respondents (11.5%) mentioned the teachers' inability to manage the learning environment as a detractor to Online Experiences Incorporated within Classes. Three individuals (5.8%) mentioned lack of teacher training, and another three (5.8%) mentioned students' inability to benefit from online instruction. Lack of parent acceptance and inaccessibility of technology at students' homes were both

mentioned twice (3.8% each). Finally one individual (1.9%) stated online education still

has some issues that need to be addressed, and one individual (1.9%) stated students

might become distracted as a disadvantage of providing Online Experiences Incorporated

within Classes to meet the Michigan mandate.

Table 26

Categorical Narratives of Respondents Related to the Disadvantages of Online Experiences Incorporated within Classes (offered via Open-Ended Response) (Survey Question 19)

Research Identified Category	Illustrative Actual Respondent Narratives
Inaccessibility of Technology at School	"With the small nature of our program (approximately 120 students), the accessibility of computers is an issue, as our lab has 20 student stations and is utilized 3 out of 6 periods per day." "A lack of computer time for classroom teachers. We need to add computer labs to fully accommodate all of the students."
Lack of Student Completion of Content	"Students do not know how to pace themselves and fall behind in curriculum." "Students don't always complete all lessons"
Teachers' Inability to Manage the Learning Environment	"The multitude of options can be overwelming and the overall availability of technology resources, including infrastructure, has limitations." "Technology that doesn't function well enough to make it a valuable experience. Too many kinks in the system and not enough resources to make it better"
Lack of Teacher Training	"Mostly logistical - teaching all staff members how to appropriately operate the system." "More teacher training is needed." "time for PD for teachers on how best to use on line resources and time for them to research material available"
Students' Inability to Benefit from Online Instruction	"Some students do not do well with on-line learning." "Low completion percentage for at-risk students"
Lack of Parent Acceptance	"Parent acclimation" "Getting parents and students to 'buy in'"
Inaccessibility of Technology at Students' Homes	"Some disparity for families without high speed internet connection." "The only issue is if the student's have the availability to use the computers outside of the school."
Online Education Still Has Some Issues That Need to Be Addressed	"Online seems to be a panacea for all in education, accountability is biggest issue, academic dishonesty with any online experience, research on effectiveness all over the map (look at online charter research)"
Students May Become Distracted	"At this time, the only disadvantage I can see in a blended model is that students may try to access other areas on the computer during their computer time. In a well managed classroom, this does not occur."

Table 26 provides responses to the open-ended narratives provided by the respondents in Survey Question 19. The grouping provided in Table 24 are utilized with the general commonalities of thought processes of the respondents were utilized.

Descriptive Statistics Analyses: Impact of Providing Online Educational Opportunities (Survey Question 21)

In Survey Question 21, the respondents were asked to indicate the perceived impact providing Online Educational Opportunities has had on educational support for students with specific learning and programming needs during the 2011-2012 school year: "To what extent has meeting the mandate actually helped your school provide better support for the following students; students failing classes; students "at risk" of dropping out of school; students requiring an accelerated curricula; students requiring credit recovery; and students requiring special education services?"

The number of responses for the separate stems of the questions ranged from 83 to 84, with answers having a mean range from 2.24 to 3.68 out of 5.0.

Table 27

Impact of Providing Online Educational Opportunities (Survey Question 21)

Helped School Better Support	Not at all N(%)	To a small extent N(%)	To a moderate extent N(%)	To a large extent N(%)	To a very large extent N(%)	M	N
Students requiring credit recovery	9(10.7)	5(6.0)	12(14.3)	36(42.9)	22(26.2)	3.68	84
Students "at risk" of dropping out of school	10(11.9)	12(14.3)	14(16.7)	36(42.9)	12(14.3)	3.33	84
Students failing classes	12(14.5)	10(12.0)	16(19.3)	32(38.6)	13(15.7)	3.29	83
Students requiring an accelerated curricula	13(15.7)	17(20.5)	21(25.3)	24(28.9)	8(9.6)	2.96	83
Students requiring special education services	23(27.7)	31(37.3)	18(21.7)	8(9.6)	3(3.6)	2.24	83

Table 27 describes the respondents' ratings as to the amount providing Online

Educational Opportunities has helped the school better support students with varying

academic needs, as ranked from highest overall mean to the lowest.

Eighty-four respondents said students requiring credit recovery had the greatest

student impact through the provision of Online Educational Opportunities with a mean

score of 3.68 out of 5.0. Eighty-four respondents said students "at risk" of dropping out

of school would be impacted by Online Educational Opportunities with a mean score of

3.33 out of 5.0. Students failing classes were thought to be impacted by Online

Educational Opportunities by eighty-three respondents with a mean score of 3.29 out of

5.0. Students requiring an accelerated curriculum were rated by eighty-three respondents

to have a mean score of 2.96 out of 5, and students requiring special education services

were rated by eighty-three respondents as least likely to be impacted by Online

Educational Opportunities with a mean score of 2.24 out of 5.0.

Descriptive Statistics Analyses: Extent Online Educational Opportunities have Impacted Students (Survey Question 22)

In Survey Question 22, the respondents were asked to indicate the perceived

impact providing Online Educational Opportunities has had on general educational

opportunities for students during the 2011-2012 school year by addressing the question,

"To what extent have Online Educational Opportunities allowed students to: interact with

other students and experts from around the globe; utilize things like webquests, blogs,

podcasting, webinars, or virtual reality simulations; utilize an online learning

management system that allows ongoing interactive opportunities for students; use

technology tools for online research or online projects; develop an electronic portfolio

(organized collection of completed materials); determine the value and reliability of content found on websites and other online resources; participate in an interactive discussion with an instructor or expert, such as an author; communicate via threaded discussions with other students in and outside of their school; participate in authentic experiences through online field trips; participate in an online project where students apply understanding to simulated or real data; participate in learning activities such as test preparation tools and career planning resources; and publish student work to a larger Internet audience?" The number of responses for the separate stems of the questions ranged from 81 to 84, with answers having a mean range from 2.08 to 3.81 out of 5.0.

Eighty-three respondents had a mean score of 3.81 out of 5.0 when asked about the extent to which the students in their school use technology tools for online research or online projects. Eighty-four respondents had a mean score of 3.29 out of 5.0 when asked about the extent to which students participate in learning activities such as test preparation tools and career planning resources through Online Educational Opportunities. Eighty-four respondents said their schools utilize an online learning management system that allows ongoing interactive opportunities for students with a mean score of 3.21 out of 5.0. According to 84 participants, their students determine the value and reliability of content found on websites and other online resources to a moderate extent as evidenced by their mean score of 3.0 out of 5.0. Students utilize things like web quests, blogs, podcasting, webinars, or virtual reality simulations through the use of Online Educational Opportunities with a mean score of 2.99 out of 5.0 as evidenced by the responses of 83 survey participants.

According to 83 respondents, students participate in an online project where students apply understanding to simulated or real data at a mean rate of 2.73 out of 5.0. To an extent of 2.70 out of 5.0, 83 respondents stated their students communicate via threaded discussions with other students in and outside of their school; 83 participants report their students develop an electronic portfolio (organized collection of completed materials) 2.63 out of 5.0; 81 respondents reported that their students participate in an interactive discussion with an instructor or expert, such as an author to an extent of 2.62 out of 5.0.

Eighty-three respondents stated that Online Educational Opportunities impacted students to an extent of 2.46 out of 5.0 in allowing them to publish student work to a larger Internet audience. Eighty-three respondents stated that having students participate in authentic experiences through online field trips had a 2.30 out of 5.0 impact on their students. To a small extent, having students interact with other students and experts from around the globe was described by 83 respondents as evidenced by their 2.08 mean score out of 5.0.

Table 28 provides a hierarchy of the extent to which Online Educational Opportunities have allowed students in the respondents' schools to do a number of activities, as ranked from highest overall mean to lowest.

Table 28

Extent Online Educational Opportunities have Impacted Students (Survey Question 22)

How Helped Students	Not at all	To a small extent	To a moderate extent	To a large extent	To a very large extent	M	N
	N(%)	N(%)	N(%)	N(%)	N(%)		
Use technology for online research	0(0.0)	4(4.8)	22(26.5)	43(51.8)	14(16.9)	3.81	83

Table 28 *(Continued)*

Participate in learning activities like test prep tools	2(2.4)	18(21.4)	30(35.7)	22(26.2)	12(14.3)	3.29	84
Utilize online learning management system	6(7.1)	14(16.7)	29(34.5)	26(31.0)	9(10.7)	3.21	84
Determine value & reliability of content on websites	6(7.1)	18(21.4)	34(40.5)	22(26.2)	4(4.8)	3.00	84
Utilize web quests, blogs, podcasting, webinars, etc.	4(4.8)	24(28.9)	30(36.1)	19(22.9)	6(7.2)	2.99	83
Participate in online projects & apply understanding	10(12.0)	26(31.3)	26(31.3)	18(21.7)	3(3.6)	2.73	83
Communicate via threaded discussions with other students	12(14.5)	25(30.1)	28(33.7)	12(14.5)	6(7.2)	2.70	83
Develop an electronic portfolio	12(14.5)	27(32.5)	28(33.7)	12(14.5)	4(4.8)	2.63	83
Participate in an interactive discussion	13(16.0)	26(32.1)	24(29.6)	15(18.5)	3(3.7)	2.62	81
Publish student work to Internet	19(22.9)	22(26.5)	29(34.9)	11(13.3)	2(2.4)	2.46	83
Participate in online field trips	24(28.9)	23(27.7)	26(31.3)	7(8.4)	3(3.6)	2.30	83
Interact with others around the globe	25(30.1)	33(39.8)	19(22.9)	5(6.0)	1(1.2)	2.08	83

Descriptive Statistics Analyses: Extent Online Educational Opportunities have Influenced the School System (Survey Question 23)

In Survey Question 23, the respondents were asked to indicate the perceived impact providing Online Educational Opportunities incorporated has had on the school system during the 2011-2012 school year by addressing the question, "What type of impact has meeting the mandate for Online Educational Opportunities had on: the finances of your district; the finances of your school; curriculum offerings for your students; academic achievement of your students; engagement of your students in the learning process; and your overall educational program?"

The number of responses for the separate stems of the questions ranged from 81 to 82, with answers having a mean range from 3.34 to 4.85 out of 6.0.

Eighty-two of the respondents stated that Online Educational Opportunities influenced curriculum offerings offered to their students to an extent of 4.85 out of 6.0. Eighty-one said that Online Educational Opportunities affected their overall educational program to an extent of 4.75 out of 6.0. Eighty-one respondents stated they thought Online Educational Opportunities positively impacted students engagement in the learning process to an extent of 4.68 out of 6.0. Academic achievement of students was impacted at a rate of 4.57 out of 6.0 according to 82 respondents. The finances of the district were slightly more positively impacted (3.43 out of 6.0) than were the finances of the school (3.34 out of 6.0) according to 82 respondents.

Table 29

Extent Online Educational Opportunities have Influenced the School System (Survey Question 23)

Impact on School System	Significant Negative Impact N(%)	Moderate Negative Impact N(%)	Slight Negative Impact N(%)	Slight Positive Impact N(%)	Moderate Positive Impact N(%)	Significant Positive Impact N(%)	M	N
Curriculum offerings	1(1.2)	1(1.2)	5(6.1)	18(22.0)	34(41.5)	23(28.0)	4.85	82
Overall program	0(0.0)	1(1.2)	0(0.0)	31(38.3)	35(43.2)	14(17.3)	4.75	81
Engagement of students	0(0.0)	1(1.2)	0(0.0)	35(43.2)	33(40.7)	12(14.8)	4.68	81
Achievement of students	0(0.0)	1(1.2)	4(4.9)	34(41.5)	33(40.2)	10(12.2)	4.57	82
Finances of your district	3(3.7)	7(8.5)	38(46.3)	21(25.6)	12(14.6)	1(1.2)	3.43	82
Finances of your school	6(7.3)	8(9.8)	36(43.9)	20(24.4)	8(9.8)	4(4.9)	3.34	82

Table 29 provides a hierarchy of score of the extent to which Online Educational Opportunities have influenced the respondents' school system, as ranked from highest overall mean to lowest.

Descriptive Statistics Analyses: Level of Confidence the Mandate is Being Met (Survey Question 29)

In Survey Question 29, the respondents were asked to rate their level of confidence that their district was meeting the mandate to provide Online Educational Opportunities during the 2011-2012 school year by addressing the question, "I am confident that my school is meeting the state mandate requiring Online Educational Opportunities for all students prior to their high school graduation."

Seventy-three respondents (86.9%) stated that they were definitely sure that their school is meeting the state requirements for Online Educational Opportunities, 10 respondents (11.9%) are fairly sure their school is meeting the requirements, and one respondent (1.2%) is not sure that their school is meeting the mandate prior to graduation.

Table 30

Level of Confidence the Mandate is Being Met (Survey Question 29)

Level of Confidence	Total	Percentage
Definitely Sure	73	86.9
Fairly Sure	10	11.9
Not Sure	1	1.2
Total	84	100

Table 30 provides information related to the respondents' level of confidence that their school is meeting the state mandate for Online Educational Opportunities prior to graduation. It provides information on the total number of responses, as well as the percentage for each response.

Descriptive Statistics Analyses: Level of Overall Benefit of the Mandate (Survey Question 30)

In Survey Question 30, the respondents were asked to rate the level of benefit that their district received by providing Online Educational Opportunities during the 2011-2012 school year by addressing the question, "Overall, our school has benefited by meeting the requirements of providing Online Educational Opportunities for each student prior to high school graduation."

Thirty-eight respondents (45.8%) agreed that their school benefited by meeting the requirements of providing Online Educational Opportunities for each student prior to high school graduation, 25 respondents (30.1%) strongly agreed, 13 (15.7%) moderately agreed. Three (3.6%) of the respondents moderately disagreed that their school had benefited by meeting the requirements of providing Online Educational Opportunities for each student prior to high school graduation, two respondents (2.4%) disagreed, and two respondents strongly disagreed (2.4%).

Table 31

Level of Overall Benefit of the Mandate (Survey Question 30)

Level of Agreement	Total	Percentage
Agree	38	45.8
Strongly Agree	25	30.1
Moderately Agree	13	15.7
Moderately Disagree	3	3.6
Disagree	2	2.4
Strongly Disagree	2	2.4
Total	83	100

Table 31 provides information related to the respondents' perspective about the level of benefit their school enjoyed as a result of meeting the mandate.

Descriptive Statistics Analyses: Overall Thoughts of the Mandate Requirements (Survey Question 31)

In Survey Question 31, the respondents were asked to provide any other thoughts that they had about the Michigan Merit's Curriculum requirements for Online Educational Opportunities as a condition for graduation. Of the 36 responses received, six distinct categories were identified and created by the researcher, responses for the questions ranging from 1 to 12, with answers having a percentage range from 2.8% to 33.3%.

Table 32

Overall Thoughts of the Mandate Requirements (offered via Open-Ended Response) (Survey Question 31)

Thoughts	Frequency	Percentage
Agree With the Mandate	12	33.3
Students Need to Possess Online Skills	11	30.5
Lack of Support for Meeting the Mandate Requirements	6	16.7
Would Still Offer If Not Mandated	4	11.1
Disagree With the Mandate	2	5.6
Infrastructure Needs	1	2.8
Total	36	100

To provide a greater feel for the breadth and depth of the respondents' responses to the survey question, results were tallied and have been assembled into logical groupings as identified by the researcher in Table 32.

Table 33 provides some illustrative responses to the open-ended narratives provided by the respondents in Survey Question 19. The grouping provided in Table 33 are utilized with the general commonalities of thought processes of the respondents were utilized.

Table 33

Categorical Narratives of Respondents Overall Thoughts of the Mandate Requirements (offered via Open-Ended Response) (Survey Question 31)

Research Identified Category	Illustrative Actual Respondent Narratives
Agree With the Mandate	• "My opinion is that it is a positive experience under proper supervision and support mechanisms. We are confident that our students are not only garnering a positive educational experience, but also engaging in technology- rich activities and gaining technology proficiencies along the way" • "It may work to keep districts honest in maintaining technology access to students. However, districts need to take the initiative to utilize technologies that the world uses outside of classroom walls and break down the barriers to learning that limit student potential by only relying on human resources that haven't adequately been trained to teach 21st Century learners in classrooms that were designed structurally and pedagogically for 1940's learning needs." • "do not think that we can do without this requirment in this day in age" • "I appreciate the intent of the mandate, and the fact that local districts were able to make the decision on how to implement effectively for their community's needs."
Students Need to Possess Online Skills	• "Students live in a digitial world - this is how they work and learn. Many adults are here too. It is the way of the present, and employers expect competency. It needs to be included." • "Students need to possess 21st century skills but the mandate does not guarantee that students will gain them throw gh online learning."
Lack of Support for Meeting the	• "The presence of the law has not determined what or why we access technology - our teachers' desire to provide students with indepth experiences and to access social network sites guides decisions." • "Many students in the alternative program do take on-line courses outside of the school day as a means of recovering credits; those in the STEM school (magnet program) access on-line courses as a way "to get ahead."
Mandate Requirements	• "State mandated curriculum with out state funding. Unfunded mandates are very difficult for schools to meet."
Would Still Offer If Not Mandated	• "Regardless of this on-line experience, we would still pursue on-line programs, as it is essential for students who need certain credits." • "Our students have benefited from the online opportunities we planned to provide and do, as part of the program design. It had nothing to do with the mandate. So they did not benefit for the mandate. They benefit from the program and the teachers."
Disagree With the Mandate	• "All students are different, as well as all school districts. Quite frankly, mandates from the state and federal government are difficult as the "one size fits all" approach does not work in education." • "Needed but should not be mandated"
Infrastructure Needs	• "Some disparity for families without high speed internet connection."

For a more thorough listing of the complete answers to Survey Question 31, the reader is encouraged to go to Appendix Q.

Regression Analyses for Research Question 3

Research Question 3 asked "What positive and negative issues have arisen as schools work to implement this mandate, specifically the impacts on students, faculty and staff, as well as finance, curriculum, and school and district educational structures, and what relationship, if any, exist between various input variables (e.g., type of online opportunities utilized, technology access and training) and various outcome variables (e.g., impact on program, impact on students)?"

A univariate regression model was utilized to show which of the two inputs (type of online opportunities utilized, and technology access & training) were related to each of the two outcomes (impact on programs, and impact on students) identified in Survey Question 3. Utilizing SAS, the researcher placed the inputs and outcomes into a model to analyze how the inputs influenced the outcomes. The default option for the statistical program was utilized for the model development due to a small number of inputs and outcomes identified, and since there was no consideration being given as to weighting or adjusting any of those variables to identify significant differences. The results of the univariate regression therefore were straightforward in determining which variables were able to provide a statistically significant explanation for the variance found.

Each of the survey questions were considered intentionally to see how they specifically fit into the input and outcome variables identified in Research Question 3. For the inputs, Survey Questions 8, 16, 24, 25 and 26 were distilled into the following input variables: all courses, all experiences, access means, and training means. For the outcomes, Survey Questions 11 and 23 were identified as the dependent variables indicative of program impact outcomes, and Survey Questions 21 and 22 were identified

as the dependent variables indicative of student impact outcomes. The "all course" variable considered how the utilization of Fully Online Semester Long Courses for both core and non-core academic classes would influence the dependent outcome variables. Conversely, the "all experience" variable considered how the utilization of Online Experiences Incorporated within Classes for both core and non-core academic classes would influence the dependent outcome variables. The "access means" aggregated the scores related to the respondents' input on their students', teachers' and administrators' ability to access the necessary technologies at home and at school, then averaged the responses to identify any influence it might have upon the dependent outcome variables. Finally, "training means" aggregated the scores related to the respondents' input on their students', teachers' and administrators' ability to access the necessary training to effectively utilize the technologies, then averaged the responses to identify any influence it might have upon the dependent outcome variables.

Table 34 examines which research questions were utilized for the univariate regression analysis.

Table 34

Survey Questions Utilized for Univariate Regression for Research Question 3

Type	Survey Question
Inputs	8 - Of the fully online semester long courses taken by your students this past school year, which curriculum content areas were one or more of the classes in?; English Language Arts; Mathematics; Science; Social Studies; Visual, Performing and Applied Arts; Physical and Health Education; Languages Other Than English; and Career or Vocational Education?
	16 - Of the online experiences incorporated within traditional classes taken by your students this past school year, which curriculum content areas were one or more of the classes in?: English Language Arts; Mathematics; Science; Social Studies; Visual, Performing and Applied Arts; Physical and Health Education; Languages Other Than English; and Career or Vocational Education?

Table 34 *(Continued)*

	24 - To what extent do your students engaged in online educational opportunities have; adequate access to computers and internet at school; adequate access to computers and internet at home; adequate technology training or other supports?
	25 - To what extent do your teachers engaged in online educational opportunities have adequate access to computers and internet at school; adequate access to computers and internet at home; adequate technology training or other supports?
	26 - To what extent do your administrators engaged in online educational opportunities have adequate access to computers and internet at school; adequate access to computers and internet at home; and adequate technology training or other supports?
Outcomes	11 - To what extent have the fully online semester long courses offered to students: a. been organized in a coherent, sequential manner; b. have instructional goals, objectives, strategies, and assessments that are aligned with state standards, benchmarks and expectations; and c. provide comparable in rigor, depth, and breadth to traditionally delivered courses?
	21 - To what extent has meeting the mandate actually helped your school provide better support for the following students; students failing classes; students "at risk" of dropping out of school; students requiring an accelerated curricula; students requiring credit recovery; and students requiring special education services?
	22 - To what extent have online educational opportunities allowed students to; interact with other students and experts from around the globe; utilize things like webquests, blogs, podcasting, webinars, or virtual reality simulations; utilize an online learning management system that allows ongoing interactive opportunities for students; use technology tools for online research or online projects; develop an electronic portfolio (organized collection of completed materials); determine the value and reliability of content found on websites and other online resources; participate in an interactive discussion with an instructor or expert, such as an author; communicate via threaded discussions with other students in and outside of their school; participate in authentic experiences through online field trips; participate in an online project where students apply understanding to simulated or real data; participate in learning activities such as test preparation tools and career planning resources; and publish student work to a larger Internet audience?
	23 - What type of impact has meeting the mandate for online educational opportunities had on: the finances of your district; the finances of your school; curriculum offerings for your students; academic achievement of your students; engagement of your students in the learning process; and your overall educational program?

Utilizing an univariate regression model, of the two survey questions that were considered for student impact outcomes (Survey Questions 21 and Survey Question 22), only one (Survey Question 22) was found to have values necessary to predict statistically significant relationships. Additionally, of the two survey questions that were considered for program impact outcomes (Survey Questions 11 and Survey Question 23), only one (Survey Question 23) was found to have values necessary to predict statistically significant relationships.

Student impact outcomes. In Survey Question 21, univariate regression analysis was used to test if staff, student and administrator technological training; staff, student, and administrator access to technology at home and school; providing Fully Online Semester Long Courses to students; and providing Online Experiences Incorporated within Classes significantly predicted the improvement in student support. It was found that none of the input variables significantly predicted the improvement in student support, having no statistical impact on the student impact outcome.

In Survey Question 22, univariate regression analysis was used to test if staff, student and administrator technological training; staff, student, and administrator access to technology at home and school; providing Fully Online Semester Long Courses to students; and providing Online Experiences Incorporated within Classes significantly predicted the improvement in student access to curriculum. It was found that staff, student and administrator technological training; as well as providing Online Experiences Incorporated within Classes significantly predicted the improvement in student access to curriculum on the student impact outcome. The results of the regression indicated the two predictors explained 30.31% of the variance ($R^2 = .3104$, $F(4,65) = 7.31$, $p \leq 0.05$). It was found that that staff, student and administrator technological training significantly predicted improvement in student access to curriculum ($\beta = .42$, $p \leq 0.05$). It was also found that that providing Online Experiences Incorporated within Classes significantly predicted improvement in student access to curriculum ($\beta = .12$, $p \leq 0.05$).

Program impact outcomes. In Survey Question 11, univariate regression analysis was used to test if staff, student and administrator technological training; staff, student, and administrator access to technology at home and school; providing Fully

Online Semester Long Courses to students; and providing Online Experiences Incorporated within Classes significantly predicted the quality of online opportunities offered. It was found that none of the input variables significantly predicted the quality of online opportunities offered, having no statistical impact on the student impact outcome.

In Survey Question 23, univariate regression analysis was used to test if staff, student and administrator technological training; staff, student, and administrator access to technology at home and school significantly predicted improvement in the school programs' financial and perceived achievement measures; providing Fully Online Semester Long Courses to students significantly predicted improvement in the school programs' financial and perceived achievement measures; and providing Online Experiences Incorporated within Classes significantly predicted improvement in the school programs' financial and perceived achievement measures. It was found providing Fully Online Semester Long Courses to students significantly predicted improvement in the school programs' financial and perceived achievement measures. The results of the regression indicated the one predictor explained 7.88% of the variance ($R2 = .1542$, $F(4,64) = 2.92$, $p \leq 0.05$). It was found that providing Fully Online Semester Long Courses to students significantly predicted improvement in the school programs' financial and perceived achievement measures ($ß = .1186$, $p \leq 0.05$).

Table 35 provides information related to the survey questions that have statistically significant results related to Research Question 3.

Table 35

Statistically Significant Inputs and Outcomes (Survey Questions 11, 21, 22 & 23)

Survey Question and Sub Questions	Type of Input	Type of Impact Outcome	Level of Significance
Survey Question 22: To what extent have Online Educational Opportunities allowed students to: interact with others; utilize online tools; utilize online learning management systems; use technology tools for online research or online projects; develop an electronic portfolio; judge internet content; participate in an interactive discussions; participate in online field trips and project; and publish student work to a larger Internet audience?	Staff, Student and Administrator Technology Training	Improvement of Student Access to Curriculum	ß = .42, $p \leq 0.05$
Survey Question 22: To what extent have Online Educational Opportunities allowed students to: interact with others; utilize online tools; utilize online learning management systems; use technology tools for online research or online projects; develop an electronic portfolio; judge internet content; participate in an interactive discussions; participate in online field trips and project; and publish student work to a larger Internet audience?	Providing Online Experiences Within Existing Classes	Improvement of Student Access to Curriculum	ß = .12, $p \leq 0.05$
Survey Question 23: What type of impact has meeting the mandate for Online Educational Opportunities had on: the finances of your district; the finances of your school; curriculum offerings for your students; academic achievement of your students; engagement of your students in the learning process; and your overall educational program?	Providing Fully Online Semester Long Courses	Improvement in the School Programs' Financial and Perceived Achievement Measures	ß = .1186, $p \leq 0.05$

Statistics Analyses of Research Question 4

Research Question 4 attempted to answer the question To what extent were

districts receiving support for implementation of the mandate? Survey Questions 9 and

20 were utilized to answer this question.

Descriptive Statistics Analyses: Provider Breakdown of Fully Online Courses (Survey Question 9)

In Survey Question 9, the respondent administrators were asked to indicate what

organizations their school district utilized to provide the content and supervision for the

Fully Online Semester Long Courses utilized by their district during the 2011-2012 school year by addressing the question, "Of the Fully Online Semester Long Courses taken by your students this past school year, which of the following provided all or some of the course: a Michigan College or University; a non-Michigan College or University; a Commercial Vendor; your Intermediate School District; another Intermediate School District in Michigan, other than your own; your Local District; and a Local District within Michigan, other than your own?"

Eighty-seven (92.6%) of the districts had a commercial vendor provide all or some of their Fully Online Semester Long Courses, 31(38.8%) of the districts had a Michigan College or University provide all or some of their Fully Online Semester Long Courses, 23 (29.9%) of the districts had a non-Michigan College or University provide all or some of their Fully Online Semester Long Courses, 19 (25.7%) of the districts provide their own content for all or some of their Fully Online Semester Long Courses, 16 (20.8%) of the districts had an Intermediate School District other than their own provide all or some of their Fully Online Semester Long Courses, 12 (16.4%) obtained their content from their own Intermediate School District for all or some of their Fully Online Semester Long content, and five (6.9%) obtained content for Fully Online Semester Long Courses from a local district within Michigan other than their own.

Table 36 provides a breakdown of the organizations that provided the subject matter content for the Fully Online Semester Long Courses that were provided to their students, listed from the largest percentage.

Table 36

Provider Breakdown of Fully Online Courses (Survey Question 9)

Provider of Content	Provided All or Some Courses N(%)	Provided No Course N(%)	Do Not Know N(%)	Total Respondent N
A Commercial Vendor	87(92.6)	6(6.4)	1(1.1)	94
A Michigan College or University	31(38.8)	48(60.0)	1(1.3)	80
A Non-Michigan College or University	23(29.9)	50(64.9)	4(5.2)	77
Your Local District	19(25.7)	53(71.6)	2(2.7)	74
Another Intermediate School District in the State Other Than Your Own	16(20.8)	59(76.6)	2(2.6)	77
Your Intermediate School District	12(16.4)	59(80.8)	2(2.7)	73
A Local District within Michigan Other Than Your Own	5(6.9)	66(91.7)	1(1.4)	72

Descriptive Statistics Analyses: Organizational Assistance for Providing Online Educational Opportunities (Survey Question 20)

In Survey Question 20, the respondents were asked to indicate where they received organizational assistance from when providing Online Educational Opportunities during the 2011-2012 school year by addressing the question, "To what extent have the following entities assisted your school in providing Online Educational Opportunities: The Michigan Department of Education; your Intermediate School District; your own district; an external vendor; the Michigan Association for Computer Users in Learning (MACUL); the Michigan Virtual University (MVU); other local districts; and other Intermediate School Districts?"

The number of responses for the separate stems of the questions ranged from 82 to 84, with answers having a mean range from 1.50 to 3.76 out of 5.0.

Eighty-three respondents had a mean score of 3.76 out of 5.0 stating that their own district provided the greatest source of assistance when integrating Online Educational Opportunities within existing courses. Eighty-four respondents had a mean score of 3.24 out of 5.0 when stating an external vendor provided assistance for Online

Educational Opportunities. Eighty-three respondents had a mean score of 2.83 out of 5.0

when stating MVU provided assistance. Eighty-three respondents had a mean score of

2.26 out of 5.0 when stating their own Intermediate School District provided the

organizational assistance for the online integration. Eighty-two respondents stated

MACUL provided the assistance with a mean score of 1.96 out of 5.0. The Michigan

Department of Education was third from the last least likely support for schools, by

garnering a mean score of 1.66 out of 5.0. Other local school districts were mentioned by

eighty-two respondents for a mean score of 1.59 out of 5.0, with other Intermediate

School Districts coming in last as the least likely to offer organizational assistance and

support to schools as they planned for and integrated Online Educational Opportunities to

meet the Michigan mandate with a mean score of 1.50 out of 5.0.

Table 37

Organizational Assistance for Providing Online Educational Opportunities (Survey Question 20)

Source of Assistance	Not at all N(%)	To a small extent N(%)	To a moderate extent N(%)	To a large extent N(%)	To a very large extent N(%)	M	N
Your own district	5(6.0)	9(10.8)	15(18.1)	26(31.3)	28(33.7)	3.76	83
An external vendor	9(10.7)	20(23.8)	12(14.3)	28(33.3)	15(17.9)	3.24	84
Michigan Virtual University	21(25.3)	18(21.7)	13(15.7)	16(19.3)	15(18.1)	2.83	83
Your Intermediate School District	18(21.7)	37(44.6)	16(19.3)	11(13.3)	1(1.2)	2.28	83
Michigan Association for Computer Users in Learning	38(46.3)	18(22.0)	17(20.7)	9(11.0)	0(0.0)	1.96	82
Michigan Department of Education	46(55.4)	23(27.7)	11(13.3)	2(2.4)	1(1.2)	1.66	83
Other local districts	50(61.0)	21(25.6)	6(7.3)	5(6.1)	0(0.0)	1.59	82
Other Intermediate Schools	60(71.4)	13(15.5)	5(6.0)	5(6.0)	1(1.2)	1.50	84

Table 37 provides a complete breakdown of the responses provided by the

respondents, with the number and percentage of each response to each question stem

being broken out by the extent each factor played by different types of organizations across the state. They are ranked from highest overall mean to the lowest mean.

Statistics Analyses of Research Question 5

Research Question 5 considered what differences, if any, existed between each of the four identified independent variables (Respondent Role, Geographic Type of District, Region of State, and School District Class Based Upon Enrollment). However, due to lack of variance on responses, all but one of the independent variables was eliminated for inferential statistics observation to identify any significant differences that existed. School District Class Size Based Upon Enrollment was the only independent variable that received enough responses from the respondents to make inferential statistics analysis for Survey Question 5 possible through an ANOVA procedure.

Inferential Statistics ANOVA Analyses of Research Question 5

Research Question 5 asked, "[T]o what extent are there differences between schools based on various demographic variables (e.g., total school population, region of the state)?" To answer Research Question 5, a one-way ANOVA was conducted on selected survey questions to compare the effect of School District Class Size Based Upon Enrollment on the survey question being considered. As mentioned earlier in this chapter, School District Class Size Based Upon Enrollment was the only demographic variable that received enough responses from the respondents to create enough of a variance between the means to make inferential statistics analysis through an ANOVA procedure possible.

All responses for each of the survey questions were down loaded from the Surveymonkey.com website established by the researcher. Each non-open ended Survey

Question response was coded and ran through a General Liner Model (GLM) analysis

utilizing SAS. The least squares means method was selected to detect differences

between the means of each of the responses based on District Class Size. Least square

means calculations were selected because they perform multiple comparisons on potential

interactions, as well as simultaneously making comparisons on main effects (SAS/STAT

Users Guide, 2012). For the ANOVA calculations that were found to have significant R^2

and F statistic values, a Tukey-Kraemer analysis was completed to look for statistical

effect, because an ANOVA in and of itself is not able to indicate which group may be

responsible for a significant effect (Sawyer, 2009). The results with ANOVA values tells

the researcher that there are some significant conditions within the experiment, with no

indication where the effect exists. A follow-up procedure is necessary to compare each

condition with other conditions to identify which conditions are significantly different

from which other specific conditions. The Tukey-Kramer follow-up calculation was

selected because it does not require equal sample sizes, and it has a low false positive

Type I error potential.

Inferential statistics ANOVA analyses: Curriculum content areas (survey

question 8). Survey Question 8, Part A asked the participants "Of the Fully Online

Semester Long Courses taken by your students this past school year, which curriculum

content areas were one or more of the classes in: a. English Language Arts?" There was

not a significant effect of school district class on the utilization of Fully Online Semester

Long Courses in the curriculum area of English Language Arts at the $p \leq 0.05$ level for

the three conditions [$F(3,97) = 1.04$, $p = 0.3769$].

Table 38 provides information related to the GLM Least Squares Means Test for Significance Results for Survey Question 8, Part A

Table 38

GLM Least Squares Means Test for Significance Result for Survey Question 8, Part A

	Sum of Squares	df	Mean Square	F	Level of Significance
Model	0.40675749	3	0.13558583	1.04	0.3769
Error	12.60314350	97	0.12992931		
Corrected Total	13.00990099	100			

Survey Question 8, Part B asked the participants "Of the Fully Online Semester Long Courses taken by your students this past school year, which curriculum content areas were one or more of the classes in: b. Mathematics?" There was not a significant effect of school district class on the utilization of Fully Online Semester Long Courses in the curriculum area of Mathematics at the $p \leq 0.05$ level for the three conditions [$F(3,96) = 0.88$, $p = 0.4520$].

Table 39 provides information related to the GLM Least Squares Means Test for Significance Results for Survey Question 8, Part B.

Table 39

GLM Least Squares Means Test for Significance Result for Survey Question 8, Part B

	Sum of Squares	df	Mean Square	F	Level of Significance
Model	0.25179767	3	0.08393256	0.88	0.4520
Error	9.10820233	96	0.09487711		
Corrected Total	9.36000000	99			

Survey Question 8, Part C asked the participants "Of the Fully Online Semester Long Courses taken by your students this past school year, which curriculum content

areas were one or more of the classes in: c. Science?" There was not a significant effect of school district class on the utilization of Fully Online Semester Long Courses in the curriculum area of Science at the $p \leq 0.05$ level for the three conditions [$F(3,96) = 1.48$, $p = 0.2261$].

Table 40 provides information related to the GLM Least Squares Means Test for Significance Results for Survey Question 8, Part C.

Table 40

GLM Least Squares Means Test for Significance Result for Survey Question 8, Part C

	Sum of Squares	df	Mean Square	F	Level of Significance
Model	0.69589432	3	0.23196477	1.48	0.2261
Error	15.09410568	96	0.15723027		
Corrected Total	15.79000000	99			

Survey Question 8, Part D asked the participants "Of The Fully Online Semester Long Courses taken by your students this past school year, which curriculum content areas were one or more of the classes in: d. Social Studies?" There was not a significant effect of school district class on the utilization of Fully Online Semester Long Courses in the curriculum area of Social Studies at the $p \leq 0.05$ level for the three conditions [$F(3,92) = 1.39$, $p = 0.2504$].

Table 41

GLM Least Squares Means Test for Significance Result for Survey Question 8, Part D

	Sum of Squares	df	Mean Square	F	Level of Significance
Model	0.34542262	3	0.11514087	1.39	0.2504
Error	7.61291072	92	0.08274903		
Corrected Total	7.95833333	95			

Table 41 provides information related to the GLM Least Squares Means Test for Significance Results for Survey Question 8, Part D.

Survey Question 8, Part E asked the participants "Of the Fully Online Semester Long Courses taken by your students this past school year, which curriculum content areas were one or more of the classes in: e. Visual, Performing and Applied Arts?" There was not a significant effect of school district class on the utilization Of Fully Online Semester Long Courses in the curriculum area of Visual, Performing and Applied Arts at the $p \leq 0.05$ level for the three conditions [$F(3,78) = 0.37$, $p = 0.7763$].

Table 42 provides information related to the GLM Least Squares Means Test for Significance Results for Survey Question 8, Part E.

Table 42

GLM Least Squares Means Test for Significance Result for Survey Question 8, Part E

	Sum of Squares	df	Mean Square	F	Level of Significance
Model	0.49560387	3	0.16520129	0.37	0.7763
Error	35.01659125	78	0.44893066		
Corrected Total	35.51219512	81			

Survey Question 8, Part F asked the participants "Of the Fully Online Semester Long Courses taken by your students this past school year, which curriculum content areas were one or more of the classes in: f. Physical and Health Education?" There was not a significant effect of school district class on the utilization of Fully Online Semester Long Courses in the curriculum area of Physical and Health Education at the $p \leq 0.05$ level for the three conditions [$F(3,79) = 0.54$, $p = 0.6570$].

Table 43 provides information related to the GLM Least Squares Means Test for Significance Results for Survey Question 8, Part F.

Table 43

GLM Least Squares Means Test for Significance Result for Survey Question 8, Part F

	Sum of Squares	df	Mean Square	F	Level of Significance
Model	0.54467364	3	0.18155788	0.54	0.6570
Error	26.61195286	79	0.33686016		
Corrected Total	27.15662651	82			

Survey Question 8, Part G asked the participants "Of the Fully Online Semester Long Courses taken by your students this past school year, which curriculum content areas were one or more of the classes in: g. Languages Other Than English?" There was not a significant effect of school district class on the utilization Of Fully Online Semester Long Courses in the curriculum area of Languages Other Than English at the $p \leq 0.05$ level for the three conditions $[F(3,84) = 1.12, p = 0.3440]$.

Table 44 provides information related to the GLM Least Squares Means Test for Significance Results for Survey Question 8, Part G.

Table 44

GLM Least Squares Means Test for Significance Result for Survey Question 8, Part G

	Sum of Squares	df	Mean Square	F	Level of Significance
Model	1.02287037	3	0.34095679	1.12	0.3440
Error	25.47712963	84	0.30329916		
Corrected Total	26.50000000	87			

Survey Question 8, Part H asked the participants "Of the Fully Online Semester Long Courses taken by your students this past school year, which curriculum content

areas were one or more of the classes in: h. Career or Vocational Education?" There was

not a significant effect of school district class on the utilization of Fully Online Semester

Long Courses in the curriculum area of Career or Vocational Education at the $p \leq 0.05$

level for the three conditions [F(3,78) = 1.59, p = 0.1978].

Table 45 provides information related to the GLM Least Squares Means Test for

Significance Results for Survey Question 8, Part H.

Table 45

GLM Least Squares Means Test for Significance Result for Survey Question 8, Part H

	Sum of Squares	df	Mean Square	F	Level of Significance
Model	1.76006333	3	0.58668778	1.59	0.1978
Error	28.72774155	78	0.36830438		
Corrected Total	30.48780488	81			

Inferential statistics ANOVA analyses: Provider of online courses (survey

question 9). Survey Question 9, Part A asked the participants "Of the Fully Online

Semester Long Courses taken by your students this past school year, which of the

following provided all or some of the course: a. A Michigan College or University?"

There was not a significant effect of school district class on the utilization of Fully Online

Semester Long Courses provided by a Michigan College or University at the $p \leq 0.05$

level for the three conditions [F(3,76) = 2.34, p = 0.0797].

Table 46 provides information related to the GLM Least Squares Means Test for

Significance Results for Survey Question 9, Part A.

Table 46

GLM Least Squares Means Test for Significance Result for Survey Question 9, Part A

	Sum of Squares	df	Mean Square	F	Level of Significance
Model	1.81103480	3	0.60367827	2.34	0.0797
Error	19.57646520	76	0.25758507		
Corrected Total	21.38750000	79			

Survey Question 9, Part B asked the participants "Of the Fully Online Semester Long Courses taken by your students this past school year, which of the following provided all or some of the course: b. A non-Michigan College or University?" There was not a significant effect of school district class on the utilization of Fully Online Semester Long Courses provided by a non-Michigan College or University at the $p \leq$ 0.05 level for the three conditions [$F(3,73) = 2.26$, $p = 0.0882$].

Table 47 provides information related to the GLM Least Squares Means Test for Significance Results for Survey Question 9, Part B.

Table 47

GLM Least Squares Means Test for Significance Result for Survey Question 9, Part B

	Sum of Squares	df	Mean Square	F	Level of Significance
Model	2.25718756	3	0.75239585	2.26	0.0882
Error	24.26229296	73	0.33236018		
Corrected Total	26.51948052	76			

Survey Question 9, Part C asked the participants "Of the Fully Online Semester Long Courses taken by your students this past school year, which of the following provided all or some of the course: c. A Commercial Vendor?" There was not a significant effect of school district class on the utilization of Fully Online Semester Long

Courses provided by a Commercial Vendor at the $p \leq 0.05$ level for the three conditions

$[F(3,90) = 0.29, p = 0.8328]$.

Table 48 provides information related to the GLM Least Squares Means Test for

Significance Results for Survey Question 9, Part C.

Table 48

GLM Least Squares Means Test for Significance Result for Survey Question 9, Part C

	Sum of Squares	df	Mean Square	F	Level of Significance
Model	0.06439970	3	0.02146657	0.29	0.8328
Error	6.66964286	90	0.07410714		
Corrected Total	6.73404255	93			

Survey Question 9, Part D asked the participants "Of the Fully Online Semester

Long Courses taken by your students this past school year, which of the following

provided all or some of the course: d. Your Intermediate School District?" There was not

a significant effect of school district class on the utilization of Fully Online Semester

Long Courses provided the respondents' Intermediate School District at the $p \leq 0.05$ level

for the three conditions $[F(3,69) = 1.69, p = 0.1764]$.

Table 49 provides information related to the GLM Least Squares Means Test for

Significance Results for Survey Question 9, Part D.

Table 49

GLM Least Squares Means Test for Significance Result for Survey Question 9, Part D

	Sum of Squares	df	Mean Square	F	Level of Significance
Model	1.13115616	3	0.37705205	1.69	0.1764
Error	15.36199453	69	0.22263760		
Corrected Total	16.49315068	72			

Survey Question 9, Part E asked the participants "Of the Fully Online Semester Long Courses taken by your students this past school year, which of the following provided all or some of the course: e. Another Intermediate School District in Michigan, other than your own?" There was a significant effect of school district class on the utilization of Fully Online Semester Long Courses provided by another Intermediate School District in Michigan, other than the respondents' own at the $p \leq 0.05$ level for the three conditions [$F(3,73) = 3.82$, $p = 0.0133$].

Table 50

GLM Least Squares Means Test for Significance Result for Survey Question 9, Part E

	Sum of Squares	df	Mean Square	F	Level of Significance
Model	2.55322793	3	0.85107598	3.82	0.0133*
Error	16.25196687	73	0.22262968		
Corrected Total	18.80519481	76			

* $p \leq 0.05$

Table 50 provides information related to the GLM Least Squares Means Test for Significance Results for Survey Question 9, Part E.

Survey Question 9, Part F asked the participants "Of the Fully Online Semester Long Courses taken by your students this past school year, which of the following provided all or some of the course: f. Your Local District?" There was not a significant effect of school district class on the utilization of Fully Online Semester Long Courses provided by the respondents' own school district at the $p \leq 0.05$ level for the three conditions [$F(3,70) = 2.67$, $p = 0.0539$].

Table 51 provides information related to the GLM Least Squares Means Test for

Significance Results for Survey Question 9, Part F.

Table 51

GLM Least Squares Means Test for Significance Result for Survey Question 9, Part F

	Sum of Squares	df	Mean Square	F	Level of Significance
Model	2.04094292	3	0.68031431	2.67	0.0539
Error	17.81040843	70	0.25443441		
Corrected Total	19.85135135	73			

Survey Question 9, Part G asked the participants "Of the Fully Online Semester

Long Courses taken by your students this past school year, which of the following

provided all or some of the course: g. A Local District within Michigan, other than your

own?" There was a significant effect of school district class on the utilization of fully

online semester long courses provided by a local school district within Michigan, other

than the respondents' own at the $p \leq 0.05$ level for the three conditions [$F(3,68) = 3.91$, p

= 0.0123].

Table 52 provides information related to the GLM Least Squares Means Test for

Significance Results for Survey Question 9, Part G.

Table 52

GLM Least Squares Means Test for Significance Result for Survey Question 9, Part G

	Sum of Squares	df	Mean Square	F	Level of Significance
Model	1.22420635	3	0.40806878	3.91	0.0123*
Error	7.09523810	68	0.10434174		
Corrected Total	8.31944444	71			

* $p \leq 0.05$

Inferential statistics ANOVA analyses: Reasons for utilization of online courses (survey question 10). Survey Question 10, Part A asked the participants "Please rate the following factors as to why Fully Online Semester Long Courses are being utilized for your students: a. Ease of use for staff?" There was not a significant effect of school district class on the ease of use for staff when utilizing Fully Online Semester Long Courses at the $p \leq 0.05$ level for the three conditions [$F(3,93) = 0.45$, $p = 0.7199$].

Table 53 provides information related to the GLM Least Squares Means Test for Significance Results for Survey Question 10, Part A.

Table 53

GLM Least Squares Means Test for Significance Result for Survey Question 10, Part A

	Sum of Squares	df	Mean Square	F	Level of Significance
Model	1.5539672	3	0.5179891	0.45	0.7199
Error	107.7243833	93	1.1583267		
Corrected Total	109.2783505	96			

Survey Question 10, Part B asked the participants "Please rate the following factors as to why Fully Online Semester Long Courses are being utilized for your students: b. Ease of use for students?" There was not a significant effect of school district class on the ease of use for students when utilizing Fully Online Semester Long Courses at the $p \leq 0.05$ level for the three conditions [$F(3,92) = 1.11$, $p = 0.3486$].

Table 54 provides information related to the GLM Least Squares Means Test for Significance Results for Survey Question 10, Part B.

Table 54

GLM Least Squares Means Test for Significance Result for Survey Question 10, Part B

	Sum of Squares	df	Mean Square	F	Level of Significance
Model	5.6313913	3	1.8771304	1.11	0.3486
Error	155.3581920	92	1.6886760		
Corrected Total	160.9895833	95			

Survey Question 10, Part C asked the participants "Please rate the following factors as to why Fully Online Semester Long Courses are being utilized for your students: c. Affordability they offer?" There was not a significant effect of school district class on utilizing Fully Online Semester Long Courses due to the affordability they offer at the $p \leq 0.05$ level for the three conditions [$F(3,93) = 0.79$, $p = 0.5022$].

Table 55

GLM Least Squares Means Test for Significance Result for Survey Question 10, Part C

	Sum of Squares	df	Mean Square	F	Level of Significance
Model	4.6069663	3	1.5356554	0.79	0.5022
Error	180.6713842	93	1.9427031		
Corrected Total	185.2783505	96			

Table 55 provides information related to the GLM Least Squares Means Test for Significance Results for Survey Question 10, Part C.

Survey Question 10, Part D asked the participants "Please rate the following factors as to why Fully Online Semester Long Courses are being utilized for your students: d. Research-based curriculum?" There was not a significant effect of school district class on utilizing Fully Online Semester Long Courses due to the fact they offer a

research-based curriculum at the $p \leq 0.05$ level for the three conditions [$F(3,93) = 0.58$, p

= 0.6315].

Table 56 provides information related to the GLM Least Squares Means Test for

Significance Results for Survey Question 10, Part D.

Table 56

GLM Least Squares Means Test for Significance Result for Survey Question 10, Part D

	Sum of Squares	df	Mean Square	F	Level of Significance
Model	2.9700419	3	0.9900140	0.58	0.6315
Error	159.5248035	93	1.7153205		
Corrected Total	162.4948454	96			

Survey Question 10, Part E asked the participants "Please rate the following

factors as to why Fully Online Semester Long Courses are being utilized for your

students: e. Recommended by another educational professional or organization?" There

was not a significant effect of school district class on utilizing Fully Online Semester

Long Courses due to the fact they were recommended by another educational

professional or organization at the $p \leq 0.05$ level for the three conditions [$F(3,93) = 1.97$,

$p = 0.1246$].

Table 57

GLM Least Squares Means Test for Significance Result for Survey Question 10, Part E

	Sum of Squares	df	Mean Square	F	Level of Significance
Model	9.8090706	3	3.2696902	1.97	0.1246
Error	154.7063933	93	1.6635096		
Corrected Total	164.5154639	96			

Table 57 provides information related to the GLM Least Squares Means Test for Significance Results for Survey Question 10, Part E.

Survey Question 10, Part F asked the participants "Please rate the following factors as to why Fully Online Semester Long Courses are being utilized for your students: f. Recommended by a vendor?" There was not a significant effect of school district class on utilizing Fully Online Semester Long Courses due to the fact they were recommended by a vendor at the $p \leq 0.05$ level for the three conditions $[F(3,94) = 2.17, p = 0.0970]$.

Table 58 provides information related to the GLM Least Squares Means Test for Significance Results for Survey Question 10, Part F.

Table 58

GLM Least Squares Means Test for Significance Result for Survey Question 10, Part F

	Sum of Squares	df	Mean Square	F	Level of Significance
Model	6.35333919	3	2.11777973	2.17	0.0970
Error	91.85074245	94	0.97713556		
Corrected Total	98.20408163	97			

Survey Question 10, Part G asked the participants "Please rate the following factors as to why Fully Online Semester Long Courses are being utilized for your students: g. Belief it will help us meet the needs of students requiring an accelerated curriculum?" There was not a significant effect of school district class on utilizing Fully Online Semester Long Courses due to the belief they will help the respondents meet the needs their students requiring an accelerated curriculum at the $p \leq 0.05$ level for the three conditions $[F(3,96) = 1.53, p = 0.2124]$.

Table 59 provides information related to the GLM Least Squares Means Test for

Significance Results for Survey Question 10, Part G.

Table 59

GLM Least Squares Means Test for Significance Result for Survey Question 10, Part G

	Sum of Squares	df	Mean Square	F	Level of Significance
Model	7.1047020	3	2.3682340	1.53	0.2124
Error	148.8552980	96	1.5505760		
Corrected Total	155.9600000	99			

Survey Question 10, Part H asked the participants "Please rate the following

factors as to why Fully Online Semester Long Courses are being utilized for your

students: h. Belief it will help us meet the needs of students considered at risk for school

failure?" There was not a significant effect of school district class on utilizing Fully

Online Semester Long Courses due to the belief they will help the respondents meet the

needs their students considered to be at risk for school failure at the $p \leq 0.05$ level for the

three conditions [F(3,97) = 1.90, p = 0.1348].

Table 60

GLM Least Squares Means Test for Significance Result for Survey Question 10, Part H

	Sum of Squares	df	Mean Square	F	Level of Significance
Model	7.1463112	3	2.3821037	1.90	0.1348
Error	121.6457680	97	1.2540801		
Corrected Total	128.7920792	100			

Table 60 provides information related to the GLM Least Squares Means Test for

Significance Results for Survey Question 10, Part H.

Survey Question 10, Part I asked the participants "Please rate the following factors as to why Fully Online Semester Long Courses are being utilized for your students: i. Belief it will help us meet the needs of students requiring credit recovery options?" There was not a significant effect of school district class on utilizing Fully Online Semester Long Courses due to the belief they will help the respondents meet the needs their students requiring credit recovery options at the $p \leq 0.05$ level for the three conditions $[F(3,98) = 2.28, p = 0.0838]$.

Table 61 provides information related to the GLM Least Squares Means Test for Significance Results for Survey Question 10, Part I.

Table 61

GLM Least Squares Means Test for Significance Result for Survey Question 10, Part I

	Sum of Squares	df	Mean Square	F	Level of Significance
Model	4.04102895	3	1.34700965	2.28	0.0838
Error	57.81191223	98	0.58991747		
Corrected Total	61.85294118	101			

Survey Question 10, Part J asked the participants "Please rate the following factors as to why Fully Online Semester Long Courses are being utilized for your students: j. Belief it will help us meet the needs of students receiving special education services?" There was not a significant effect of school district class on utilizing Fully Online Semester Long Courses due to the belief they will help the respondents meet the needs their students receiving special education services at the $p \leq 0.05$ level for the three conditions $[F(3,94) = 0.87, p = 0.4603]$.

Table 62 provides information related to the GLM Least Squares Means Test for

Significance Results for Survey Question 10, Part J.

Table 62

GLM Least Squares Means Test for Significance Result for Survey Question 10, Part J

	Sum of Squares	df	Mean Square	F	Level of Significance
Model	3.4482483	3	1.1494161	0.87	0.4603
Error	124.3884864	94	1.3232818		
Corrected Total	127.8367347	97			

Survey Question 10, Part K asked the participants "Please rate the following

factors as to why Fully Online Semester Long Courses are being utilized for your

students: k. Help student acquire 21st century skills?" There was not a significant effect

of school district class on utilizing Fully Online Semester Long Courses due to the belief

they will help the respondents students acquire 21st century skills at the $p \leq 0.05$ level for

the three conditions [$F(3,94) = 0.93$, $p = 0.4275$].

Table 63 provides information related to the GLM Least Squares Means Test for

Significance Results for Survey Question 10, Part K.

Table 63

GLM Least Squares Means Test for Significance Result for Survey Question 10, Part K

	Sum of Squares	df	Mean Square	F	Level of Significance
Model	4.3400248	3	1.4466749	0.93	0.4275
Error	145.5783426	94	1.5487058		
Corrected Total	149.9183673	97			

Inferential statistics ANOVA analyses: Pedagogical constructs of fully online

semester long courses (survey question 11). Survey Question 11, Part A asked the

participants "To what extent have the Fully Online Semester Long Courses offered to students: a. been organized in a coherent, sequential manner?" There was not a significant effect of school district class on the Fully Online Semester Long Courses being organized in a coherent, sequential manner at the $p \leq 0.05$ level for the three conditions [$F(3,95) = 0.90$, $p = 0.4468$].

Table 64 provides information related to the GLM Least Squares Means Test for Significance Results for Survey Question 11, Part A.

Table 64

GLM Least Squares Means Test for Significance Result for Survey Question 11, Part A

	Sum of Squares	df	Mean Square	F	Level of Significance
Model	3.2274836	3	1.0758279	0.90	0.4468
Error	114.1866579	95	1.2019648		
Corrected Total	117.4141414	98			

Survey Question 11, Part B asked the participants "To what extent have the Fully Online Semester Long Courses offered to students: b. have instructional goals, objectives, strategies, and assessments that are aligned with state standards, benchmarks and expectations?" There was not a significant effect of school district class on the Fully Online Semester Long Courses having instructional goals, objectives, strategies, and assessments that are aligned with state standards, benchmarks and expectations at the $p \leq 0.05$ level for the three conditions [$F(3,96) = 0.56$, $p = 0.6398$].

Table 65 provides information related to the GLM Least Squares Means Test for Significance Results for Survey Question 11, Part B.

Table 65

GLM Least Squares Means Test for Significance Result for Survey Question 11, Part B

	Sum of Squares	df	Mean Square	F	Level of Significance
Model	1.12234349	3	0.37411450	0.56	0.6398
Error	63.62765651	96	0.66278809		
Corrected Total	63.62765651	99			

Survey Question 11, Part C asked the participants "To what extent have the Fully Online Semester Long Courses offered to students: c. provide comparable in rigor, depth, and breadth to traditionally delivered courses?" There was not a significant effect of school district class on the Fully Online Semester Long Courses providing comparable rigor, depth, and breadth to traditionally delivered courses at the $p \leq 0.05$ level for the three conditions [$F(3,95) = 0.14$, $p = 0.9366$].

Table 66

GLM Least Squares Means Test for Significance Result for Survey Question 11, Part C

	Sum of Squares	df	Mean Square	F	Level of Significance
Model	0.31725245	3	0.10575082	0.14	0.9366
Error	72.43022229	95	0.76242339		
Corrected Total	72.74747475	98			

Table 66 provides information related to the GLM Least Squares Means Test for Significance Results for Survey Question 11, Part C.

Inferential statistics ANOVA analyses: Content subject breakdown in online experiences incorporated within classes (survey question 16). Survey Question 16, Part A asked the participants "Of the Online Experiences Incorporated within Traditional Classes taken by your students this past school year, which curriculum content areas were

one or more of the classes in: a. English Language Arts?" There was not a significant

effect of school district class on the utilization of Online Experiences Incorporated within

Classes in the curriculum area of English Language Arts at the p ≤ 0.05 level for the three

conditions [F(3,79) = 0.63, p = 0.5952].

Table 67 provides information related to the GLM Least Squares Means Test for

Significance Results for Survey Question 16, Part A.

Table 67

GLM Least Squares Means Test for Significance Result for Survey Question 16, Part A

	Sum of Squares	df	Mean Square	F	Level of Significance
Model	0.39155264	3	0.13051755	0.63	0.5952
Error	16.25904977	79	0.20581076		
Corrected Total	16.65060241	82			

Survey Question 16, Part B asked the participants "Of the Online Experiences

Incorporated within Traditional Classes taken by your students this past school year,

which curriculum content areas were one or more of the classes in: b. Mathematics?"

There was not a significant effect of school district class on the utilization of Online

Experiences Incorporated within Classes in the curriculum area of Mathematics at the p

≤ 0.05 level for the three conditions [F(3,76) = 0.82, p = 0.4863].

Table 68

GLM Least Squares Means Test for Significance Result for Survey Question 16, Part B

	Sum of Squares	df	Mean Square	F	Level of Significance
Model	0.71570759	3	0.23856920	0.82	0.4863
Error	22.08429241	76	0.29058279		
Corrected Total	22.80000000	79			

Table 68 provides information related to the GLM Least Squares Means Test for Significance Results for Survey Question 16, Part B.

Survey Question 16, Part C asked the participants "Of the Online Experiences Incorporated within Traditional Classes taken by your students this past school year, which curriculum content areas were one or more of the classes in: c. Science?" There was not a significant effect of school district class on the utilization of Online Experiences Incorporated within Classes in the curriculum area of Science at the $p \leq 0.05$ level for the three conditions [$F(3,74) = 1.06$, $p = 0.3703$].

Table 69 provides information related to the GLM Least Squares Means Test for Significance Results for Survey Question 16, Part C.

Table 69

GLM Least Squares Means Test for Significance Result for Survey Question 16, Part C

	Sum of Squares	df	Mean Square	F	Level of Significance
Model	0.88095238	3	0.29365079	1.06	0.3703
Error	20.45238095	74	0.27638353		
Corrected Total	21.33333333	77			

Survey Question 16, Part D asked the participants "Of the Online Experiences Incorporated within Traditional Classes taken by your students this past school year, which curriculum content areas were one or more of the classes in: d. Social Studies?" There was not a significant effect of school district class on the utilization of Online Experiences Incorporated within Classes in the curriculum area of Social Studies at the $p \leq 0.05$ level for the three conditions [$F(3,74) = 0.90$, $p = 0.4478$].

Table 70 provides information related to the GLM Least Squares Means Test for Significance Results for Survey Question 16, Part D.

Table 70

GLM Least Squares Means Test for Significance Result for Survey Question 16, Part D

	Sum of Squares	df	Mean Square	F	Level of Significance
Model	0.64345263	3	0.21448421	0.90	0.4478
Error	17.72834225	74	0.23957219		
Corrected Total	18.37179487	77			

Survey Question 16, Part E asked the participants "Of the Online Experiences Incorporated within Traditional Classes taken by your students this past school year, which curriculum content areas were one or more of the classes in: e. Visual, Performing and Applied Arts?" There was a significant effect of school district class on the utilization of Online Experiences Incorporated within Classes in the curriculum area of Visual, Performing and Applied Arts at the $p \leq 0.05$ level for the three conditions $[F(3,69) = 2.80, p = 0.0464]$.

Table 71 provides information related to the GLM Least Squares Means Test for Significance Results for Survey Question 16, Part E.

Table 71

GLM Least Squares Means Test for Significance Result for Survey Question 16, Part E

	Sum of Squares	df	Mean Square	F	Level of Significance
Model	2.84536856	3	0.94845619	2.80	0.0464*
Error	23.37380952	69	0.33875086		
Corrected Total	26.21917808	72			

* $p \leq 0.05$

Survey Question 16, Part F asked the participants "Of the Online Experiences Incorporated within Traditional Classes taken by your students this past school year, which curriculum content areas were one or more of the classes in: f. Physical and Health Education?" There was a significant effect of school district class on the utilization of Online Experiences Incorporated within Classes in the curriculum area of Physical and Health Education at the $p \leq 0.05$ level for the three conditions [$F(3,70) = 4.17$, $p = 0.0089$].

Table 72

GLM Least Squares Means Test for Significance Result for Survey Question 16, Part F

	Sum of Squares	df	Mean Square	F	Level of Significance
Model	5.23043478	3	1.74347826	4.17	0.0089*
Error	29.26956522	70	0.41813665		
Corrected Total	34.50000000	73			

* $p \leq 0.05$

Table 72 provides information related to the GLM Least Squares Means Test for Significance Results for Survey Question 16, Part F.

Survey Question 16, Part G asked the participants "Of the Online Experiences Incorporated within Traditional Classes taken by your students this past school year, which curriculum content areas were one or more of the classes in: g. Languages Other Than English?" There was not a significant effect of school district class on the utilization of Online Experiences Incorporated within Classes in the curriculum area of Languages Other Than English at the $p \leq 0.05$ level for the three conditions [$F(3,70) = 0.84$, $p = 0.4761$].

Table 73 provides information related to the GLM Least Squares Means Test for Significance Results for Survey Question 16, Part G.

Table 73

GLM Least Squares Means Test for Significance Result for Survey Question 16, Part G

	Sum of Squares	df	Mean Square	F	Level of Significance
Model	0.77837838	3	0.25945946	0.84	0.4761
Error	21.60000000	70	0.30857143		
Corrected Total	22.37837838	73			

Survey Question 16, Part H asked the participants "Of the Online Experiences Incorporated within Traditional Classes taken by your students this past school year, which curriculum content areas were one or more of the classes in: h. Career or Vocational Education?' There was not a significant effect of school district class on the utilization of Online Experiences Incorporated within Classes in the curriculum area of Career or Vocational Education at the $p \leq 0.05$ level for the three conditions [$F(3,76) = 2.58$, $p = 0.0598$].

Table 74 provides information related to the GLM Least Squares Means Test for Significance Results for Survey Question 16, Part H.

Table 74

GLM Least Squares Means Test for Significance Result for Survey Question 16, Part H

	Sum of Squares	df	Mean Square	F	Level of Significance
Model	2.54562937	3	0.84854312	2.58	0.0598
Error	25.00437063	76	0.32900488		
Corrected Total	27.55000000	79			

Inferential statistics ANOVA analyses: Reasons for utilization of online experiences incorporated within classes (survey question 17). Survey Question 17, Part A asked the participants "Please rate the following factors as to why Online Experiences Incorporated within Traditional Classes are being utilized by your teachers: a. Ease of use for staff?" There was not a significant effect of school district class on the ease of use for staff when utilizing Online Experiences Incorporated within Classes at the $p \leq 0.05$ level for the three conditions [$F(3,77) = 0.89$, $p = 0.4515$].

Table 75 provides information related to the GLM Least Squares Means Test for Significance Results for Survey Question 17, Part A.

Table 75

GLM Least Squares Means Test for Significance Result for Survey Question 17, Part A

	Sum of Squares	df	Mean Square	F	Level of Significance
Model	4.3652136	3	1.4550712	0.89	0.4515
Error	126.2520704	77	1.6396373		
Corrected Total	130.6172840	80			

Survey Question 17, Part B asked the participants "Please rate the following factors as to why Online Experiences Incorporated within Traditional Classes are being utilized by your teachers: b. Ease of use for students?" There was not a significant effect of school district class on the ease of use for students when utilizing Online Experiences Incorporated within Classes at the $p \leq 0.05$ level for the three conditions [$F(3,77) = 0.88$, $p = 0.4567$].

Table 76 provides information related to the GLM Least Squares Means Test for Significance Results for Survey Question 17, Part B.

Table 76

GLM Least Squares Means Test for Significance Result for Survey Question 17, Part B

	Sum of Squares	df	Mean Square	F	Level of Significance
Model	4.0451652	3	1.3483884	0.88	0.4567
Error	118.3498965	77	1.5370116		
Corrected Total	122.3950617	80			

Survey Question 17, Part C asked the participants "Please rate the following factors as to why Online Experiences Incorporated within Traditional Classes are being utilized by your teachers: c. Affordability they offer?" There was not a significant effect of school district class on utilizing Online Experiences Incorporated within Classes due to the affordability they offer at the $p \leq 0.05$ level for the three conditions [$F(3,74) = 0.88$, $p = 0.4544$].

Table 77

GLM Least Squares Means Test for Significance Result for Survey Question 17, Part C

	Sum of Squares	df	Mean Square	F	Level of Significance
Model	4.9186813	3	1.6395604	0.88	0.4544
Error	137.5428571	74	1.8586873		
Corrected Total	142.4615385	77			

Table 77 provides information related to the GLM Least Squares Means Test for Significance Results for Survey Question 17, Part C.

Survey Question 17, Part D asked the participants "Please rate the following factors as to why Online Experiences Incorporated within Traditional Classes are being utilized by your teachers: d. Research-based curriculum?" There was not a significant effect of school district class on utilizing Online Experiences Incorporated within Classes

due to the fact they offer a research-based curriculum at the $p \leq 0.05$ level for the three

conditions $[F(3,76) = 1.02, p = 0.3890]$.

Table 78 provides information related to the GLM Least Squares Means Test for

Significance Results for Survey Question 17, Part D.

Table 78

GLM Least Squares Means Test for Significance Result for Survey Question 17, Part D

	Sum of Squares	df	Mean Square	F	Level of Significance
Model	4.3383658	3	1.4461219	1.02	0.3890
Error	107.8491342	76	1.4190676		
Corrected Total	112.1875000	79			

Survey Question 17, Part E asked the participants "Please rate the following

factors as to why Online Experiences Incorporated within Traditional Classes are being

utilized by your teachers: e. Recommended by another educational professional or

organization?" There was not a significant effect of school district class on utilizing

Online Experiences Incorporated within Classes due to the fact they were recommended

by another educational professional or organization at the $p \leq 0.05$ level for the three

conditions $[F(3,76) = 0.84, p = 0.4786]$.

Table 79

GLM Least Squares Means Test for Significance Result for Survey Question 17, Part E

	Sum of Squares	df	Mean Square	F	Level of Significance
Model	4.1561147	3	1.3853716	0.84	0.4786
Error	126.0313853	76	1.6583077		
Corrected Total	130.1875000	79			

Table 79 provides information related to the GLM Least Squares Means Test for Significance Results for Survey Question 17, Part E.

Survey Question 17, Part F asked the participants "Please rate the following factors as to why Online Experiences Incorporated within Traditional Classes are being utilized by your teachers: f. Recommended by a vendor?" There was not a significant effect of school district class on utilizing Online Experiences Incorporated within Classes due to the fact they were recommended by a vendor at the $p \leq 0.05$ level for the three conditions [$F(3,76) = 1.46$, $p = 0.2309$].

Table 80 provides information related to the GLM Least Squares Means Test for Significance Results for Survey Question 17, Part F.

Table 80

GLM Least Squares Means Test for Significance Result for Survey Question 17, Part F

	Sum of Squares	df	Mean Square	F	Level of Significance
Model	4.66628788	3	1.55542929	1.46	0.2309
Error	80.72121212	76	1.06212121		
Corrected Total	85.38750000	79			

Survey Question 17, Part G asked the participants "Please rate the following factors as to why Online Experiences Incorporated within Traditional Classes are being utilized by your teachers: g. Belief it will help us meet the needs of students requiring an accelerated curriculum?" There was not a significant effect of school district class on utilizing Online Experiences Incorporated within Classes due to the belief they will help the respondents meet the needs their students requiring an accelerated curriculum at the $p \leq 0.05$ level for the three conditions [$F(3,76) = 1.89$, $p = 0.1383$].

Table 81

GLM Least Squares Means Test for Significance Result for Survey Question 17, Part G

	Sum of Squares	df	Mean Square	F	Level of Significance
Model	8.8863636	3	2.9621212	1.89	0.1383
Error	119.0636364	76	1.5666268		
Corrected Total	127.9500000	79			

Table 81 provides information related to the GLM Least Squares Means Test for Significance Results for Survey Question 17, Part G.

Survey Question 17, Part H asked the participants "Please rate the following factors as to why Online Experiences Incorporated within Traditional Classes are being utilized by your teachers: h. Belief it will help us meet the needs of students considered at risk for school failure?" There was not a significant effect of school district class on utilizing Online Experiences Incorporated within Classes due to the belief they will help the respondents meet the needs their students considered to be at risk at the $p \leq 0.05$ level for the three conditions $[F(3,77) = 2.60, p = 0.0579]$.

Table 82 provides information related to the GLM Least Squares Means Test for Significance Results for Survey Question 17, Part H.

Table 82

GLM Least Squares Means Test for Significance Result for Survey Question 17, Part H

	Sum of Squares	df	Mean Square	F	Level of Significance
Model	11.4358265	3	3.8119422	2.60	0.0579
Error	112.7370130	77	1.4641171		
Corrected Total	124.1728395	80			

Survey Question 17, Part I asked the participants "Please rate the following factors as to why Online Experiences Incorporated within Traditional Classes are being utilized by your teachers: i. Belief it will help us meet the needs of students requiring credit recovery options?" There was not a significant effect of school district class on utilizing Online Experiences Incorporated within Classes due to the belief they will help the respondents meet the needs their students requiring credit recovery options at the $p \leq$ 0.05 level for the three conditions [$F(3,77) = 1.25$, $p = 0.2990$].

Table 83 provides information related to the GLM Least Squares Means Test for Significance Results for Survey Question 17, Part I.

Table 83

GLM Least Squares Means Test for Significance Result for Survey Question 17, Part I

	Sum of Squares	df	Mean Square	F	Level of Significance
Model	8.2848405	3	2.7616135	1.25	0.2990
Error	170.7028139	77	2.2169197		
Corrected Total	178.9876543	80			

Survey Question 17, Part J asked the participants "Please rate the following factors as to why Online Experiences Incorporated within Traditional Classes are being utilized by your teachers: j. Belief it will help us meet the needs of students receiving special education services?" There was not a significant effect of school district class on utilizing Online Experiences Incorporated within Classes due to the belief they will help the respondents meet the needs their students receiving special education services at the $p \leq 0.05$ level for the three conditions [$F(3,76) = 1.31$, $p = 0.2764$].

Table 84 provides information related to the GLM Least Squares Means Test for

Significance Results for Survey Question 17, Part J.

Table 84

GLM Least Squares Means Test for Significance Result for Survey Question 17, Part J

	Sum of Squares	df	Mean Square	F	Level of Significance
Model	6.9478355	3	2.3159452	1.31	0.2764
Error	134.0521645	76	1.7638443		
Corrected Total	141.0000000	79			

Survey Question 17, Part K asked the participants "Please rate the following

factors as to why Online Experiences Incorporated within Traditional Classes are being

utilized by your teachers: k. Belief it will help students acquire 21st century skills."

There was not a significant effect of school district class on utilizing Online Experiences

Incorporated within Classes due to the belief they will help the respondents students

acquire 21st century skills at the $p \leq 0.05$ level for the three conditions [F(3,76) = 1.60, p

= 0.1966].

Table 85

GLM Least Squares Means Test for Significance Result for Survey Question 17, Part K

	Sum of Squares	df	Mean Square	F	Level of Significance
Model	7.4500000	3	2.4833333	1.60	0.1966
Error	118.0375000	76	1.5531250		
Corrected Total	125.4875000	79			

Table 85 provides information related to the GLM Least Squares Means Test for

Significance Results for Survey Question 17, Part K.

Inferential statistics ANOVA analyses: Assistance for online educational

opportunities (survey question 20). Survey Question 20, Part A asked the participants

"To what extent have the following entities assisted your school in providing Online

Educational Opportunities: a. The Michigan Department of Education?" There was not a

significant effect of school district class on the extent to which the Michigan Department

of Education provided assistance to the respondents' school districts when providing

Online Educational Opportunities at the $p \leq 0.05$ level for the three conditions [$F(3,79) =$

1.46, p = 0.2312].

Table 86 provides information related to the GLM Least Squares Means Test for

Significance Results for Survey Question 20, Part A.

Table 86

GLM Least Squares Means Test for Significance Result for Survey Question 20, Part A

	Sum of Squares	df	Mean Square	F	Level of Significance
Model	3.39647877	3	1.13215959	1.46	0.2312
Error	61.15773810	79	0.77414858		
Corrected Total	64.55421687	82			

Survey Question 20, Part B asked the participants "To what extent have the

following entities assisted your school in providing Online Educational Opportunities: b.

Your Intermediate School District?" There was not a significant effect of school district

class on the extent to which the respondents' Intermediate School District provided

assistance to the respondents' school districts when providing Online Educational

Opportunities at the $p \leq 0.05$ level for the three conditions [$F(3,79) = 0.80$, p = 0.4991].

Table 87 provides information related to the GLM Least Squares Means Test for Significance Results for Survey Question 20, Part B.

Table 87

GLM Least Squares Means Test for Significance Result for Survey Question 20, Part B

	Sum of Squares	df	Mean Square	F	Level of Significance
Model	2.36876793	3	0.78958931	0.80	0.4991
Error	78.25773810	79	0.99060428		
Corrected Total	80.62650602	82			

Survey Question 20, Part C asked the participants "To what extent have the following entities assisted your school in providing Online Educational Opportunities: c. Your own district?" There was not a significant effect of school district class on the extent to which the respondents' own district provided assistance when delivering Online Educational Opportunities at the $p \leq 0.05$ level for the three conditions [$F(3,79) = 0.03$, $p = 0.9930$].

Table 88 provides information related to the GLM Least Squares Means Test for Significance Results for Survey Question 20, Part C.

Table 88

GLM Least Squares Means Test for Significance Result for Survey Question 20, Part C

	Sum of Squares	df	Mean Square	F	Level of Significance
Model	0.1348896	3	0.0449632	0.03	0.9930
Error	119.0458333	79	1.5069093		
Corrected Total	119.1807229	82			

Survey Question 20, Part D asked the participants "To what extent have the following entities assisted your school in providing Online Educational Opportunities: d.

An external vendor?' There was not a significant effect of school district class on the extent to which an external vendor provided assistance when delivering Online Educational Opportunities at the $p \leq 0.05$ level for the three conditions [$F(3,80) = 0.34$, $p = 0.7964$].

Table 89 provides information related to the GLM Least Squares Means Test for Significance Results for Survey Question 20, Part D.

Table 89

GLM Least Squares Means Test for Significance Result for Survey Question 20, Part D

	Sum of Squares	df	Mean Square	F	Level of Significance
Model	1.7529762	3	0.5843254	0.34	0.7964
Error	137.4851190	80	1.7185640		
Corrected Total	139.2380952	83			

Survey Question 20, Part E asked the participants "To what extent have the following entities assisted your school in providing Online Educational Opportunities: e. The Michigan Association for Computer Users in Learning (MACUL)?" There was a significant effect of school district class on the extent to which the Michigan Association for Computer Users in Learning provided assistance when delivering Online Educational Opportunities at the $p \leq 0.05$ level for the three conditions [$F(3,78) = 4.29$, $p = 0.0074$].

Table 90

GLM Least Squares Means Test for Significance Result for Survey Question 20, Part E

	Sum of Squares	df	Mean Square	F	Level of Significance
Model	12.87595819	3	4.29198606	4.29	0.0074*
Error	78.01428571	78	1.00018315		
Corrected Total	90.89024390	81			

* $p \leq 0.05$

Table 90 provides information related to the GLM Least Squares Means Test for Significance Results for Survey Question 20, Part E.

Survey Question 20, Part F asked the participants "To what extent have the following entities assisted your school in providing Online Educational Opportunities: f. The Michigan Virtual University (MVU)?" There was a significant effect of school district class on the extent to which the Michigan Association Virtual University provided assistance when delivering Online Educational Opportunities at the $p \leq 0.05$ level for the three conditions [$F(3,79) = 4.42$, $p = 0.0063$].

Table 91 provides information related to the GLM Least Squares Means Test for Significance Results for Survey Question 20, Part F.

Table 91

GLM Least Squares Means Test for Significance Result for Survey Question 20, Part F

	Sum of Squares	df	Mean Square	F	Level of Significance
Model	25.2605780	3	8.4201927	4.42	0.0063*
Error	150.3779762	79	1.9035187		
Corrected Total	175.6385542	82			

* $p \leq 0.05$

Survey Question 20, Part G asked the participants "To what extent have the following entities assisted your school in providing Online Educational Opportunities: g. Other local districts?" There was not a significant effect of school district class on the extent to which other local districts provided assistance to the respondents' district when delivering Online Educational Opportunities at the $p \leq 0.05$ level for the three conditions [$F(3,78) = 0.14$, $p = 0.9339$].

Table 92 provides information related to the GLM Least Squares Means Test for

Significance Results for Survey Question 20, Part G.

Table 92

GLM Least Squares Means Test for Significance Result for Survey Question 20, Part G

	Sum of Squares	df	Mean Square	F	Level of Significance
Model	0.33836035	3	0.11278678	0.14	0.9339
Error	61.56407867	78	0.78928306		
Corrected Total	61.90243902	81			

Survey Question 20, Part H asked the participants "To what extent have the

following entities assisted your school in providing Online Educational Opportunities: h.

Other Intermediate School Districts?" There was not a significant effect of school district

class on the extent to which other intermediate school districts provided assistance to the

respondents' district when delivering Online Educational Opportunities at the $p \leq 0.05$

level for the three conditions [F(3,80) = 0.56, p = 0.6441].

Table 93

GLM Least Squares Means Test for Significance Result for Survey Question 20, Part H

	Sum of Squares	df	Mean Square	F	Level of Significance
Model	1.49702381	3	0.49900794	0.56	0.6441
Error	71.50297619	80	0.89378720		
Corrected Total	73.00000000	83			

Table 93 provides information related to the GLM Least Squares Means Test for

Significance Results for Survey Question 20, Part H.

Inferential statistics ANOVA analyses: Mandate's impact on students

(survey question 21). Survey Question 21, Part A asked the participants "To what extent

has meeting the mandate actually helped your school provide better support for the following students: a. Students failing classes?" There was not a significant effect of school district class on the extent to which meeting the mandate has actually helped the respondents' school in providing better support for students failing classes at the $p \leq 0.05$ level for the three conditions [$F(3,79) = 0.99$, $p = 0.4018$].

Table 94 provides information related to the GLM Least Squares Means Test for Significance Results for Survey Question 21, Part A.

Table 94

GLM Least Squares Means Test for Significance Result for Survey Question 21, Part A

	Sum of Squares	df	Mean Square	F	Level of Significance
Model	4.8947648	3	1.6315883	0.99	0.4018
Error	130.1654762	79	1.6476643		
Corrected Total	135.0602410	82			

Survey Question 21, Part B asked the participants "To what extent has meeting the mandate actually helped your school provide better support for the following students: b. Students 'at risk' of dropping out of school?" There was not a significant effect of school district class on the extent to which meeting the mandate has actually helped the respondents' school in providing better support for students "at risk" for dropping out of school at the $p \leq 0.05$ level for the three conditions [$F(3,80) = 2.02$, $p = 0.1182$].

Table 95 provides information related to the GLM Least Squares Means Test for Significance Results for Survey Question 21, Part B.

Table 95

GLM Least Squares Means Test for Significance Result for Survey Question 21, Part B

	Sum of Squares	df	Mean Square	F	Level of Significance
Model	8.9047619	3	2.9682540	2.02	0.1182
Error	117.7619048	80	1.4720238		
Corrected Total	126.6666667	83			

Survey Question 21, Part C asked the participants "To what extent has meeting the mandate actually helped your school provide better support for the following students: c. Students requiring an accelerated curricula?" There was not a significant effect of school district class on the extent to which meeting the mandate has actually helped the respondents' school in providing better support for students requiring an accelerated curriculum at the $p \leq 0.05$ level for the three conditions [$F(3,79) = 0.14$, $p = 0.9337$].

Table 96

GLM Least Squares Means Test for Significance Result for Survey Question 21, Part C

	Sum of Squares	df	Mean Square	F	Level of Significance
Model	0.6760901	3	0.2253634	0.14	0.9337
Error	124.2154762	79	1.5723478		
Corrected Total	124.8915663	82			

Table 96 provides information related to the GLM Least Squares Means Test for Significance Results for Survey Question 21, Part C.

Survey Question 21, Part D asked the participants "To what extent has meeting the mandate actually helped your school provide better support for the following students: d. Students requiring credit recovery?" There was not a significant effect of

school district class on the extent to which meeting the mandate has actually helped the

respondents' school in providing better support for students requiring credit recovery at

the $p \leq 0.05$ level for the three conditions [$F(3,80) = 0.64$, $p = 0.5914$].

Table 97

GLM Least Squares Means Test for Significance Result for Survey Question 21, Part D

	Sum of Squares	df	Mean Square	F	Level of Significance
Model	2.9613095	3	0.9871032	0.64	0.5914
Error	123.3601190	80	1.5420015		
Corrected Total	126.3214286	83			

Table 97 provides information related to the GLM Least Squares Means Test for

Significance Results for Survey Question 21, Part D.

Survey Question 21, Part E asked the participants "To what extent has meeting

the mandate actually helped your school provide better support for the following

students: e. Students requiring special education services?" There was not a significant

effect of school district class on the extent to which meeting the mandate has actually

helped the respondents' school in providing better support for students requiring special

education services at the $p \leq 0.05$ level for the three conditions [$F(3,79) = 1.71$, $p =$

0.1715].

Table 98

GLM Least Squares Means Test for Significance Result for Survey Question 21, Part E

	Sum of Squares	df	Mean Square	F	Level of Significance
Model	5.80691337	3	1.93563779	1.71	0.1715
Error	89.37380952	79	1.13131404		
Corrected Total	95.18072289	82			

Table 98 provides information related to the GLM Least Squares Means Test for Significance Results for Survey Question 21, Part E.

Inferential statistics ANOVA analyses: Online educational opportunities impact on students (survey question 22). Survey Question 22, Part A asked the participants "To what extent have Online Educational Opportunities allowed students to: a. interact with other students and experts from around the globe?" There was a significant effect of school district class on the extent to which Online Educational Opportunities allowed the respondents' students to interact with other students and experts from around the globe at the $p \leq 0.05$ level for the three conditions [$F(3,79) = 3.04$, $p = 0.0338$].

Table 99 provides information related to the GLM Least Squares Means Test for Significance Results for Survey Question 22, Part A.

Table 99

GLM Least Squares Means Test for Significance Result for Survey Question 22, Part A

	Sum of Squares	df	Mean Square	F	Level of Significance
Model	7.49118617	3	2.49706206	3.04	0.0338*
Error	64.91845238	79	0.82175256		
Corrected Total	72.40963855	82			

* $p \leq 0.05$

Survey Question 22, Part B asked the participants "To what extent have Online Educational Opportunities allowed students to: b. utilize things like web quests, blogs, podcasting, webinars, or virtual reality simulations?" There was a significant effect of school district class on the extent to which Online Educational Opportunities allowed the

respondents' students to utilize things like web quests, blogs, podcasting, webinars, or virtual reality simulations at the $p \leq 0.05$ level for the three conditions [$F(3,79) = 4.13$, p = 0.0089].

Table 100 provides information related to the GLM Least Squares Means Test for Significance Results for Survey Question 22, Part B.

Table 100

GLM Least Squares Means Test for Significance Result for Survey Question 22, Part B

	Sum of Squares	df	Mean Square	F	Level of Significance
Model	11.25878514	3	3.75292838	4.13	0.0089*
Error	71.72916667	79	0.90796414		
Corrected Total	82.98795181	82			

* p ≤ 0.05

Survey Question 22, Part C asked the participants "To what extent have Online Educational Opportunities allowed students to: c. utilize an online learning management system that allows ongoing interactive opportunities for students?" There was not a significant effect of school district class on the extent to which Online Educational Opportunities allowed the respondents' students to utilize an online learning management system that allows ongoing interactive opportunities for students at the $p \leq 0.05$ level for the three conditions [$F(3,80) = 1.17$, p = 0.3271].

Table 101 provides information related to the GLM Least Squares Means Test for Significance Results for Survey Question 22, Part C.

Table 101

GLM Least Squares Means Test for Significance Result for Survey Question 22, Part C

	Sum of Squares	df	Mean Square	F	Level of Significance
Model	4.03571429	3	1.34523810	1.17	0.3271
Error	92.10714286	80	1.15133929		
Corrected Total	96.14285714	83			

Survey Question 22, Part D asked the participants "To what extent have Online Educational Opportunities allowed students to: d. use technology tools for online research or online projects?" There was not a significant effect of school district class on the extent to which Online Educational Opportunities allowed the respondents' students to use technology tools for online research or online projects at the $p \leq 0.05$ level for the three conditions [F(3,79) = 0.51, p = 0.6765].

Table 102 provides information related to the GLM Least Squares Means Test for Significance Results for Survey Question 22, Part D.

Table 102

GLM Least Squares Means Test for Significance Result for Survey Question 22, Part D

	Sum of Squares	df	Mean Square	F	Level of Significance
Model	0.92935313	3	0.30978438	0.51	0.6765
Error	47.98630952	79	0.60742164		
Corrected Total	48.91566265	82			

Survey Question 22, Part E asked the participants "To what extent have Online Educational Opportunities allowed students to: e. develop an electronic portfolio (organized collection of completed materials)?" There was not a significant effect of school district class on the extent to which Online Educational Opportunities allowed the

respondents' students to develop an electronic portfolio (organized collection of

completed materials) at the $p \leq 0.05$ level for the three conditions [$F(3,79) = 1.45$, $p =$

0.2344].

Table 103 provides information related to the GLM Least Squares Means Test for

Significance Results for Survey Question 22, Part E.

Table 103

GLM Least Squares Means Test for Significance Result for Survey Question 22, Part E

	Sum of Squares	df	Mean Square	F	Level of Significance
Model	4.77406770	3	1.59135590	1.45	0.2344
Error	86.64761905	79	1.09680530		
Corrected Total	91.42168675	82			

Survey Question 22, Part F asked the participants "To what extent have Online

Educational Opportunities allowed students to: f. determine the value and reliability of

content found on websites and other online resources?" There was not a significant effect

of school district class on the extent to which Online Educational Opportunities allowed

the respondents' students to determine the value and reliability of content found on

websites and other online resources at the $p \leq 0.05$ level for the three conditions [$F(3,80)$

$= 0.61$, $p = 0.6079$].

Table 104

GLM Least Squares Means Test for Significance Result for Survey Question 22, Part F

	Sum of Squares	df	Mean Square	F	Level of Significance
Model	1.80059524	3	0.60019841	0.61	0.6079
Error	78.19940476	80	0.97749256		
Corrected Total	80.00000000	83			

Table 104 provides information related to the GLM Least Squares Means Test for Significance Results for Survey Question 22, Part F.

Survey Question 22, Part G asked the participants "To what extent have Online Educational Opportunities allowed students to: g. participate in an interactive discussion with an instructor or expert, such as an author?" There was not a significant effect of school district class on the extent to which Online Educational Opportunities allowed the respondents' students to participate in an interactive discussion with an instructor or expert, such as an author at the $p \leq 0.05$ level for the three conditions [$F(3,77) = 1.67$, $p = 0.1794$].

Table 105 provides information related to the GLM Least Squares Means Test for Significance Results for Survey Question 22, Part G.

Table 105

GLM Least Squares Means Test for Significance Result for Survey Question 22, Part G

	Sum of Squares	df	Mean Square	F	Level of Significance
Model	5.70441719	3	1.90147240	1.67	0.1794
Error	87.43138528	77	1.13547254		
Corrected Total	93.13580247	80			

Survey Question 22, Part H asked the participants "To what extent have Online Educational Opportunities allowed students to: h. communicate via threaded discussions with other students in and outside of their school?" There was not a significant effect of school district class on the extent to which Online Educational Opportunities allowed the respondents' students to communicate via threaded discussions with other students in and

outside of their school at the $p \leq 0.05$ level for the three conditions [$F(3,79) = 1.59$, $p = 0.1982$].

Table 106 provides information related to the GLM Least Squares Means Test for Significance Results for Survey Question 22, Part H.

Table 106

GLM Least Squares Means Test for Significance Result for Survey Question 22, Part H

	Sum of Squares	df	Mean Square	F	Level of Significance
Model	5.7805938	3	1.9268646	1.59	0.1982
Error	95.6892857	79	1.2112568		
Corrected Total	101.4698795	82			

Survey Question 22, Part I asked the participants "To what extent have Online Educational Opportunities allowed students to: i. participate in authentic experiences through online field trips?" There was a significant effect of school district class on the extent to which Online Educational Opportunities allowed the respondents' students to participate in authentic experiences through online field trips at the $p \leq 0.05$ level for the three conditions [$F(3,79) = 3.53$, $p = 0.0185$].

Table 107

GLM Least Squares Means Test for Significance Result for Survey Question 22, Part I

	Sum of Squares	df	Mean Square	F	Level of Significance
Model	11.53356999	3	3.84452333	3.53	0.0185*
Error	85.93630952	79	1.08780139		
Corrected Total	97.46987952	82			

* $p \leq 0.05$

Table 107 provides information related to the GLM Least Squares Means Test for Significance Results for Survey Question 22, Part I.

Survey Question 22, Part J asked the participants "To what extent have Online Educational Opportunities allowed students to: j. participate in an online project where students apply understanding to simulated or real data?" There was not a significant effect of school district class on the extent to which Online Educational Opportunities allowed the respondents' students to participate in an online project where students apply understanding to simulated or real data at the $p \leq 0.05$ level for the three conditions $[F(3,79) = 2.01, p = 0.1197]$.

Table 108

GLM Least Squares Means Test for Significance Result for Survey Question 22, Part J

	Sum of Squares	df	Mean Square	F	Level of Significance
Model	6.38593660	3	2.12864553	2.01	0.1197
Error	83.78273810	79	1.06054099		
Corrected Total	90.16867470	82			

Table 108 provides information related to the GLM Least Squares Means Test for Significance Results for Survey Question 22, Part J.

Survey Question 22, Part K asked the participants "To what extent have Online Educational Opportunities allowed students to: k. participate in learning activities such as test preparation tools and career planning resources?" There was not a significant effect of school district class on the extent to which Online Educational Opportunities allowed the respondents' students to participate learning activities such as test preparation tools and career planning resources at the $p \leq 0.05$ level for the three conditions $[F(3,80) = 0.73, p = 0.5377]$.

Table 109 provides information related to the GLM Least Squares Means Test for

Significance Results for Survey Question 22, Part K.

Table 109

GLM Least Squares Means Test for Significance Result for Survey Question 22, Part K

	Sum of Squares	df	Mean Square	F	Level of Significance
Model	2.37202381	3	0.79067460	0.73	0.5377
Error	86.77083333	80	1.08463542		
Corrected Total	89.14285714	83			

Survey Question 22, Part L asked the participants "To what extent have Online

Educational Opportunities allowed students to: l. publish student work to a larger Internet

audience?" There was not a significant effect of school district class on the extent to

which Online Educational Opportunities allowed the respondents' students to publish

student work to a larger Internet audience at the $p \leq 0.05$ level for the three conditions

$[F(3,79) = 1.58, p = 0.2002]$.

Table 110 provides information related to the GLM Least Squares Means Test for

Significance Results for Survey Question 22, Part L.

Table 110

GLM Least Squares Means Test for Significance Result for Survey Question 22, Part L

	Sum of Squares	df	Mean Square	F	Level of Significance
Model	5.24943345	3	1.74981115	1.58	0.2002
Error	87.35297619	79	1.10573388		
Corrected Total	92.60240964	82			

Inferential statistics ANOVA analyses: Mandate's impact on the school

(survey question 23). Survey Question 23, Part A asked the participants "What type of

impact has meeting the mandate for Online Educational Opportunities had on: a. the finances of your district?" There was not a significant effect of school district class on the impact meeting the mandate for Online Educational Opportunities has had on the finances of the respondents' district at the $p \leq 0.05$ level for the three conditions [$F(3,78) = 0.54$, $p = 0.6580$].

Table 111

GLM Least Squares Means Test for Significance Result for Survey Question 23, Part A

	Sum of Squares	df	Mean Square	F	Level of Significance
Model	1.66216609	3	0.55405536	0.54	0.6580
Error	80.39880952	78	1.03075397		
Corrected Total	82.06097561	81			

Table 111 provides information related to the GLM Least Squares Means Test for Significance Results for Survey Question 23, Part A.

Survey Question 23, Part B asked the participants "What type of impact has meeting the mandate for Online Educational Opportunities had on: b. the finances of your school?" There was not a significant effect of school district class on the impact meeting the mandate for Online Educational Opportunities has had on the finances of the respondents' school at the $p \leq 0.05$ level for the three conditions [$F(3,78) = 0.89$, $p = 0.4496$].

Table 112 provides information related to the GLM Least Squares Means Test for Significance Results for Survey Question 23, Part B.

Table 112

GLM Least Squares Means Test for Significance Result for Survey Question 23, Part B

	Sum of Squares	df	Mean Square	F	Level of Significance
Model	3.6594178	3	1.2198059	0.89	0.4496
Error	106.7796066	78	1.3689693		
Corrected Total	110.4390244	81			

Survey Question 23, Part C asked the participants "What type of impact has meeting the mandate for Online Educational Opportunities had on: c. curriculum offerings for your students?" There was not a significant effect of school district class on the impact meeting the mandate for Online Educational Opportunities has had on the curriculum offerings for the respondents' students at the $p \leq 0.05$ level for the three conditions [$F(3,78) = 1.03$, $p = 0.3828$].

Table 113 provides information related to the GLM Least Squares Means Test for Significance Results for Survey Question 23, Part C.

Table 113

GLM Least Squares Means Test for Significance Result for Survey Question 23, Part C

	Sum of Squares	df	Mean Square	F	Level of Significance
Model	3.21890244	3	1.07296748	1.03	0.3828
Error	81.02500000	78	1.03878205		
Corrected Total	84.24390244	81			

Survey Question 23, Part D asked the participants "What type of impact has meeting the mandate for Online Educational Opportunities had on: d. academic achievement of your students?" There was not a significant effect of school district class on the impact meeting the mandate for Online Educational Opportunities has had on the

academic achievement of the respondents' students at the $p \leq 0.05$ level for the three

conditions [$F(3,78) = 0.27$, $p = 0.8466$].

Table 114 provides information related to the GLM Least Squares Means Test for

Significance Results for Survey Question 23, Part D.

Table 114

GLM Least Squares Means Test for Significance Result for Survey Question 23, Part D

	Sum of Squares	df	Mean Square	F	Level of Significance
Model	0.55629134	3	0.18543045	0.27	0.8466
Error	53.50468427	78	0.68595749		
Corrected Total	54.06097561	81			

Survey Question 23, Part E asked the participants "What type of impact has

meeting the mandate for Online Educational Opportunities had on: e. engagement of your

students in the learning process?" There was not a significant effect of school district

class on the impact meeting the mandate for Online Educational Opportunities has had on

the engagement of the respondents' students in the learning process at the $p \leq 0.05$ level

for the three conditions [$F(3,77) = 0.71$, $p = 0.5462$].

Table 115 provides information related to the GLM Least Squares Means Test for

Significance Results for Survey Question 23, Part E.

Table 115

GLM Least Squares Means Test for Significance Result for Survey Question 23, Part E

	Sum of Squares	df	Mean Square	F	Level of Significance
Model	1.29096695	3	0.43032232	0.71	0.5462
Error	46.36335404	77	0.60212148		
Corrected Total	47.65432099	80			

Survey Question 23, Part F asked the participants "What type of impact has meeting the mandate for Online Educational Opportunities had on: f. your overall educational program?" There was not a significant effect of school district class on the impact meeting the mandate for Online Educational Opportunities has had on the respondents' overall educational program at the $p \leq 0.05$ level for the three conditions [$F(3,77) = 0.22$, $p = 0.8857$].

Table 116 provides information related to the GLM Least Squares Means Test for Significance Results for Survey Question 23, Part F.

Table 116

GLM Least Squares Means Test for Significance Result for Survey Question 23, Part F

	Sum of Squares	df	Mean Square	F	Level of Significance
Model	0.40761584	3	0.13587195	0.22	0.8857
Error	48.65411255	77	0.63187159		
Corrected Total	49.06172840	80			

Inferential statistics ANOVA analyses: Student technological opportunities (survey question 24). Survey Question 24, Part A asked the participants "To what extent do your students engaged in Online Educational Opportunities have: a. adequate access to computers and internet at school?" There was not a significant effect of school district class on adequate access to computers and internet at school for students engaged in Online Educational Opportunities at the $p \leq 0.05$ level for the three conditions [$F(3,80) = 0.47$, $p = 0.7054$].

Table 117 provides information related to the GLM Least Squares Means Test for Significance Results for Survey Question 24, Part A.

Table 117

GLM Least Squares Means Test for Significance Result for Survey Question 24, Part A

	Sum of Squares	df	Mean Square	F	Level of Significance
Model	1.00595238	3	0.33531746	0.47	0.7054
Error	57.31547619	80	0.71644345		
Corrected Total	58.32142857	83			

Survey Question 24, Part B asked the participants "To what extent do your students engaged in Online Educational Opportunities have: b. adequate access to computers and internet at home?" There was not a significant effect of school district class on adequate access to computers and internet at home for students engaged in Online Educational Opportunities at the $p \leq 0.05$ level for the three conditions [F(3,80) = 1.38, p = 0.2548].

Table 118 provides information related to the GLM Least Squares Means Test for Significance Results for Survey Question 24, Part B.

Table 118

GLM Least Squares Means Test for Significance Result for Survey Question 24, Part B

	Sum of Squares	df	Mean Square	F	Level of Significance
Model	3.46130952	3	1.15376984	1.38	0.2548
Error	66.86011905	80	0.83575149		
Corrected Total	70.32142857	83			

Survey Question 24, Part C asked the participants "To what extent do your students engaged in Online Educational Opportunities have: c. adequate technology training or other supports?" There was not a significant effect of school district class on adequate access to adequate technology training or other supports for students engaged in

Online Educational Opportunities at the p ≤ 0.05 level for the three conditions [F(3,80) = 0.37, p = 0.7766].

Table 119 provides information related to the GLM Least Squares Means Test for Significance Results for Survey Question 24, Part C.

Table 119

GLM Least Squares Means Test for Significance Result for Survey Question 24, Part C

	Sum of Squares	df	Mean Square	F	Level of Significance
Model	0.84226190	3	0.28075397	0.37	0.7766
Error	61.11011905	80	0.76387649		
Corrected Total	61.95238095	83			

Inferential statistics ANOVA analyses: Teacher technological opportunities (survey question 25). Survey Question 25, Part A asked the participants "To what extent do your teachers engaged in Online Educational Opportunities have: a. adequate access to computers and internet at school?" There was not a significant effect of school district class on adequate access to computers and internet at school for teachers engaged in Online Educational Opportunities at the p ≤ 0.05 level for the three conditions [F(3,80) = 0.08, p = 0.9691].

Table 120

GLM Least Squares Means Test for Significance Result for Survey Question 25, Part A

	Sum of Squares	df	Mean Square	F	Level of Significance
Model	0.15773810	3	0.05257937	0.08	0.9691
Error	50.65178571	80	0.63314732		
Corrected Total	50.80952381	83			

Table 120 provides information related to the GLM Least Squares Means Test for Significance Results for Survey Question 25, Part A.

Survey Question 25, Part B asked the participants "To what extent do your teachers engaged in Online Educational Opportunities have: b. adequate access to computers and internet at home?" There was not a significant effect of school district class on adequate access to computers and internet at home for teachers engaged in Online Educational Opportunities at the $p \leq 0.05$ level for the three conditions [$F(3,80) = 0.06$, $p = 0.9816$].

Table 121 provides information related to the GLM Least Squares Means Test for Significance Results for Survey Question 25, Part B.

Table 121

GLM Least Squares Means Test for Significance Result for Survey Question 25, Part B

	Sum of Squares	df	Mean Square	F	Level of Significance
Model	0.12202381	3	0.04067460	0.06	0.9816
Error	56.19940476	80	0.70249256		
Corrected Total	56.32142857	83			

Survey Question 25, Part C asked the participants "To what extent do your teachers engaged in Online Educational Opportunities have: c. adequate technology training or other supports?" There was not a significant effect of school district class on adequate technology training or other supports for teachers engaged in Online Educational Opportunities at the $p \leq 0.05$ level for the three conditions [$F(3,79) = 0.65$, $p = 0.5833$].

Table 122 provides information related to the GLM Least Squares Means Test for Significance Results for Survey Question 25, Part C.

Table 122

GLM Least Squares Means Test for Significance Result for Survey Question 25, Part C

	Sum of Squares	df	Mean Square	F	Level of Significance
Model	1.69843660	3	0.56614553	0.65	0.5833
Error	68.47023810	79	0.86671187		
Corrected Total	70.16867470	82			

Inferential statistics ANOVA analyses: Administrator technological opportunities (survey question 26). Survey Question 26, Part A asked the participants "To what extent do your administrators engaged in Online Educational Opportunities have: a. adequate access to computers and internet at school?" There was not a significant effect of school district class on adequate access to computers and internet at school for administrators engaged in Online Educational Opportunities at the $p \leq 0.05$ level for the three conditions [$F(3,80) = 0.19$, $p = 0.9013$].

Table 123 provides information related to the GLM Least Squares Means Test for Significance Results for Survey Question 26, Part A.

Table 123

GLM Least Squares Means Test for Significance Result for Survey Question 26, Part A

	Sum of Squares	df	Mean Square	F	Level of Significance
Model	0.33630952	3	0.11210317	0.19	0.9013
Error	46.61607143	80	0.58270089		
Corrected Total	46.95238095	83			

Survey Question 26, Part B asked the participants "To what extent do your administrators engaged in Online Educational Opportunities have: b. adequate access to computers and internet at home?" There was not a significant effect of school district class on adequate access to computers and internet at home for administrators engaged in Online Educational Opportunities at the $p \leq 0.05$ level for the three conditions [$F(3,80) = 0.27$, $p = 0.8446$].

Table 124

GLM Least Squares Means Test for Significance Result for Survey Question 26, Part B

	Sum of Squares	df	Mean Square	F	Level of Significance
Model	0.59226190	3	0.19742063	0.27	0.8446
Error	57.82440476	80	0.72280506		
Corrected Total	58.41666667	83			

Table 124 provides information related to the GLM Least Squares Means Test for Significance Results for Survey Question 26, Part B.

Survey Question 26, Part C asked the participants "To what extent do your administrators engaged in Online Educational Opportunities have: c. adequate technology training or other supports?" There was not a significant effect of school district class on adequate technology training or other supports for administrators engaged in Online Educational Opportunities at the $p \leq 0.05$ level for the three conditions [$F(3,80) = 1.10$, $p = 0.3547$].

Table 125 provides information related to the GLM Least Squares Means Test for Significance Results for Survey Question 26, Part C.

Table 125

GLM Least Squares Means Test for Significance Result for Survey Question 26, Part C

	Sum of Squares	df	Mean Square	F	Level of Significance
Model	2.99702381	3	0.99900794	1.10	0.3547
Error	72.75297619	80	0.90941220		
Corrected Total	75.75000000	83			

Inferential statistics ANOVA analyses: Influence of decision makers on types of offerings (survey question 27). Survey Question 27, Part A asked the participants "What influence do the following entities have on decisions related to how your school meets the Michigan mandate for Online Educational Opportunities for each student: a. Local employers expecting graduates have 21st century online skills?" There was not a significant effect of school district class on the level of influence local employers expecting graduates to have 21st century online skills have on how the respondents' school makes decisions on meeting the Michigan mandate at the $p \leq 0.05$ level for the three conditions [$F(3,77) = 1.10$, $p = 0.3552$].

Table 126 provides information related to the GLM Least Squares Means Test for Significance Results for Survey Question 27, Part A.

Table 126

GLM Least Squares Means Test for Significance Result for Survey Question 27, Part A

	Sum of Squares	df	Mean Square	F	Level of Significance
Model	3.19180661	3	1.06393554	1.10	0.3552
Error	74.61066253	77	0.96896964		
Corrected Total	77.80246914	80			

Survey Question 27, Part B asked the participants "What influence do the following entities have on decisions related to how your school meets the Michigan mandate for Online Educational Opportunities for each student: b. Your building instructional departments?" There was not a significant effect of school district class on the level of influence the respondents' building instructional departments have on how the respondents' school makes decisions on meeting the Michigan mandate at the $p \leq$ 0.05 level for the three conditions [$F(3,78) = 0.89$, $p = 0.4478$].

Table 127

GLM Least Squares Means Test for Significance Result for Survey Question 27, Part B

	Sum of Squares	df	Mean Square	F	Level of Significance
Model	2.56581768	3	0.85527256	0.89	0.4478
Error	74.55613354	78	0.95584787		
Corrected Total	77.12195122	81			

Table 127 provides information related to the GLM Least Squares Means Test for Significance Results for Survey Question 27, Part B.

Survey Question 27, Part C asked the participants "What influence do the following entities have on decisions related to how your school meets the Michigan mandate for Online Educational Opportunities for each student: c. Your building Professional Learning Committees?" There was not a significant effect of school district class on the level of influence the respondents' building Professional Leaning Communities have on how the respondents' school makes decisions on meeting the Michigan mandate at the $p \leq 0.05$ level for the three conditions [$F(3,78) = 1.66$, $p = 0.1831$].

Table 128

GLM Least Squares Means Test for Significance Result for Survey Question 27, Part C

	Sum of Squares	df	Mean Square	F	Level of Significance
Model	5.48453517	3	1.82817839	1.66	0.1831
Error	86.03985507	78	1.10307507		
Corrected Total	91.52439024	81			

Table 128 provides information related to the GLM Least Squares Means Test for Significance Results for Survey Question 27, Part C.

Survey Question 27, Part D asked the participants "What influence do the following entities have on decisions related to how your school meets the Michigan mandate for Online Educational Opportunities for each student: d. Your building Curriculum Committee?" There was a significant effect of school district class on the level of influence the respondents' building Curriculum Committee has on how the respondents' school makes decisions on meeting the Michigan mandate at the $p \leq 0.05$ level for the three conditions $[F(3,78) = 2.87, p = 0.0417]$.

Table 129 provides information related to the GLM Least Squares Means Test for Significance Results for Survey Question 27, Part D.

Table 129

GLM Least Squares Means Test for Significance Result for Survey Question 27, Part D

	Sum of Squares	df	Mean Square	F	Level of Significance
Model	7.53083876	3	2.51027959	2.87	0.0417*
Error	68.22525880	78	0.87468281		
Corrected Total	75.75609756	81			

* $p \leq 0.05$

Survey Question 27, Part E asked the participants "What influence do the following entities have on decisions related to how your school meets the Michigan mandate for Online Educational Opportunities for each student: e. Your building Technology Committee?" There was not a significant effect of school district class on the level of influence the respondents' building Technology Committee has on how the respondents' school makes decisions on meeting the Michigan mandate at the $p \leq 0.05$ level for the three conditions [F(3,77) = 1.50, p = 0.2217].

Table 130

GLM Least Squares Means Test for Significance Result for Survey Question 27, Part E

	Sum of Squares	df	Mean Square	F	Level of Significance
Model	5.45425685	3	1.81808562	1.50	0.2217
Error	93.43463203	77	1.21343678		
Corrected Total	98.88888889	80			

Table 130 provides information related to the GLM Least Squares Means Test for Significance Results for Survey Question 27, Part E.

Survey Question 27, Part F asked the participants "What influence do the following entities have on decisions related to how your school meets the Michigan mandate for Online Educational Opportunities for each student: f. Your building administrators?" There was not a significant effect of school district class on the level of influence the respondents' building administrators have on how the respondents' school makes decisions on meeting the Michigan mandate at the $p \leq 0.05$ level for the three conditions [F(3,78) = 0.93, p = 0.4323.

Table 131 provides information related to the GLM Least Squares Means Test for Significance Results for Survey Question 27, Part F.

Table 131

GLM Least Squares Means Test for Significance Result for Survey Question 27, Part F

	Sum of Squares	df	Mean Square	F	Level of Significance
Model	1.97819459	3	0.65939820	0.93	0.4323
Error	55.54619565	78	0.71213071		
Corrected Total	57.52439024	81			

Survey Question 27, Part G asked the participants "What influence do the following entities have on decisions related to how your school meets the Michigan mandate for Online Educational Opportunities for each student: g. Your district administrators?" There was not a significant effect of school district class on the level of influence the respondents' district administrators have on how the respondents' school makes decisions on meeting the Michigan mandate at the $p \leq 0.05$ level for the three conditions [$F(3,78) = 0.33$, $p = 0.8053$].

Table 132 provides information related to the GLM Least Squares Means Test for Significance Results for Survey Question 27, Part G.

Table 132

GLM Least Squares Means Test for Significance Result for Survey Question 27, Part G

	Sum of Squares	df	Mean Square	F	Level of Significance
Model	0.81384071	3	0.27128024	0.33	0.8053
Error	64.56420807	78	0.82774626		
Corrected Total	65.37804878	81			

Survey Question 27, Part H asked the participants "What influence do the following entities have on decisions related to how your school meets the Michigan mandate for Online Educational Opportunities for each student: h. Your school board?" There was a significant effect of school district class on the level of influence the respondents' school board has on how the respondents' school makes decisions on meeting the Michigan mandate at the $p \leq 0.05$ level for the three conditions [$F(3,78) =$ 2.81, p = 0.0447].

Table 133

GLM Least Squares Means Test for Significance Result for Survey Question 27, Part H

	Sum of Squares	df	Mean Square	F	Level of Significance
Model	9.55019378	3	3.18339793	2.81	0.0447*
Error	88.25468427	78	1.13147031		
Corrected Total	97.80487805	81			

* $p \leq 0.05$

Table 133 provides information related to the GLM Least Squares Means Test for Significance Results for Survey Question 27, Part H.

Survey Question 27, Part I asked the participants "What influence do the following entities have on decisions related to how your school meets the Michigan mandate for Online Educational Opportunities for each student: i. Your parents?" There was not a significant effect of school district class on the level of influence the respondents' parents have on how the respondents' school makes decisions on meeting the Michigan mandate at the $p \leq 0.05$ level for the three conditions [$F(3,78) = 1.80$, p = 0.1536].

Table 134 provides information related to the GLM Least Squares Means Test for Significance Results for Survey Question 27, Part I.

Table 134

GLM Least Squares Means Test for Significance Result for Survey Question 27, Part I

	Sum of Squares	df	Mean Square	F	Level of Significance
Model	5.13659294	3	1.71219765	1.80	0.1536
Error	74.08291925	78	0.94978102		
Corrected Total	79.21951220	81			

Survey Question 27, Part J asked the participants "What influence do the following entities have on decisions related to how your school meets the Michigan mandate for Online Educational Opportunities for each student: j. Your students?" There was not a significant effect of school district class on the level of influence the respondents' students have on how the respondents' school makes decisions on meeting the Michigan mandate at the $p \leq 0.05$ level for the three conditions [F(3,79) = 1.40, p = 0.2476].

Table 135 provides information related to the GLM Least Squares Means Test for Significance Results for Survey Question 27, Part J.

Table 135

GLM Least Squares Means Test for Significance Result for Survey Question 27, Part J

	Sum of Squares	df	Mean Square	F	Level of Significance
Model	3.58197542	3	1.19399181	1.40	0.2476
Error	67.14091615	79	0.84988501		
Corrected Total	70.72289157	82			

Inferential statistics analyses: Level of overall benefit of the mandate (survey question 30). Survey Question 30 asked the participants "Overall, our school has benefited by meeting the requirements of providing Online Educational Opportunities for each student prior to high school graduation?" There was not a significant effect of school district class on the level of benefit the respondents' schools have enjoyed by meeting the requirements for providing Online Educational Opportunities for each student prior to graduation at the $p \leq 0.05$ level for the three conditions [$F(3,79) = 0.79$, $p = 0.5029$].

Table 136

GLM Least Squares Means Test for Significance Result for Survey Question 30

	Sum of Squares	df	Mean Square	F	Level of Significance
Model	3.3818130	3	1.1272710	0.79	0.5029
Error	112.6904762	79	1.4264617		
Corrected Total	116.0722892	82			

Table 136 provides information related to the GLM Least Squares Means Test for Significance Results for Survey Question 30.

Table 137

Survey Questions with Levels of Significance Greater Than or Equal to p ≤ 0.05

Survey Question	Level of Significance
Survey Question 9, Part E. Of the Fully Online Semester Long Courses taken by your students this past school year, which of the following provided all or some of the course: e. Another Intermediate School District in Michigan, other than your own?	0.0133*
Survey Question 9, Part G. Of the Fully Online Semester Long Courses taken by your students this past school year, which of the following provided all or some of the course: g. A Local District within Michigan, other than your own?	0.0123*

Table 137 *Continued*

Survey Question 16, Part E. Of the online experiences incorporated within traditional classes taken by your students this past school year, which curriculum content areas were one or more of the classes in: e. Visual, Performing and Applied Arts?	0.0464*
Survey Question 16, Part F. Of the online experiences incorporated within traditional classes taken by your students this past school year, which curriculum content areas were one or more of the classes in: f. Physical and Health Education?	0.0089*
Survey Question 20, Part E. To what extent have the following entities assisted your school in providing Online Educational Opportunities: e. The Michigan Association for Computer Users in Learning (MACUL)?	0.0074*
Survey Question 20, Part F. To what extent have the following entities assisted your school in providing Online Educational Opportunities: f. The Michigan Virtual University (MVU)?	0.0063*
Survey Question 22, Part A. To what extent have Online Educational Opportunities allowed students to: a. interact with other students and experts from around the globe?	0.0338*
Survey Question 22, Part B. To what extent have Online Educational Opportunities allowed students to: b. utilize things like web quests, blogs, podcasting, webinars, or virtual reality simulations?	0.0089*
Survey Question 22, Part I. To what extent have Online Educational Opportunities allowed students to: i. participate in authentic experiences through online field trips?	0.0185*
Survey Question 27, Part D. What influence do the following entities have on decisions related to how your school meets the Michigan mandate for Online Educational Opportunities for each student: d. Your building Curriculum Committee?	0.0417*
Survey Question 27, Part H. What influence do the following entities have on decisions related to how your school meets the Michigan mandate for Online Educational Opportunities for each student: h. Your school board?	0.0447*

* $p \leq 0.05$

As we have seen, there are some Survey Questions that were found to have levels of significance when the ANOVA was inferentially calculated. Table 137 provides information related to the Survey Questions that were found to have levels of significance $p \leq 0.05$.

Tukey-Kramer Post Hoc Test for Significance

"When statistical significance is obtained in an ANOVA, additional statistical tests are necessary to determine which of the group means differ from each other" (Sawyer, 2009, E32). A post-hoc multiple comparison technique was utilized to identify where the significant differences existed within the calculated means. The Tukey-Kramer procedure was employed as the post-hoc multiple comparison technique due to the fact that there were unequal sample sizes for the corresponding means within the District School Classes data.

Tukey-Kramer post hoc test for significance: Another intermediate school district in Michigan, other than your own provider of online course (survey question 9, part e). Survey Question 9, Part E states "Of the Fully Online Semester Long Courses taken by your students this past school year, which of the following provided all or some of the course: e. Another Intermediate School District in Michigan, other than your own?" The least squares mean of respondent School Class A was 1.64285714, the least squares mean of School Class B was 1.17391304, the least squares mean of School Class C was 1.20000000, and the least squares mean of School Class D was 1.13333333. Based on the Tukey-Kramer Procedure, at the 5% significance level we can conclude that the utilization of another intermediate school district for the provision of Fully Online Semester Long Courses is statistically different for respondent Class A schools from respondent Class B schools, Class C schools and Class D schools.

Table 138 provides information related to the least squares means for effect size calculations for Survey Question 9, Part E.

Table 138

Tukey-Kramer Adjusted p Values for Use of another ISD to Offer Fully Online Semester Long Courses (Survey Question 9, Part E)

	School Class A	School Class B	School Class C	School Class D
School Class A		0.0228*	0.0314*	0.0245*
School Class B	0.0228*		0.9975	0.9938
School Class C	0.0314*	0.9975		0.9727
School Class D	0.0245*	0.9938	0.9727	

* $p \leq 0.05$

Tukey-Kramer post hoc test for significance: A local district in Michigan, other than your own provider of online course (survey question 9, part g). Survey Question 9, Part G states "Of the Fully Online Semester Long Courses taken by your students this past school year, which of the following provided all or some of the course: g. A Local District within Michigan, other than your own?" The least squares mean of School Class A was 1.35714286, the least squares mean of School Class B was 1.04761905, and the least squares mean of School Class C was 1.00000000. Based on the Tukey-Kramer Procedure, at the 5% significance level we can conclude that the utilization of another local district in Michigan other than the respondents' own district for the provision of Fully Online Semester Long Courses is statistically different for Class A schools than Class B schools or Class C schools.

Table 139 provides information related to the least squares means for effect size calculations for Survey Question 9, Part G.

Table 139

Tukey-Kramer Adjusted p Values for Use of another Local District to Offer Fully Online Semester Long Courses (Survey Question 9, Part G)

	School Class A	School Class B	School Class C	School Class D
School Class A		0.0349*	0.0092*	0.0990
School Class B	0.0349*		0.9614	0.9965
School Class C	0.0092*	0.9614		0.9144
School Class D	0.0990	0.9965	0.9144	

* $p \leq 0.05$

Tukey-Kramer post hoc test for significance: Utilization of online experiences incorporated within traditional classes for visual, performing and applied arts (survey question 16, part e). Survey Question 16, Part E states "Of the Online Experiences Incorporated within Traditional Classes taken by your students this past school year, which curriculum content areas were one or more of the classes in: e. Visual, Performing and Applied Arts?" The least squares mean of School Class A was 1.86666667, and the least squares mean of School Class D was 1.28571429. Based on the Tukey-Kramer Procedure, at the 5% significance level we can conclude that the utilization of Online Experiences Incorporated within Classes to provide students with visual, performing and applied arts content is statistically different for Class A schools from Class D schools.

Table 140 provides information related to the least squares means for effect size calculations for Survey Question 16, Part E.

Table 140

Tukey-Kramer Adjusted p Values for Use of Online Experiences in Visual, Performing, and Applied Arts (Survey Question 16, Part E)

	School Class A	School Class B	School Class C	School Class D
School Class A		0.0970	0.3894	0.0438*
School Class B	0.0970		0.8735	0.9084
School Class C	0.3894	0.8735		0.5641
School Class D	0.0438*	0.9084	0.5641	

* $p \leq 0.05$

Tukey-Kramer post hoc test for significance: Utilization of online experiences incorporated within traditional classes for physical and health education (survey question 16, part f). Survey Question 16, Part F states "Of the Online Experiences Incorporated within Traditional Classes taken by your students this past school year, which curriculum content areas were one or more of the classes in: f. Physical and Health Education?" The least squares mean of School Class A was 2.00000000, the least squares mean of School Class B was 1.30434783, and the least squares mean of School Class C was 1.33333333. Based on the Tukey-Kramer Procedure, at the 5% significance level we can conclude that the utilization of Online Experiences Incorporated within Classes to provide students with physical and health education content is statistically different for Class A schools than Class B schools, or for Class C Schools.

Table 141 provides information related to the least squares means for effect size calculations for Survey Question 16, Part F.

Table 141

Tukey-Kramer Adjusted p Values for Use of Online Experiences in Physical and Health Education (Survey Question 16, Part F)

	School Class A	School Class B	School Class C	School Class D
School Class A		0.0096*	0.0167*	0.2067
School Class B	0.0096*		0.9988	0.7106
School Class C	0.0167*	0.9988		0.7970
School Class D	0.2067	0.7106	0.7970	

* p ≤ 0.05

Tukey-Kramer post hoc test for significance: Assistance from MACUL in providing online educational opportunities (survey question 20, part e). Survey Question 20, Part E states "To what extent have the following entities assisted your school in providing Online Educational Opportunities: e. The Michigan Association for Computer Users in Learning (MACUL)?" The least squares mean of School Class A was 2.53333333, the least squares mean of School Class C was 1.58333333, and the least squares mean of School Class D was 1.53333333. Based on the Tukey-Kramer Procedure, at the 5% significance level we can conclude that the utilization of MACUL to assist the district in providing Online Educational Opportunities is statistically different for Class A schools from Class C schools, Class D schools or Class D schools.

Table 142

Tukey-Kramer Adjusted p Values for Assistance from MACUL in Providing Online Educational Opportunities (Survey Question 20, Part E)

	School Class A	School Class B	School Class C	School Class D
School Class A		0.7515	0.0254*	0.0376*
School Class B	0.7515		0.1145	0.1533
School Class C	0.0254*	0.1145		0.9987
School Class D	0.0376*	0.1533	0.9987	

* p ≤ 0.05

Table 142 provides information related to the least squares means for effect size calculations for Survey Question 20, Part E.

Tukey-Kramer post hoc test for significance: Assistance from MVU in providing online educational opportunities (survey question 20, part f). Survey Question 20, Part F states "To what extent have the following entities assisted your school in providing Online Educational Opportunities: f. The Michigan Virtual University (MVU)?" The least squares mean of School Class A was 3.06250000, the least squares mean of School Class B was 3.17857143, the least squares mean of School Class C was 3.00000000, and the least squares mean of School Class D was 1.66666667. Based on the Tukey-Kramer Procedure, at the 5% significance level we can conclude that the utilization of MVU to assist the district in providing Online Educational Opportunities is statistically different for Class D schools from Class A schools, Class B schools or Class C schools.

Table 143

Tukey-Kramer Adjusted p Values for Assistance from MVU in Providing Online Educational Opportunities (Survey Question 20, Part F)

	School Class A	School Class B	School Class C	School Class D
School Class A		0.9932	0.9990	0.0307*
School Class B	0.9932		0.9664	0.0053*
School Class C	0.9990	0.9664		0.0221*
School Class D	0.0307*	0.0053*	0.0221*	

* p ≤ 0.05

Table 143 provides information related to the least squares means for effect size calculations for Survey Question 20, Part F.

Tukey-Kramer post hoc test for significance: Extent online educational opportunities allowed students to utilize things like web quests, blogs, podcasting, webinars, or virtual reality simulations (survey question 22, part b). Survey Question 22, Part B states "To what extent have Online Educational Opportunities allowed students to: b. utilize things like web quests, blogs, podcasting, webinars, or virtual reality simulations?" The least squares mean of School Class A was 3.68750000, the least squares mean of School Class C was 2.70833333, and the least squares mean of School Class D was 2.66666667. Based on the Tukey-Kramer Procedure, at the 5% significance level we can conclude that utilization of Online Educational Opportunities student web quests, blogs, podcasting, webinars, or virtual reality simulations is statistically different for Class A schools than Class C schools or Class D schools.

Table 144

Tukey-Kramer Adjusted p Values for Extent Online Educational Opportunities Allowed Students to Utilize Online Tools (Survey Question 22, Part B)

	School Class A	School Class B	School Class C	School Class D
School Class A		0.1062	0.0110*	0.0196*
School Class B	0.1062		0.6904	0.6947
School Class C	0.0110*	0.6904		0.9992
School Class D	0.0196*	0.6947	0.9992	

* $p \leq 0.05$

Table 144 provides information related to the least squares means for effect size calculations for Survey Question 22, Part B.

Tukey-Kramer post hoc test for significance: Extent online educational opportunities allowed students to participate in authentic experiences through online field trips (survey question 22, part i). Survey Question 22, Part I states "To

what extent have Online Educational Opportunities allowed students to: i. participate in authentic experiences through online field trips?" The least squares mean of School Class A was 2.93750000 and the least squares mean of School Class D was 1.73333333. Based on the Tukey-Kramer Procedure, at the 5% significance level we can conclude that utilization of Online Educational Opportunities for students to participate in authentic experiences through the use of online field trips is statistically different for Class A schools from Class D schools.

Table 145 provides information related to the least squares means for effect size calculations for Survey Question 22, Part I.

Table 145

Tukey-Kramer Adjusted p Values for Extent Online Educational Opportunities Allowed Students to Participate in Online Field Trips (Survey Question 22, Part I)

	School Class A	School Class B	School Class C	School Class D
School Class A		0.2428	0.1418	0.0101*
School Class B	0.2428		0.9797	0.2992
School Class C	0.1418	0.9797		0.5132
School Class D	0.0101*	0.2992	0.5132	

* $p \leq 0.05$

Tukey-Kramer post hoc test for significance: Influence of building curriculum committee on decisions related to how your school meets the Michigan mandate (survey question 27, part d). Survey Question 27, Part D states "What influence do the following entities have on decisions related to how your school meets the Michigan mandate for Online Educational Opportunities for each student: d. Your building Curriculum Committee?" The least squares mean of School Class B was 3.07142857and the least squares mean of School Class D was 3.93333333. Based on the

Tukey-Kramer Procedure, at the 5% significance level we can conclude that the influence

that the building curriculum committee is statistically different for Class B schools than

Class D schools.

Table 146 provides information related to the least squares means for effect size

calculations for Survey Question 27, Part D.

Table 146

Tukey-Kramer Adjusted p Values for Influence of Building Curriculum Committee On Decisions (Survey Question 27, Part D)

	School Class A	School Class B	School Class C	School Class D
School Class A		0.9289	1.00	0.1849
School Class B	0.9289		0.8889	0.0259*
School Class C	1.000	0.8889		0.1418
School Class D	0.1849	0.0259*	0.1418	

* p ≤ 0.05

Based upon the Tukey-Kramer inferential statistical analysis, it was found that 9

Survey Questions had significant differences between the mean scores of the School

District Class Size.

Table 147 provides a visual display of the significant differences, as well as the

School District Class that was identified.

Table 147

Tukey-Kramer Adjusted p Values for Levels of Significance for All Survey Questions

Survey Question	School Class A/School Class B	School Class A/School Class C	School Class A/School Class D	School Class B/School Class C	School Class B/School Class D	School Class C/School Class D
Survey Question 9, Part E. Another Intermediate School District in Michigan, other than your own for Online Courses	0.0228*	0.0314*	0.0245*			

Table 147 *(Continued)*

Survey Question 9, Part G. A Local District within Michigan, other than your own for Online Courses	0.0349*	0.0092*			
Survey Question 16, Part E. Online experiences incorporated within Visual, Performing and Applied Arts?			0.0438*		
Survey Question 16, Part F. Online experiences incorporated within Physical and Health Education?	0.0096*	0.0167*			
Survey Question 20, Part E. MACUL assisted your school in providing Online Educational Opportunities		0.0254*	0.0376*		
Survey Question 20, Part F. MVU assisted your school in providing Online Educational Opportunities			0.0307*	0.0053*	0.0221*
Survey Question 22, Part B. Online Educational Opportunities to utilize web quests, blogs, podcasting, webinars, or virtual reality simulations		0.0110*	0.0196*		
Survey Question 22, Part I. Online Educational Opportunities allowed students to participate in online field trips			0.0101*		
Survey Question 27, Part D. Building Curriculum Committee influence on decisions				0.0259*	

* p ≤ 0.05

Descriptive Statistics Analyses of Remaining Survey Questions

Although the descriptive statistical analysis of Survey Questions 24, 25, 26 and 27 were not specifically utilized to answer a specific research question, the information that they provided was included for consideration.

Descriptive Statistics Analyses: Student Technology Access and Training (Survey Question 24)

In Survey Question 24, the administrators were asked to indicate the extent to which students had access to and training for technology during the 2011-2012 school year by addressing the question: "To what extent do your students engaged in Online Educational Opportunities have: adequate access to computers and internet at school; adequate access to computers and internet at home; adequate technology training or other supports?"

Having a mean range from 3.31 to 4.18 out of 5.0, 84 respondents provided answers to each of the three parts of Survey Question 24. The administrators stated that their students had adequate access to computers and internet at school at a rate of 4.18 out of 5.0. The students had adequate access to computers and internet at home at a rate of 3.32 out of 5.0. Finally, the respondents said that students had adequate technology training or other supports at a rate of 3.31 out of 5.0.

The following information is all related to adequate technology access (both in school and in home) and technology training for students, teachers and administrators.

Table 148

Student Technology Access and Training (Survey Question 24)

Student Technology Access and Training	Not at all	To a small extent	To a moderate extent	To a large extent	To a very large extent	M	N
	N(%)	N(%)	N(%)	N(%)	N(%)		
Adequate access at school	0(0.0)	4(4.8)	11(13.1)	35(41.7)	34(40.5)	4.18	84
Adequate access at home	1(1.2)	16(19.0)	29(34.5)	31(36.9)	7(8.3)	3.32	84
Adequate technology training or other supports	0(0.0)	15(17.9)	35(41.7)	27(32.1)	7(8.3)	3.31	84

Table 148 provides a hierarchy of score of the extent to which students had access and training for technology integration, as ranked from the highest to the lowest mean.

Descriptive Statistics Analyses: Teacher Technology Access and Training (Survey Question 25)

In Survey Question 25, the administrators were asked to indicate the extent to which teachers had access to and training for technology during the 2011-2012 school year by addressing the question: "To what extent do your teachers engaged in Online Educational Opportunities have: adequate access to computers and internet at school; adequate access to computers and internet at home; adequate technology training or other supports?"

The number of responses for the separate stems of the questions ranged from 83 to 84, with answers having a mean range from 3.73 to 4.45 out of 5.0.

The 84 respondents stated that their teachers had adequate access to computers and internet at school at a rate of 4.45 out of 5.0. The teachers had adequate access to computers and internet at home at a rate of 3.32 out of 5.0 according to 84 respondents. Finally, 83 respondents said that their teachers had adequate technology training or other supports at a rate of 3.73 out of 5.0.

Table 149

Teacher Technology Access and Training (Survey Question 25)

Teacher Technology Access and Training	Not at all	To a small extent	To a moderate extent	To a large extent	To a very large extent	M	N
	N(%)	N(%)	N(%)	N(%)	N(%)		
Adequate access at school	0(0.0)	2(2.4)	9(10.7)	22(26.2)	51(60.7)	4.45	84
Adequate access at home	0(0.0)	4(4.8)	7(8.3)	31(36.9)	42(50.0)	4.32	84
Adequate technology training or other supports	0(0.0)	8(9.6)	25(30.1)	31(37.3)	19(22.9)	3.73	83

Table 149 provides a hierarchy of score of the extent to which teachers had access and training for technology integration, as ranked from the highest to the lowest mean.

Descriptive Statistics Analyses: Administrator Technology Access and Training (Survey Question 26)

In Survey Question 26, the administrators were asked to indicate the extent to which they had access to and training for technology during the 2011-2012 school year by addressing the question: "To what extent do your administrators engaged in Online Educational Opportunities have: adequate access to computers and internet at school; adequate access to computers and internet at home; and adequate technology training or other supports?"

The 84 responses had a mean range from 3.73 to 4.45 out of 5.0. The respondents stated that their administrators had adequate access to computers and internet at school at a rate of 4.52 out of 5.0. The administrators had adequate access to computers and internet at home at a rate of 4.42 out of 5.0. Finally, the respondents said that administrators had adequate technology training or other supports at a rate of 3.75 out of 5.0.

Table 150

Administrator Technology Access and Training (Survey Question 26)

Administrator Technology Access and Training	Not at all N(%)	To a small extent N(%)	To a moderate extent N(%)	To a large extent N(%)	To a very large extent N(%)	M	N
Adequate access at school	0(0.0)	3(3.6)	4(4.8)	23(27.4)	54(64.3)	4.52	84
Adequate access at home	0(0.0)	4(4.8)	7(8.3)	23(27.4)	50(59.5)	4.42	84
Adequate technology training or other supports	0(0.0)	10(11.9)	21(25.0)	33(39.3)	20(23.8)	3.75	84

Table 150 provides a hierarchy of score of the extent to which administrators had access and training for technology integration, as ranked from the highest to the lowest mean.

Chapter 4 Conclusion

In Chapter 4, the results of the descriptive and inferential statistics analyses of the measures obtained from the results of my study for each research question were fully discussed and described. The results were presented in narrative, and when appropriate, table fashion. Chapter 5 provides comments and recommendations from the researcher based on information obtained from the survey.

CHAPTER 5 DISCUSSION

This study examined how schools in Michigan are meeting the Michigan Merit Curriculum requirements for Online Educational Opportunities as a condition for graduation. It involved a survey of all public high school principals in the state.

During the analysis of the survey data, a considerable amount of information was collected, identified, and analyzed. Descriptive and inferential statistics routines were run and the results are discussed here. The chapter will conclude with comments and recommendations from the researcher based on information obtained from the survey.

Discussion of Research Results

When this project first started, there was very little information available describing how schools in Michigan were meeting the mandate for providing Online Educational Opportunities as a condition for high school graduation. This survey was the first known research that investigated the implementation of the mandate across the public schools in the State of Michigan, and the impact that the mandate had on the programs across the state.

Analysis of Demographic Data

The original potential survey respondent population started at 1,083 individuals. After initial and subsequent follow-up emails, the number was pared down to 891. Of that number, 140 responses were obtained for Survey Question 1, which provided implied consent to continue with the process. One individual opted out, thus leaving 139 potential participants for the remaining survey questions. Based upon comments in some of the open-ended questions, it appears that technical problems with some of the respondents' hardware potentially kept them from answering every question in the

survey. For example, one respondent to Survey Question 10 stated, "Your bullets [sic] wouldnt work." This might account for some of the survey questions not being answered by each participant.

Of the 134 total respondents to the Survey Question 2, 112 were building principals, and 13 were district superintendents. Therefore 93.3% of the respondents to this question were higher-level administrators for their programs; a fact that should not be lost when considering the validity of the information received. These individuals are the ones ultimately responsible for the integrity of the graduation requirements for their programs.

Since the mandate for Online Educational Opportunities prior to graduation is not optional, it was assumed by the researcher that the 125 respondents in higher levels of administration were aware of and compliant with meeting the requirements for the mandate. This assumption was somewhat called into question by the responses given in Survey Question 29. A low response rate (N=84) was obtained for a question that asked for the respondents' level of confidence that the mandate is being met. Seventy-three respondents (86.9%) were definitely sure that they were meeting the mandate requirements. Although this percentage might appear high to some, the percentage should be 100% if districts were truly feeling confident that they were providing the services necessary to appropriately implement the requirement. Potentially, the lack of complete confidence on the part of the administrators might be because this survey occurred after only the second full year of implementation. System change takes time, and adoption rates of new policy mandates are not always fully implemented immediately (Fowler, 2004). Longitudinally, as the mandate requirements become more emphasized,

utilized, and institutionalized in the schools, this percentage of confidence should logically increase.

The distribution of respondents based on locale type (Survey Question 3) closely aligned percentage wise with that identified by VanBeek (2011a). However, since I was not able to gather permission from a large urban district to survey their administrators, the respondent numbers were considerably skewed, thus the utilization of locale type was considered inappropriate for inferential statistics analysis. There is not enough variance in the respondent scores to make inferential statistics analysis possible based on the locale type.

The same limitation was extended to the information gathered for Survey Question 4. That question utilized the regional representation concept created by the Michigan Association of School Administrators (2012). The area that contains the district that was unavailable to me was Region 10: the largest urban district. Again, due to the lack of available potential responses from the district, the MASA Regional configuration was excluded from inferential statistics consideration.

These concerns also need to be considered when approaching interpretation of the descriptive statistics analysis. Descriptively, there were several regions that had higher or lower percentage of responses that were different from what was expected based on the enrollment percentages provided by the State of Michigan (Michigan State Budget Office, 2012). Regions 8 and 9 both had less respondents than would be expected percentage wise based upon the state enrollment numbers (N=3.8% vs. 7.52% state enrollment, and N%=17.3 vs. 34.68 state enrollment respectively). Consequently, Regions 1 (N= 10.5% vs. 2.66% state enrollment), 2 (N=11.3% vs. 4.45% state

enrollment) and 7 (N=15.0% vs. 7.83% state enrollment) had higher response rates percentage wise. The lack of potential participation from the large district from Region 10 mentioned earlier also had the continuing issue of causing significant problems interpreting the data based on Region.

Even with the concerns about the lack of inclusion of the district in Region 10, it was determined that enough variance existed within the responses from Survey Question 5 related to school enrollment numbers to allow for inferential statistics processing. Though the majority of inferential statistics analysis relies upon the responses in Survey Question 5, it needs to be considered that the information provided for Survey Question 5 ended up being out of line with the state enrollment percentage averages provided by the Michigan High School Athletic Association (2012). Class C schools, which accounted for 12.8% of the student population in the state for the 2011-2012 school year had 30% of the survey respondents. Class B schools accounted for 25.8% of the 2011-2012 school aged population, yet saw a 28% response rate from the participants. Class A and Class D schools, which accounted for 58.6% and 4.5% of the 2011-2012 school aged population, accounted for 25% and 17% of the respondents respectively.

In summary, the majority of respondents were either Superintendents or High School Principal. The responses obtained were different from the percentages of responses that would be expected based on state averages for geographic locale type and MASA Region. There was not enough variance in scores to utilize geographic locale type or MASA Region results for inferential statistics. District Classification based on MHSAA guidelines was utilized for inferential statistics, and the results are reported later.

Analysis of Data for Research Question 1

The intent of Research Question 1 was to identify: a) the types and percentage of utilization of Fully Online Semester Long Courses being offered; and b) the types and percentage of utilization of Online Experiences Incorporated within Classes.

It was of interest to find out how many students were actually participating in each type of Online Educational Opportunity to meet the mandate. The respondents were asked to identify if any of their students were enrolled in both Fully Online Semester Long Courses, as well as in Online Experiences Incorporated within Classes. Table 151 provides a breakdown comparison of the results.

Table 151

Student Participation Responses for Survey Questions 6 & 14

	Yes Respondent N(%)	No Respondent N(%)	Total N(%)
Fully Online Semester Long Courses	117(87.3)	17(12.7)	134(100)
Online Experiences Incorporated within Classes	91(75.8)	29(24.2)	120(100)

Based upon these results, it would appear that the respondents to this survey utilized Fully Online Semester Long Courses at a higher percent rate than they utilized Online Experience Incorporated within Classes. However, the way the question was posed to the respondents needs to be considered. The question wanted to know if any of their students enrolled were involved in either situation. Therefore, one student enrolled could cause the administrator to respond in the affirmative. This distinction is important when comparing the results to other aspects of the survey.

Respondents were also asked to identify what percentage of their students were enrolled in both Fully Online Semester Long Courses, as well as in Online Experience Incorporated within Classes. Table 152 provides a breakdown comparison of the results.

Table 152

Students Enrollment Responses for Survey Questions 7 & 15

Class of School	Mean % of Students Enrolled in Fully Online Semester Long Courses	Mean % of Students Enrolled in Online Experiences Incorporated within Classes
Class A (952 students and above)	8.47	48.26
Class B (466-951 students)	13.01	49.93
Class C (216-465 students)	14.23	40.41
Class D (215 students and below)	37.20	51.59
Total from All Classes	19.27	47.73

There are larger percentage of students in all District Class types receiving mandated services via Fully Online Semester Long Courses, than through the utilization of Fully Online Semester Long Courses, with a greater disparity between the two options greatest in the larger population schools.

Of the administrators who responded to the survey with schools that are providing programming to meet the mandate, it appears that the districts with lowest student enrollment numbers (e.g., Class D school systems) are utilizing Fully Online Semester Long Courses at a much higher percentage rate than are their peer programs in the larger school districts. Although not quite as pronounced, the respondents from the lowest student enrollment districts once again utilized Online Experiences Incorporated within Classes to a greater percentage than their larger peer program.

In Survey Questions 8 and 16, respondents were asked to identify the subject matter content areas in which their programs were utilizing both Fully Online Semester Long Courses, as well as in classes that had Online Experiences Incorporated within Classes. Unlike the previous questions, this information was not disaggregated and analyzed by student enrollment or MHSAA school classification. It was asked strictly analyzed from a percentage of usage metric, looking at the results from a curriculum implementation perspective.

Table 153 provides a breakdown comparison of the results between Fully Online Semester Long Courses, as well as in classes that had online experiences built into them.

Table 153

Students Enrollment Responses for Survey Questions 8 & 16

Content Area	% of Students Taking Fully Online Semester Long Courses Took Courses in This Content Area	% of Students Enrolled in Online Experiences Incorporated within Classes Took Courses in This Content Area
Social Studies	91.7	70.5
Mathematics	90.0	67.5
English Language Arts	86.1	74.7
Science	83.0	61.5
Languages Other than English	63.6	48.6
Physical and Health Education	54.2	28.4
Visual Performing and Applied Arts	41.5	41.1
Career or Vocational Education	39.0	47.5

The respondents to the survey have programs that are utilizing both Fully Online Semester Long Courses and Online Experiences Incorporated within Classes more often for traditional core academic courses (Science, Mathematics, Social Studies, English Language Arts) than for traditional non-core academic classes (Languages Other than

English, Physical and Health Education, Visual Performing and Applied Arts, Career or Vocational Education).

The respondents' programs had larger percentages of their students enrolled in Fully Online Semester Long Courses core content areas than in Online Experiences Incorporated within Classes core content areas. This held true in all non-core content areas with the exception of Career or Vocational Education, where a larger percentage of students utilized Online Experiences Incorporated within Classes as opposed to Fully Online Semester Long Courses.

In summary, more schools had at least one student enrolled in Fully Online Semester Long Course than in Online Experiences Incorporated within Classes. Yet, at all School District sizes, a greater percentage of students were enrolled in Online Experiences Incorporated within Classes than in Fully Online Semester Long Courses. The respondents to the survey come from programs that utilize both the Fully Online Semester Long Courses and Online Experiences Incorporated within Classes more into their content academic areas than non-core academic areas. Respondents from smaller enrollment schools utilized on line opportunities at a higher rate than do their peers in lager schools, and that this disparity is greatest for Fully Online Semester Long Courses.

Analysis of Data for Research Question 2

The intent of Research Question 2 was to identify why the types of Online Educational Opportunities utilized to meet the mandate were chosen by the district or school, and how such decisions were made.

For Survey Questions 10 and 17, respondents were asked to identify the reasons why were they utilizing both Fully Online Semester Long Courses, as well as Online

Experiences Incorporated within Classes. The researcher hoped that the information provided would provide insights from a curriculum implementation perspective.

Table 154 provides a breakdown comparison of the results found between the reasons why respondents utilized Fully Online Semester Long Courses, as well as Online Experiences Incorporated within Classes (as ranked from highest to lowest mean for those using online experiences within classes). These insights are important to understand especially since new potential educational technological capabilities are growing on a monthly basis, but their integration ultimately is dependent upon the instructional needs that they will meet for students, instructors, programs and districts.

Table 154

Reasons for Utilization (Survey Questions 10 & 17)

Reason	Those Using Fully Online Semester Long Courses (Mean of 5)	Those Using Online Experiences Incorporated within Classes (Mean of 5)
Will help students acquire 21st century skills	2.80	3.74
Will help us meet needs of students considered at-risk for school failure	3.82	3.53
Research-based curriculum	2.93	3.19
Ease of Use for Students	2.99	3.09
Will help us meet needs of students requiring an accelerated curriculum	2.98	3.03
Will help us meet needs of students requiring credit recovery options	4.26	3.01
Will help us meet needs of students receiving special education services	2.04	2.75
Ease of use for staff	1.80	2.64
Affordability they offer	2.80	2.62
Recommended by another educational professional organization	2.12	2.19
Recommended by a vendor	1.65	1.59

It might be instructive to view the data from a different perspective: rank ordering the results from a very large factor (Likert Score of 5) to not a factor at all (Likert Score of 1). Table 155 provides this information.

Table 155

Rank Ordered Reasons for Utilization (Survey Questions 10 & 17)

Reason	Type	Mean (Out of 5)
Will help us meet needs of students requiring credit recovery options	FOSLC	4.26
Will help us meet needs of students considered at-risk for school failure	FOSLC	3.82
Will help students acquire 21st century skills	OEIC	3.74
Will help us meet needs of students considered at-risk for school failure	OEIC	3.53
Research-based curriculum	OEIC	3.19
Ease of Use for Students	OEIC	3.09
Will help us meet needs of students requiring an accelerated curriculum	OEIC	3.03
Will help us meet needs of students requiring credit recovery options	OEIC	3.01
Ease of Use for Students	FOSLC	2.99
Will help us meet needs of students requiring an accelerated curriculum	FOSLC	2.98
Research-based curriculum	FOSLC	2.93
Will help students acquire 21st century skills	FOSLC	2.80
Affordability they offer	FOSLC	2.80
Will help us meet needs of students receiving special education services	OEIC	2.75
Ease of use for staff	OEIC	2.64
Affordability they offer	OEIC	2.62
Recommended by another educational professional organization	OEIC	2.19
Recommended by another educational professional organization	FOSLC	2.12
Will help us meet needs of students receiving special education services	FOSLC	2.04
Ease of use for staff	FOSLC	1.80
Recommended by a vendor	FOSLC	1.65
Recommended by a vendor	OEIC	1.59

Index: FOSLC - Fully Online Semester Long Courses OEIC - Online Experiences Incorporated within Classes

It is interesting that many of the reasons why the responding schools are utilizing Online Educational Opportunities is to meet specific general education student needs, with a student-centered impact in mind. Of lesser import are issues related to finance, staff convenience, or meeting the needs of students with disabilities. These results are complimented by data from Table 14 (Chapter 4) where an average response of 3.95 of 5.0 was elicited from the respondents regarding the extent to which the Fully Online

Semester Long Courses offered to students had instructional goals, objectives, strategies, and assessments that are aligned with state standards, benchmarks and expectations; a clear sign of concern for quality of instruction. Other responses from Table 14 revealing concerns for the pedagogical integrity of the content includes the fact that Fully Online Semester Long Courses have: been organized in coherent, sequential manner (3.62 out of 5); and provide comparable rigor, depth, and breadth to traditionally delivered courses (3.51 out of 5).

It is important to note here that when the Survey Questions were authored, a great deal of verbiage was taken directly from Michigan Department of Education publications (2006a, 2006b, 2008, 2010, 2011a, 2011b). Unlike most of the other Survey Questions, for Survey Question 11 (that focused on the pedagogical concerns and constructs of the development of Fully Online Semester Long Courses), there was not a reciprocal question inquiring about the pedagogical concerns and constructs of the development of Online Experiences Incorporated within Classes.

The respondents' decision-making processes for inclusion of the chosen Online Educational Opportunities were also of interest to me. Table 17 (Chapter 4) provides examples of open ended responses provided by the respondents related to their districts' decision making process for determining how the mandate would be met. Their responses were categorized by the researcher and their processes involved district level reviews, where the online instructional programs utilized were looked at for compliance with existing district standards for utilization (68.5% of open-ended responses). The School Improvement/Professional Learning Communities processes were also used by many of the respondents (16.7% of open-ended responses). New and existing committee

formats were utilized to address implementation issues. Many respondents came from districts were the efforts were administratively directed because ultimately, implementation of curriculum issues is an administrative decision. Respondents also mentioned that they utilized support from outside of their district during the decision making process; exploration of programs, as well as site visitations were completed by some faculty. Collaboration between administrators and faculty was part of the process, with initial and ongoing needs assessments taking place to insure that a multiple of needs were being met. Although not frequently mentioned, costs of the program were also a consideration. Some respondents already had programs in existence, and they provided the basis of support for their Online Educational Opportunities offered to their students. Although some respondents mentioned that they incorporated students in the decision-making process, that number was minimal. Finally, some of the respondents stated that there were few decisions to be made because there was a mandate for the programming from the state: they complied.

Survey Question 27 (Table 16 in Chapter 2) is insightful in it documents that the respondents seem to be in close alignment in the fact that no one entity or group provides significant support for the decision makers: all entities listed tend to however around having a moderate level of support, with the building and districts administrators having the greatest amount of support (but even that is not significantly high). This information is important because influential entities tend to provide levels of support commensurate with their intentions. This information is also beneficial in knowing where individuals can go within their programs for support.

In summary, Research Question 2 sought to discover why the types of Online

Educational Opportunities were chosen by the district or school as the way to meet this

mandate, and how such decisions were made. Utilizing information from Survey

Questions 10, 11, 17, 27 and 28 it appears that the respondents utilized the mandate for

Online Educational Opportunities, for the most part as a vehicle for general education

student skillset improvement: to help students with credit recovery needs (4.26 out of 5.0

for Fully Online Semester Long Courses, and 3.01 out of 5.0 for Online Experiences

Incorporated within Classes), to help students considered at-risk for school failure (3.82

out of 5.0 for Fully Online Semester Long Courses, and 3.53 out of 5.0 for Online

Experiences Incorporated within Classes), and to assist students in gaining 21st Century

skills (2.80 out of 5.0 for Fully Online Semester Long Courses, and 3.74 out of 5.0 for

Online Experiences Incorporated within Classes). Ease of use by the staff (1.80 out of

5.0 for Fully Online Semester Long Courses, and 2.64 out of 5.0 for Online Experiences

Incorporated within Classes), utilization of Online Educational Opportunities to program

for students with special needs (2.04 out of 5.0 for Fully Online Semester Long Courses,

and 2.75 out of 5.0 for Online Experiences Incorporated within Classes), or to meet the

recommendations of a vendor (1.65 out of 5.0 for Fully Online Semester Long Courses,

and 1.59 out of 5.0 for Online Experiences Incorporated within Classes) were lesser

considerations of the respondents.

Traditional processes and mechanisms such as district level review (where

programs were checked for compliance issues) were mentioned by 26.0% of the

respondents, School Improvement Teams and Professional Learning Communities

(where curriculum, school and student impact issues are considered and discussed) were

mentioned by 16.7% of the respondents , directives from administration (where administrators took the lead for program compliance with the mandate) were mentioned by 14.8% of the respondents, assembling support from resources outside of the district (to see how other programs, vendors or resources could provide curricular support and resources) were mentioned by 9.3% of the respondents, and a collaborative effort between staff and administration (where input and support is garnered from the internal stakeholders) were mentioned by 7.4% of the respondents. These were all considered by the respondents to be part of the decision making process. Issues related to costs (3.7%), exiting programs (3.7%) and student input (1.9%) were also identified, albeit at a much lower level of response. Finally, decision makers in respondent districts tend to be supported mostly by their building administrators (3.87 out of 5.0), followed by their district administrators (3.70 out of 5.0) on the types of opportunities being offered. Students (3.52 out of 5.0) were the third most support on the decision makers as far as opportunity availability goes.

Analysis of Data for Research Question 3

Research Question 3 looked at the relationships between impacts and outcomes of districts meeting the mandate for providing Online Educational Opportunities as a condition for high school graduation. Univariate regression inferential statistics techniques were utilized to ascertain which relationships, if any, existed within the data. Descriptive statistics were utilized to identify areas or issues that confirm the findings of the inferential statistics. Open-ended responses from the survey participants provided complimentary anecdotal support to the inferential findings, as well as provide fodder for future areas of investigation.

Inferentially, relationships were identified between inputs (e.g., type of online opportunities utilized, technology access and training) and outcomes (e.g., impact on program, impact on students). The Student Impact Outcomes were identified as Survey Questions 21 and 22, with Program Impact Outcomes identified as Survey Questions 11 and 23. A univariate regression analysis identified three predictors as being statistically significant. Table 34 (Chapter 4) provides these in a visual format.

It was found through the univariate regression, from a student impact perspective that staff, student and administrator technological training significantly predicted improvement in student access to curriculum. Most of those activities listed in Survey Question 22 are a result of Online Educational Opportunities, and as such, are a newer capability for staff and students to access. Each one of those technological capabilities requires a different skill set on the part of the teacher and the student. As both become more proficient through increased training, their ability to access more advanced features Online Educational Opportunities have to offer increases. Additionally, the univariate regression also found that that providing Online Experiences Incorporated within Classes significantly predicted improvement in student access to curriculum. This was supported by the descriptive findings in Table 28 (Chapter 4), where Curriculum offerings for students were ranked highest in the influence Online Educational Opportunities have influenced the school system.

It was also found that providing Online Experiences Incorporated within Classes also has a relationship to increased student access to curriculum. Many of the items listed in Survey Question 22 are technology capabilities that only have utility in education settings. Expecting students to functionally incorporate these skill sets into their existing

courses probably is the only reason why students would ever access these in the first place. It stands to reason then, if it is not expected in the class, the skill sets probably never would become a part of the students' technological repertoire, therefore never being able to be performed.

From a program impact perspective it was found that providing Fully Online Semester Long Courses to students significantly predicted improvement in the school programs' financial and perceived achievement measures, utilizing Survey Question 23. Table 28 (Chapter 4) provides information related to the respondents' perceptions of the extent Online Educational Opportunities have influenced the school system. Descriptive statistics analysis of Survey Question 23 looked at the respondents'' perceived impact that Online Educational Opportunities had on curriculum offerings for students (4.85 out of 6.0), overall educational program (4.75 out of 6.0), engagement of students in learning process (4.68 out of 6.0), perceived academic achievement of students (4.57 out of 6.0), finances of your district (3.43 out of 6.0) and finances of your school (3.34 out of 6.0).

There is evidence from the inferential analyses that Fully Online Semester Long Courses have a relationship of increasing financial and perceived achievement measure to the programs, yet this fact appears to be under-rated by the respondents in Table 28 (Chapter 4). Perhaps it is due to the fact that Survey Question 23 considers both Fully Online Semester Long Courses as well as Online Experiences Incorporated within Classes in its question. Future research may benefit by splitting the two formats (Fully Online Semester Long Courses and Online Educational Opportunities Offered within Classes) apart to ascertain if the impressions of the administrators about the impact of both formats might be closer to the inferential results. Additionally, subdividing Survey

Question 23 into two more distinct question, with one more specifically measuring

finances, and the other more specifically measuring perceived student achievement might

help clarify this more, thus lessening the potential for operational confounding.

In the same way, it is interesting that a few respondents identified through their

open-ended responses in Survey Question 23 (Table 28) that Fully Online Semester Long

Courses might be a cost effective way of providing education, yet there was no mention

of cost effectiveness for Online Educational Experiences Incorporated within Classes.

Inferential statistics analysis identified that Fully Online Semester Long Courses have a

relationship of increasing financial and achievement measures for the programs, thus

possibly positively influencing the cost effectiveness of the program.

We have discussed specific survey questions where the descriptive results have

tended to mirror the inferential regression statistics results. It appears that many of the

open-ended responses are supported by findings of the regression analysis. The finding

that technology training provided to students, teachers and administrators have the

relationship of increasing student access to the curriculum might possibly impact the

advantage categories contained in Survey Question 12 (Tables 18 & 19 in Chapter 4).

Survey Question 12 was an open-ended format that asked the respondents what the

advantages were in providing Fully Online Semester Long Courses. In the same way,

Survey Question 18 (Tables 22 & 23 in Chapter 4) asked about the perceived benefits of

providing Online Experiences Incorporated within Classes.

Both formats were seen as was to increase flexibility within programs, with

19.8% of the respondents offering open-ended comments noting that Fully Online

Semester Long Courses offered greater flexibility, and 10.1% of the respondents saying

Online Experiences Incorporated within Classes provided flexibility. Both formats allowed for more student self-directed learning (Fully Online Semester Long Courses 9.9% to Online Experiences Incorporated within Classes 7.2%). Both met individual student needs (Fully Online Semester Long Courses 7.7% to Online Experiences Incorporated within Classes 7.2%). An interesting finding from the respondents was that only 1.1% mentioned that Fully Online Semester Long Courses provided 21st Century Skills, whereas 13.8% of the respondents said Online Experiences Incorporated within Classes provided those skills.

Survey Question 13 was an open-ended format that asked the respondents what the disadvantages were in providing Fully Online Semester Long Courses. In the same way, Survey Question 19 asked about the perceived detriments of providing Online Experiences Incorporated within Classes.

There were only three areas that were mentioned within the open-ended responses as being a disadvantage for both formats: Lack of Student Course/Content Completion (Fully Online Semester Long Courses 8.2% to Online Experiences Incorporated within Classes 15.4%), Lack of Professional Development for Teachers to Integrate Technology into Teaching (Fully Online Semester Long Courses 2.4% to Online Experiences Incorporated within Classes 5.8%), and Lack of Student Access to Technology at Home (Fully Online Semester Long Courses 2.4% to Online Experiences Incorporated within Classes 3.8%). Future lines of research related to the areas identified as being disadvantageous might provide a better understanding for some of the reasons why Online Educational Opportunities may not yield the results the implementers of policy or curriculum hope for when the programs are first established.

Survey Question 31 (Tables 31 & 32 in Chapter 4) allowed the respondents an opportunity to provided open-ended thoughts about the mandate in general. 71.9% of their comments were positive. Thirty-three percent agree with the mandate, 30.5% think students need to possess online skills, and 11.1% would still offer these services even if the mandate were not in place. This level of support is supported by the results of Research Question 30 (Table 30 in Chapter 4) where 92.6% of the respondents said the mandate had some level of benefit, where only 8.4% said they did not think the mandate was beneficial at some level.

In summary, Research Question 3 looked at the relationships between impacts and outcomes of districts meeting the mandate for providing Online Educational Opportunities as a condition for high school graduation. It was found through the univariate regression, from a student impact perspective that staff, student and administrator technological training significantly predicted improvement in student access to curriculum; providing online experiences within existing classes significantly predicted improvement in student access to curriculum; and from a program impact perspective it was found that providing fully online courses to students significantly predicted improvement in the school programs' financial and perceived achievement measures. These inferential statistics findings need to be clarified further in future research in order to better distinguish between concepts that might have been confounded due to the initial exploratory nature of this study. Descriptive statistics provided complimentary evidence from the responses of the participants for these three areas.

Analysis of Data for Research Question 4

Survey Question 4 attempts to identify the extent to which districts are receiving

support for implementation of the mandate.

Although somewhat different due to the answers provided as Likert responses,

Survey Question 9 and Survey Question 20 both attempt to find out where local districts

have gone for support in implementing the mandate. Survey Question 9 asks the

respondents to identify the providers of their Fully Online Semester Long Courses.

Survey Question 20 asks respondents to identify organizations that have provided them

assistance in providing the mandate Online Educational Opportunities.

Table 156

Sources of Support for Online Experiences for Survey Questions 9 & 20

Source of Content/Provider of Assistance	Provider of Fully Online Semester Long Courses Yes%	Organizational Assistance for Providing Online Educational Opportunities Mean (Out of 5)
Your own district	25.7	3.76
An external vendor	92.6	3.24
Michigan Virtual University	NA	2.83
Your Intermediate School District	16.4	2.28
Michigan Association for Computer Users in Learning	NA	1.96
Michigan Department of Education	NA	1.66
Other local districts in Michigan	6.9	1.59
Other Intermediate School Districts	20.8	1.50
A Michigan College or University	38.8	NA
A Non-Michigan College or University	29.9	NA

Table 156 compares the categories that were developed from the responses of

Survey Questions 9 and 20. Here we find that districts tend to go outside of their

organization significantly for Fully Online Semester Long Courses. It bears mentioning

that "external vendor" was not defined in Survey Question 9, and it is possible that that

category might have included the Michigan Virtual University in the minds of the

respondents, since MIVU does provide course content. MIVU, however, was not

specifically identified in Survey Question 9, visa vis the "NA" descriptor in Table 40

(Chapter 4).

Another interesting situation is related to the level of support Intermediate School

Districts (ISD) provide the local districts. In Table 156, Intermediate School Districts

appear to provide 37.2% of the Fully Online Semester Longs Courses, but appear to

provide minimal support for Online Educational Opportunities. This is significant

because a major charge the ISDs have is to provide professional development and support

to local school districts in areas such as technology and curriculum intervention training

for administrators and teachers. For organizational assistance for providing Online

Educational Opportunities, districts tend to get their supports internally, and through

external vendors when necessary.

In summary, Survey Question 4 attempts to identify the extent to which districts

are receiving support for implementation of the mandate. Most respondent schools go to

commercial vendors (92.6%) for their Fully Online Semester Long Courses content, with

Michigan (38.8%) and non-Michigan (29.9%) colleges or universities coming in second

and third, respectively. Respondent districts tend to stay within their own organizations

for support (3.76 out of 5.0) for their Online Educational Opportunities.

Analysis of Data for Research Question 5

Survey Question 5 attempts to identify the extent to which there are differences between schools based on various demographic variables (e.g., total school population, region of the state).

A one way ANOVA inferential statistics technique was completed on the non-demographic, and non-open ended Survey Questions. Based on one way ANOVA inferential statistics procedures with a Tukey-Kramer follow-up test, there were nine statistically significant findings.

The utilization of another Intermediate School District for the provision of Fully Online Semester Long Courses is statistically different for respondents from Class A schools from respondent Class B schools, Class C schools or Class D schools. It appears that larger school size respondent districts based upon enrollment were more willing to utilize resources outside of their own immediate Intermediate School District when selecting a provider for Fully Online Semester Long Courses. This should be noted since a finding of Research Question 4 was that most districts utilize the resources within their district area for support for Online Educational Opportunities. However, when considering the ramifications of this finding, it must be noted that the findings related to Online Educational Opportunities for Research Question 4 includes both programming options allowed by the mandate: Fully Online Semester Long Courses, and Online Experiences Incorporated within Classes. Future research should separate out these two options for further study.

The utilization of another local district in Michigan other than the respondents' own district for the provision of Fully Online Semester Long Courses is statistically

different for respondents from Class A schools from respondents from Class B schools or Class C schools. Like the findings above, larger respondent District Class A schools appear more willing to access content providers from other local districts in Michigan, than are their counterparts in respondent District Class B and C schools. This is especially true when comparing respondent Class A Districts with respondent Class C Districts. The significance mentioned about the apparent contradiction between this finding and the previous findings in Research Question 4 holds true here also, as does the council for caution when interpreting the results.

The utilization of Fully Online Semester Long Courses to provide students with visual, performing and applied arts content is statistically different for respondent Class A schools from respondent Class D schools. Respondents from larger enrollment Class A Districts utilize Fully Online Semester Long Courses to provide students with visual, performing and applied arts content at a statistically significant higher rate than do their respondent peers from Class D schools.

The utilization of Fully Online Semester Long Courses to provide students with physical and health education content is statistically different for respondents from Class A schools than respondents from Class B schools, or for Class C Schools. Respondents from larger enrollment Class A Districts utilize Fully Online Semester Long Courses to provide students with physical and health education content at a statistically significant higher rate than do their respondent peers from Class B or District Class C schools.

Respondents from District Class A school utilize the Michigan Association of Computer Users in Learning (MACUL) to assist the district in providing Online Educational Opportunities at a statistically higher rate than respondent Class C or Class D

schools. This may be due to the fact that larger sized districts have the funds available for staff to engage in professional development activities and attend conferences more than their peers from smaller sized districts. Further research in this area should be completed.

Respondents from District Class D respondent schools utilize the Michigan Virtual University (MVU) at a statistically significant lower rate than do their respondent peers in Class A schools, Class B schools or Class C schools when looking for support with Online Educational Opportunities for their students. Further research in this area should be conducted since it is not clear why this might be the case.

The utilization of Online Experiences Incorporated within Classes for student web quests, blogs, podcasting, webinars, or virtual reality simulations is statistically different for respondents from Class A schools than from respondents from Class C schools or Class D schools. Respondents from Class A schools utilize these student driven technology features at a significantly higher rate for programming than do their respondent peers in Class C schools or Class D schools. Further research in this area should be conducted since it is not clear why this might be the case.

The utilization of Online Experiences Incorporated within Classes for students to participate in authentic experiences through the use of online field trips is statistically different for respondents from Class A schools from respondents from Class D schools. Respondent Class A schools utilize these student driven technology features at a significantly higher rate for programming than do their respondent peers in Class D schools. Further research in this area should be conducted since it is not clear why this might be the case.

The influence that the building curriculum committee is statistically different for respondent Class B schools than from respondent Class D schools. Building Curriculum Committees has a statistically significant higher rate of influence on decisions effecting how the school meets the mandate in respondent District Class D schools than in respondent District Class B schools. Further research in this area should be conducted since it is not clear why this might be the case.

In summary, Research Question 5 attempts to identify the extent to which there are differences between schools based on various demographic variables (e.g., total school population, region of the state). Nine statistically significant findings were discovered:

- respondents from larger school size Class A districts were more willing to utilize resources outside of their own immediate Intermediate School District when selecting a provider for Fully Online Semester Long Courses than were respondents from District Class B, C, or D districts;

- respondents from larger District Class A schools appear more willing to access content providers from other local districts in Michigan, than are their counterparts in respondent District Class B and C schools for their Fully Online Semester Long Courses;

- respondents from larger enrollment Class A Districts utilize Fully Online Semester Long Courses to provide students with visual, performing and applied arts content at a statistically significant higher rate than do their respondent peers from Class D schools;

- respondents from larger enrollment Class A Districts utilize Fully Online Semester Long Courses to provide students with physical and health education content at a statistically significant higher rate than do their respondent peers from Class B or District Class C schools;

- respondents from District Class A school utilize the Michigan Association of Computer Users in Learning (MACUL) to assist the district in providing Online Educational Opportunities at a statistically higher rate than respondents from Class C or Class D schools;

- when looking for support with Online Educational Opportunities for their students, District Class D respondent schools utilize the Michigan Virtual University (MVU) at a statistically significant lower rate than do their respondent peers in Class A schools, Class B schools or Class C schools;

- respondents from Class A schools utilize student driven technology features such as web quests, blogs, podcasting, webinars, or virtual reality simulations at a significantly higher rate for programming than do their respondent peers in Class C schools or Class D schools;

- respondents from Class A schools utilization of Online Experiences Incorporated within Classes for students to participate in authentic experiences through the use of online field trips occurs at a significantly higher rate for programming than do their respondent peers in Class D schools; and

- Building Curriculum Committees has a statistically significant higher rate of influence on decisions effecting how the school meets the mandate in respondent District Class D schools than in respondent District Class B schools.

Analysis of Data for the Remaining Survey Questions

It is instructive to compare the three different categories of individuals considered within Survey Questions 24, 25, and 26. Although each of the three distinct categories assessed had appropriate access to technology at school, at home and access to training, it appears that the administrators group had slightly higher resource availability than the teacher group, and the teachers had slightly higher resource availability than the student group.

Table 157 provides a hierarchy of score distributions of the extent to which administrators, teachers and students had access and training for technology integration within their programs.

Table 157

Extent to Which Administrators, Teachers and Students Had Access and Training For Technology Integration Within Their Programs (Survey Questions 24, 25, and 26)

Technology Access and Training	Adequate access to computers and internet at school (Out of 5.0)	Adequate access to computers and internet at home (Out of 5.0)	Adequate technology training or other supports (Out of 5.0)
Administrators	4.52	4.42	3.75
Teachers	4.45	4.32	3.73
Students	4.18	3.32	3.31

The respondents to the survey appear to feel that access to technology by students, staff and administrators, either at school or at home, is not an issue. However, they are less confident that professional development needs are being met for all groups. Even though the response average is above the statistical mean for the question, this situation should be recognized when planning for more integration of technology into the curriculum.

What Was Added to the Body of Existing Research

When the review of research for this dissertation began close to five years ago, there was little relatively little research about the impact the integration of Online Educational Opportunities had on high school programs at a national level. The studies that existed related to online technology integrations in Michigan were minimal (VanBeek, 2011b). That is one of the main reasons why this research was conducted: to add to the body of research related to effective integration of Online Educational Opportunities within high school programs. During the time that this project took place, there have been few additional research projects nationally, and none at the state level from which to compare the results of my study.

Any and all of the findings can be considered to be seminal in identifying the ways that schools in Michigan are meeting the mandate for Online Educational Opportunities as a condition for high school graduation. However, since this was a "first crack" at attempting to define some of the issues, some of the terms and concepts became overlapped within the Survey Questions. As time progresses, and these terms and concepts become better defined, regulated and accepted as practice, future research will be able to provide a clearer indication of the relationships that exist within inputs and outcomes. However, for this moment, the information contained here should help guide practitioners and policy makers as they plot a course to evaluate the impact that online requirements are having on students, teachers, administrators, programs, schools, districts, and society.

Recommendations

Based upon the results of my research, as well as the research of others, there remain needs that should continue to be explored as the field continues to integrate online technological capabilities into K-12 learning environments. I will provide recommendations for future research, recommendations for policy makers, and recommendations for educational practitioners and administrators.

Recommendations for Future Research

The integration of Fully Online Semester Long Courses and Online Experiences Incorporated within Classes within the K-12 will probably continue. The research base that addresses the way online technology is most effectively integrated within K-12 programs is still in its infancy, and any such current research projects may indeed be considered somewhat seminal. Researchers concerned with the efficacy of K-12 online technological interventions are not as advanced in their base of research knowledge as are their peers that have investigated the integration of online experiences within higher education settings (Picciano & Seaman, 2007). The fact that Michigan schools are required to provide Online Educational Opportunities as a condition for high school graduation sans a solid research base from which to draw upon makes insuring that districts provide quality instructional opportunities very difficult. More research needs to be addressed to the way K-12 programs in Michigan are implementing Online Educational Opportunities; the impact that it is having on achievement, finances, staff, students, buildings, programs, districts, evaluation, retention, differentiation, and drop-out rates are all areas ripe for the picking from a research perspective.

Throughout this chapter, I mentioned several areas for follow-up research that could be considered based upon the analysis of my research. These are areas that might be too specific for a broader study of the issues identified, and may be of interest to a limited audience. However, they are areas where I believe the way that I originally conceptualized some of the issues during the development of the study and the survey instrument might need to be reconsidered from a different perspective after the analysis of the results has been completed. For Research Question 1, for Survey Questions 9 and 17, respondents were asked to identify the subject matter content areas their programs were utilizing for their Fully Online Semester Long Courses, as well as in Online Experiences Incorporated within Classes. This information was not disaggregated and analyzed by student enrollment or MHSAA school classification. It was asked strictly analyzed from a percentage of usage metric, looking at the results from a curriculum implementation perspective. It might be helpful to see if there are differences between the utilization from a district size perspective.

Research Question 3, Survey Questions 13 and 19 explored the respondents' perspectives about the disadvantages for online programming. As mentioned earlier, future lines of research related to the areas identified as being disadvantageous might provide a better understanding for some of the reasons why Online Educational Opportunities may not yield the results the implementers of policy or curriculum hope for when the programs are first established.

Finally, for Research Question 5, the results of some of the relationships are not clear or intuitive to the researcher. Readers that wish to delve further into these areas are strongly encouraged to do so. However, they may be of such specificity, or of interest to

a narrow band of consumers of the information, that further research may prove to have a diminished return on investment. Areas identified include: Why do District Class A schools utilize the Michigan Association of Computer Users in Learning (MACUL) to assist the district in providing Online Opportunities at a statistically higher rate than respondent Class C or Class D schools; why do District Class D respondent schools utilize the Michigan Virtual University (MVU) at a statistically significant lower rate than do their respondent peers in Class A schools, Class B schools or Class C schools when looking for support with Online Educational Opportunities for their students; why is the utilization of Online Educational Experiences for student web quests, blogs, podcasting, webinars, or virtual reality simulations statistically different for Class A schools than Class C schools or Class D schools; why is the utilization of Online Educational Experiences for students to participate in authentic experiences through the use of online field trips statistically different for Class A schools than Class D schools; and why is the influence that building curriculum committee have on the decision making process statistically different for Class B schools than Class D schools?

Recommendations for Policy Makers

Due to its ability to provide consistent, multisensory, motivating and timely presentation of educational content, technology integration into K-12 educational settings appears to be a common sense, natural inclination for anyone that wants to positively impact the educational performance of school aged students. However, it is important to remember that tool availability alone does not build a building: there needs to be a skilled artisan that understands how tools need to be integrated into the entire scheme of the

building process. The same holds true for the integration of educational technology in the teaching and learning process.

Mandating the inclusion of technological tools into existing educational programs is not enough to insure that the legislatively directed and selected tools are most effectively integrated within existing programs. Effective educational technology integration requires access to the technology, training in the capabilities of the technology, ability to practice the technology in actual settings, and training on how the technology can and should be integrated within the curriculum, with follow up onsite support available.

Any new educational initiatives at the state or federal governmental level should also provide consideration for the ways technology can be integrated within these new expectations.

Current reform initiatives that stress accountability for ever increasing student achievement may actually decrease the likelihood that school staff will attempt to integrate online programming due to the dearth of efficacy based researched documentation. Also, attempts to encourage the utilization of educational technology sans solid research on their educational efficacy appears to fly in the face of the mandated on NCLB and IDEIA which both mandate that educators utilize materials and methodologies that have been found to be efficacious through research.

Consideration for current and future online educational technology initiatives need to be placed within a historical context that recognizes past advances and distractions that have been documented in the research. Vinovskis (1999) remarked that policymakers seldom rely upon the past for support and guidance for their current

initiatives. "Frequently there is a sense that everything is so new and unprecedented that an understanding of the past is irrelevant. Many policymakers in both the executive and legislative branches rarely look back further than a few years in their deliberations" (p. 245). This encouragement for an appreciation for historical mandates is provided in hopes that there is a consistency in initiatives that will develop related to the integration of Online Educational Opportunities. In order for online education to be fully implemented to its greatest extent, future state mandated expectations should complement, not confuse, initiatives that are being put into place to meet the current demands. This consistency will help staff better deal with expectations when they realize that they will have some time to implement the new initiative, and be given time to "work out the kinks." Without this feeling of longitudinal support, many staffs may view this mandate as a fleeting whim, and do the bare minimum to get by.

Finally, it needs to be recognized that "[t]he passage of a statute and accompanying rules and regulations does not mean the new policy automatically goes into operation. Educational policies must be implemented at the grass roots level – by district administrators, principals, and classroom teachers" (Fowler, 2004, p. 17). It may take some time for the planning for technology integration, acquisition of the required hardware and software, training of staff, integration into the curriculum, assessment of effectiveness and acceptance by all involved to actually occur and provide benefit to the students and programs they are educated within.

Recommendation for Educational Practitioners and Administrators

"The policy process is the sequence of events that occurs when a political system considers different approaches to public problems, adopts one of them, tries it out, and

evaluates it" (Fowler, 2004, p. 13). Educational practitioners and administrators need to realize that there are times that educational policy initiatives transpire in the form of mandates, and these mandates are often intentionally vague so as to allow front-line implementers the opportunity of flexibility to implement the mandate as the individual district sees fit. Then, after a time, when implementation has occurred, an assessment of impact will occur. I believe that is where we are in the implementation of Online Educational Opportunities in K-12 programs. The concept of providing mandatory online program as a condition for graduation is so new, there are few sources of information available about initial forays in attempts to meet the mandate. Educators need to understand that this is a time for taking measured risks, based upon what we already know about the integration of other technologies into the educational environments and learning processes.

We are in a time of unparalleled technological advance where our educational technology capabilities far outpace our pedagogical understandings of how best to utilize these new capabilities in the classroom. New technologies require new skill sets for all involved. We need to make sure that any new technological addition to our instructional repertoire and learning environments allow everyone involved the opportunity to learn the capabilities of the tools, before being expected to expertly utilize the tools.

Overall, incorporating online opportunities in K-12 environments is new. Many are offering programming without the benefit of a solid research base behind them. Although there is a great deal of enthusiasm and momentum behind the inclusion of these programs into our schools, little research supports the efficacy of our energies and efforts.

Until our understanding of the impact of online learning catches up with our initiatives, new programming needs to be implemented judiciously … but the grey areas cannot dissuade from taking reasonable and calculated risks.

There needs to be developed a consistent assessment mechanism, with the ultimate goal of identifying ways educational technology impacts programming, finances, training and student achievement. There needs to be a realization that advances in technological capabilities will far outweigh organizations abilities to react effectively to them in a timely fashion. Finally, there needs to be support and encouragement for the innovators and early adopters of educational technology initiatives.

Chapter 5 Conclusion

In summary, based upon the information obtained from high school administrators from public high schools in the State of Michigan, it was found that:

- Respondent School Districts of all sizes had a greater percentage of students enrolled in Online Experience Incorporated within Classes than in Fully Online Semester Long Courses.

- Both the Fully Online Semester Long Course option and Online Experiences Incorporated within Classes option were incorporated more into respondents' content academic areas than non-core academic areas.

- Respondents from smaller enrollment schools utilized on line opportunities at a higher rate than do their peers in larger schools, and that this disparity is greatest for Fully Online Semester Long Courses.

- The respondents often utilized the mandate for Online Educational Opportunities as a vehicle for student skillset improvement: to help students with credit recovery

needs, to help students considered at-risk for school failure, and to assist students in gaining 21st Century skills. Ease of use by the staff, utilization of Online Educational Opportunities to program for students with special needs, or to meet the recommendations of a vendor were lesser considerations of the respondents.

- From a student impact perspective, staff, student and administrator technological training significantly predicted improvement in student access to curriculum; providing Online Experiences Incorporated within Classes significantly predicted improvement in respondents' student access to curriculum.

- From a program impact perspective, providing Fully Online Semester Long Courses to students significantly predicted improvement in the school programs' financial and perceived achievement measures in respondent districts.

- Most respondent schools go to commercial vendors for their Fully Online Semester Long Course content, with Michigan and non-Michigan colleges or universities coming in second and third, respectively.

- Respondent districts tend to stay within their own organizations for support for their Online Educational Opportunities.

- Decision makers in respondent districts tend to be influence mostly by their building administrators, followed by their district administrators on the types of opportunities being offered.

- Respondents from larger school size Class A districts were more willing to utilize resources outside of their own immediate Intermediate School District when selecting a provider for Fully Online Semester Long Courses than were respondents from District Class B, C, or D districts.

- Respondents from larger District Class A schools appear more willing to access content providers from other local districts in Michigan, than are their respondent counterparts in District Class B and C schools for their Fully Online Semester Long Courses.

- Respondents from larger enrollment Class A Districts utilize Fully Online Semester Long Courses to provide students with visual, performing and applied arts content at a statistically significant higher rate than do their respondent peers from Class D schools.

- Respondents from larger enrollment Class A Districts utilize Fully Online Semester Long Courses to provide students with physical and health education content at a statistically significant higher rate than do their respondent peers from Class B or District Class C schools.

- Respondents from District Class A school utilize the Michigan Association of Computer Users in Learning (MACUL) to assist the district in providing Online Educational Opportunities at a statistically higher rate than respondent Class C or Class D schools.

- When looking for support with Online Educational Opportunities for their students, District Class D respondent schools utilize the Michigan Virtual University (MVU) at a statistically significant lower rate than do their respondent peers in Class A schools, Class B schools or Class C schools.

- Respondents from Class A schools utilize student driven technology features such as web quests, blogs, podcasting, webinars, or virtual reality simulations at a

significantly higher rate for programming than do their respondent peers in Class C schools or Class D schools.

- Class A respondent school utilization of Online Educational Opportunities for students to participate in authentic experiences through the use of online field trips occurs at a significantly higher rate for programming than do their respondent peers in Class D schools.

- Respondent building Curriculum Committees have a statistically significant higher rate of influence on decisions effecting how the school meets the mandate in District Class D schools than in respondent District Class B schools.

There has been an explosive growth in organized online instruction (i.e., e-learning) and "virtual" schools (United States Department of Education [ED], 2010b). Michigan became the first state in the nation to capitalize upon this movement and with Michigan Public Act 124 of 2006 changed the requirements of the Michigan Merit Curriculum thereby requiring an online learning experience as a prerequisite for high school graduation (Holstead, Spradlin, & Plucker, 2008). The first class of seniors impacted by this legislation graduated during the 2010-2011 school year. Yet, despite these policy mandates and initiatives related to the provision of Online Educational Opportunities, no systematic study as to how schools are providing Online Educational Opportunities in Michigan had been conducted.

My study gathered implementation data from high school principals, which addressed how Michigan public high schools were meeting the requirements that all graduating students must now have an online experience, why these types of online experiences chosen and how were such decisions made, what positive and negative

outcomes have arisen as schools work to implement this mandate, to what extent are districts receiving support for implementation of the mandate, and to what extent are there differences between schools based on various demographic variables.

Legislative policy initiatives from the state level are often written broadly so those responsible for implementation have latitude in fulfilling the mandates. After some time has passed, and initial implementation forays have taken place, results are obtained and considered. My study was the first that looked at the ways public high schools in Michigan were implementing mandates for Online Educational Opportunities as a condition for graduation. Among the 31 questions, respondents were asked to rate their level of confidence that their district was meeting the mandate to provide Online Educational Opportunities during the 2011-2012 school year. Seventy-three respondents (86.9%) stated that they were definitely sure that their school is meeting the state requirements for Online Educational Opportunities, 10 respondents (11.9%) are fairly sure their school is meeting the requirements, and one respondent (1.2%) is not sure that their school is meeting the mandate prior to graduation. Respondents were also asked to rate the level of benefit that their district received by providing Online Educational Opportunities during the 2011-2012 school year. Thirty-eight respondents (45.8%) agreed that their school benefited by meeting the requirements of providing Online Educational Opportunities for each student prior to high school graduation, 25 respondents (30.1%) strongly agreed, 13 (15.7%) moderately agreed. Three (3.6%) of the respondents moderately disagreed that their school had benefited by meeting the requirements of providing Online Educational Opportunities for each student prior to high school graduation, two respondents (2.4%) disagreed, and two respondents strongly

disagreed (2.4%). Based upon the responses from the respondents in my study, it appears

that the mandate is being followed, and it is beneficial to students in Michigan.

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Appendix A

How Schools are Meeting State Legal Mandates to Provide Online Education Survey

How Schools Are Meeting the Legal Mandate to Provide Online Education

Western Michigan University
College of Education
Department of Educational Leadership, Research and Technology

How Schools Are Meeting State Legal Mandates to Provide Online Education

Principal Investigator: Dr. Louann Bierlein Palmer
Student Investigator: Mark E. Deschaine

As the Principal of a public high school in Michigan you are invited to participate in a research project entitled "How Schools Are Meeting State Legal Mandates to Provide Online Education." You are being invited because your job title makes you the person ultimately responsible for determining if all mandated graduation requirements have been fulfilled by students in order to receive their diploma.

This research will serve as the dissertation research project for student investigator Mark E. Deschaine. Dr. Louann Bierlein Palmer is the primary investigator.

This survey is being offered to all of the principals of public high school principals throughout Michigan. This study may provide insight and information about the perceptions of high school principals about the ways their schools are meeting the mandate for online learning experiences prior to graduation. The information you provide will allow the researcher baseline data into the current state of ways schools are complying with this unique educational requirement.

No financial gain or benefit will be derived by you by participating in the survey.

Since there is no known research related to how the Michigan mandate of online educational opportunities as a condition for high school graduation, this proposed research is the first known that specifically looks at the impact the mandate is having on schools. This study will produce a better understanding of the current utilization of online education experiences across the State of Michigan.

This survey will take approximately 10 minutes to complete. All of your statements and responses will be kept strictly confidential, and your responses will not be connected to your or your district during the data analysis portion of the research, or when the results of the research are described, discussed or disseminated. Even though this survey has been sent to you via an embedded link to an external website, your email address is in no way connected with your responses.

There are no known risks or hazards for you to complete the survey, and none are anticipated.

Your actions of completing and submitting this survey are considered to be evidence of your consent to allow your responses to be incorporated into the study, and to be utilized as research data. If you do not choose to participate in this study, you may exit this website now. If you start the survey, and decide after starting that you do not choose to continue participation, you may abort the survey at anytime. You also may choose to ignore and not respond to a particular question for any reason without prejudice, penalty, or risk of any loss of service that you otherwise have..

This study has been submitted for review to the Western Michigan Human Subjects Institutional Review Board, and was approved by them on July 9, 2012. This consent document has been approved for use for one year by the Human Subjects Institutional Review Board (HSIRB). Do not participate in this study if the date is older than one year from the date of approval.

If you have any questions regarding this research study you can contact the primary investigator, Dr. Louann Bierlein Palmer at Western Michigan University via phone at (269) 387-3596 or via email at l.bierleinpalmer@wmich.edu, or you may contact the student investigator Mark E. Deschaine via email at mark.e.deschaine@wmich.edu. If you would like, you may also contact the Chair of the Human Subjects Institutional Review Board via phone at (269) 387-8293, or the

How Schools Are Meeting the Legal Mandate to Provide Online Education

Vice President for Research via phone at (269) 387-8298 if you have questions or problems that arise during the course of the study.

*1. I consent to continue participating in the survey

◯ Yes

◯ No

How Schools Are Meeting the Legal Mandate to Provide Online Education

Demographics

2. Please identify your role:

◯ a. Superintendent

◯ b. Principal

◯ c. Assistant Principal

◯ d. Curriculum Director

◯ e. Other

3. How would you describe your district?

◯ a. Urban

◯ b. Suburban

◯ c. Rural

How Schools Are Meeting the Legal Mandate to Provide Online Education

4. The Michigan Association of School Administrators has developed a regional system based on your school district's county of residence. The regions are as follows:

Region 1 Area: Upper Peninsula
Region 2 Area: Alcona, Alpena, Antrim, Benzie, Charlevoix, Cheboygan, Crawford, Emmet, Grand Traverse, Iosco, Kalkaska, Leelanau, Manistee, Missaukee, Montmorency, Ogemaw, Oscoda, Otsego, Presque Isle, Roscommon, Wexford
Region 3 Area: Allegan, Barry, Ionia, Kent, Lake, Mason, Mecosta, Montcalm, Muskegon, Newaygo, Oceana, Osceola, Ottawa
Region 4 Area: Arenac, Bay, Clare, Gladwin, Gratiot, Isabella, Midland, Saginaw
Region 5 Area: Huron, Genesee, Lapeer, St Clair, Sanilac, Tuscola
Region 6 Area: Clinton, Eaton, Ingham, Livingston, Shiawassee
Region 7 Area: Berrien, Branch, Calhoun, Cass, Kalamazoo, St Joseph, Van Buren
Region 8 Area: Hillsdale, Jackson, Lenawee, Monroe, Washtenaw
Region 9 Area: Macomb, Oakland, Wayne
Region 10 Area: City of Detroit

Based on this information, what region would your school fall within?

◯ a. Region 1
◯ b. Region 2
◯ c. Region 3
◯ d. Region 4
◯ e. Region 5
◯ f. Region 6
◯ g. Region 7
◯ h. Region 8
◯ i. Region 9
◯ j. Region 10

5. What was the total student enrollment of your school during the past school year? If you are responsible for more than one school, please provide an estimate of your average student enrollment across schools.

[   ]

How Schools Are Meeting the Legal Mandate to Provide Online Education

Fully Online Courses

*6. Did your school utilize any <u>fully online semester long courses</u> for any students during the past school year?

◯ No

◯ Yes

How Schools Are Meeting the Legal Mandate to Provide Online Education

Fully Online Courses Continued

7. During the past school year, approximately what percent of your students were enrolled in a _fully online semester long course_?

Approximate Percentage of Students [   ]

8. Of the _fully online semester long courses_ taken by your students this past school year, which curriculum content areas were one or more of the classes in?

	No	Yes	Do Not Know
a. English Language Arts	◯	◯	◯
b. Mathematics	◯	◯	◯
c. Science	◯	◯	◯
d. Social Studies	◯	◯	◯
e. Visual, Performing and Applied Arts	◯	◯	◯
f. Physical and Health Education	◯	◯	◯
g. Languages Other Than English	◯	◯	◯
h. Career or Vocational Education	◯	◯	◯

9. Of the _fully online semester long courses_ taken by your students this past school year, which of the following provided all or some of the course?

	Provided No Course	Provided All or Some of the Course	Do Not Know
a. A Michigan College or University	◯	◯	◯
b. A non-Michigan College or University	◯	◯	◯
c. A Commercial Vendor	◯	◯	◯
d. Your Intermediate School District	◯	◯	◯
e. Another Intermediate School District in Michigan, other than your own	◯	◯	◯
f. Your Local District	◯	◯	◯
g. A Local District within Michigan, other than your own	◯	◯	◯

How Schools Are Meeting the Legal Mandate to Provide Online Education

10. Please rate the following factors as to _why_ fully online semester long courses are being utilized for your students.

	Not a Factor at All	A Small Factor	A Moderate Factor	A Large Factor	A Very Large Factor
a. Ease of use for staff	◯	◯	◯	◯	◯
b. Ease of use for students	◯	◯	◯	◯	◯
c. Affordability they offer	◯	◯	◯	◯	◯
d. Research-based curriculum	◯	◯	◯	◯	◯
e. Recommended by another educational professional or organization	◯	◯	◯	◯	◯
f. Recommended by a vendor	◯	◯	◯	◯	◯
g. Belief it will help us meet the needs of students requiring an accelerated curriculum	◯	◯	◯	◯	◯
h. Belief it will help us meet the needs of students considered at risk for school failure	◯	◯	◯	◯	◯
i. Belief it will help us meet the needs of students requiring credit recovery options	◯	◯	◯	◯	◯
j. Belief it will help us meet the needs of students receiving special education services	◯	◯	◯	◯	◯
k. Help student acquire 21st century skills	◯	◯	◯	◯	◯

Other Factors?

How Schools Are Meeting the Legal Mandate to Provide Online Education

11. To what extent have the <u>fully online semester long courses</u> offered to students:

	Not At All	To a Small Extent	To a Moderate Extent	To a Large Extent	To a Very Large Extent
a. been organized in a coherent, sequential manner	○	○	○	○	○
b. have instructional goals, objectives, strategies, and assessments that are aligned with state standards, benchmarks and expectations?	○	○	○	○	○
c. provide comparable in rigor, depth, and breadth to traditionally delivered courses	○	○	○	○	○

12. Overall, what are the <u>advantages</u> related to the provision of <u>fully online semester long courses</u> within your school program?

13. Overall, what are the <u>disadvantages or concerns</u> related to the provision of <u>fully online semester long courses</u> within your school program?

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How Schools Are Meeting the Legal Mandate to Provide Online Education

Online Experiences Incorporated within Classes

*14. Did your school utilize any <u>online experiences incorporated within traditional classes</u> for any students during the past school year?

◯ No

◯ Yes

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How Schools Are Meeting the Legal Mandate to Provide Online Education

Online Experiences Incorporated within Classes Continued

15. During the past school year, approximately what percentage of your students were enrolled in an <u>online experience incorporated within traditional classes</u>?

Approximate Percentage of Students   [   ]

16. Of the <u>online experiences incorporated within traditional classes</u> taken by your students this past school year, which curriculum content areas were one or more of the classes in?

	No	Yes	Do Not Know
a. English Language Arts	○	○	○
b. Mathematics	○	○	○
c. Science	○	○	○
d. Social Studies	○	○	○
e. Visual, Performing and Applied Arts	○	○	○
f. Physical and Health Education	○	○	○
g. Languages Other Than English	○	○	○
h. Career or Vocational Education	○	○	○

How Schools Are Meeting the Legal Mandate to Provide Online Education

17. Please rate the following factors as to _why_ online experiences incorporated within traditional classes are being utilized by your teachers.

	Not a Factor at All	A Small Factor	A Moderate Factor	A Large Factor	A Very Large Factor
a. Ease of use for staff	○	○	○	○	○
b. Ease of use for students	○	○	○	○	○
c. Affordability they offer	○	○	○	○	○
d. Research-based curriculum	○	○	○	○	○
e. Recommended by another educational professional or organization	○	○	○	○	○
f. Recommended by a vendor	○	○	○	○	○
g. Belief it will help us meet the needs of students requiring an accelerated curriculum	○	○	○	○	○
h. Belief it will help us meet the needs of students considered at risk for school failure	○	○	○	○	○
i. Belief it will help us meet the needs of students requiring credit recovery options	○	○	○	○	○
j. Belief it will help us meet the needs of students receiving special education services	○	○	○	○	○
k. Belief it will help students acquire 21st century skills	○	○	○	○	○

Other Factors?

How Schools Are Meeting the Legal Mandate to Provide Online Education

Online Experiences Incorporated within Classes Continued

18. Overall, what are the <u>advantages</u> related to the provision of <u>online experiences incorporated within traditional classes</u> within your school program?

19. Overall, what are the <u>disadvantages or concerns</u> related to the provision of <u>online experiences incorporated within traditional classes</u> within your school program?

How Schools Are Meeting the Legal Mandate to Provide Online Education

Impact of the Mandate

For the remainder of the survey, please consider both <u>fully online semester long courses</u> and <u>online experiences incorporated within traditional classes</u> together as "online educational opportunities" when answering the questions.

20. To what extent have the following entities assisted your school in providing online educational opportunities?

	Not At All	To a Small Extent	To a Moderate Extent	To a Large Extent	To a Very Large Extent
a. The Michigan Department of Education	○	○	○	○	○
b. Your Intermediate School District	○	○	○	○	○
c. Your own district	○	○	○	○	○
d. An external vendor	○	○	○	○	○
e. The Michigan Association for Computer Users in Learning (MACUL)	○	○	○	○	○
f. The Michigan Virtual University (MVU)	○	○	○	○	○
g. Other local districts	○	○	○	○	○
h. Other Intermediate School Districts	○	○	○	○	○

21. To what extent has meeting the mandate actually helped your school <u>provide better support</u> for the following students:

	Not At All	To a Small Extent	To a Moderate Extent	To a Large Extent	To a Very Large Extent
a. Students failing classes	○	○	○	○	○
b. Students "at risk" of dropping out of school	○	○	○	○	○
c. Students requiring an accelerated curricula	○	○	○	○	○
d. Students requiring credit recovery	○	○	○	○	○
e. Students requiring special education services	○	○	○	○	○

How Schools Are Meeting the Legal Mandate to Provide Online Education

22. To what extent have online educational opportunities allowed students to:

	Not At All	To a Small Extent	To a Moderate Extent	To a Large Extent	To a Very Large Extent
a. interact with other students and experts from around the globe?	◯	◯	◯	◯	◯
b. utilize things like webquests, blogs, podcasting, webinars, or virtual reality simulations?	◯	◯	◯	◯	◯
c. utilize an online learning management system that allows ongoing interactive opportunities for students?	◯	◯	◯	◯	◯
d. use technology tools for online research or online projects?	◯	◯	◯	◯	◯
e. develop an electronic portfolio (organized collection of completed materials)?	◯	◯	◯	◯	◯
f. determine the value and reliability of content found on websites and other online resources?	◯	◯	◯	◯	◯
g. participate in an interactive discussion with an instructor or expert, such as an author?	◯	◯	◯	◯	◯
h. communicate via threaded discussions with other students in and outside of their school?	◯	◯	◯	◯	◯
i. participate in authentic experiences through online field trips?	◯	◯	◯	◯	◯
j. participate in an online project where students apply understanding to simulated or real data?	◯	◯	◯	◯	◯
k. participate in learning activities such as test preparation tools and career planning resources?	◯	◯	◯	◯	◯
l. publish student work to a larger Internet audience?	◯	◯	◯	◯	◯

How Schools Are Meeting the Legal Mandate to Provide Online Education

23. What type of impact has meeting the mandate for online educational opportunities had on:

	Significant Negative Impact	Moderate Negative Impact	Slight Negative Impact	Slight Positive Impact	Moderate Positive Impact	Significant Positive Impact
a. the finances of your district?	○	○	○	○	○	○
b. the finances of your school?	○	○	○	○	○	○
c. curriculum offerings for your students?	○	○	○	○	○	○
d. academic achievement of your students?	○	○	○	○	○	○
e. engagement of your students in the learning process?	○	○	○	○	○	○
f. your overall educational program?	○	○	○	○	○	○

How Schools Are Meeting the Legal Mandate to Provide Online Education

Technology Access and Training

24. To what extent do your <u>students</u> engaged in online educational opportunities have:

	Not At All	To a Small Extent	To a Moderate Extent	To a Large Extent	To a Very Large Extent
a. adequate <u>access</u> to computers and internet at <u>school</u>?	○	○	○	○	○
b. adequate <u>access</u> to computers and internet at <u>home</u>?	○	○	○	○	○
c. adequate technology <u>training</u> or other supports?	○	○	○	○	○

25. To what extent do your <u>teachers</u> engaged in online educational opportunities have:

	Not At All	To a Small Extent	To a Moderate Extent	To a Large Extent	To a Very Large Extent
a. adequate <u>access</u> to computers and internet at <u>school</u>?	○	○	○	○	○
b. adequate <u>access</u> to computers and internet at <u>home</u>?	○	○	○	○	○
c. adequate technology <u>training</u> or other supports?	○	○	○	○	○

26. To what extent do your <u>administrators</u> engaged in online educational opportunities have:

	Not At All	To a Small Extent	To a Moderate Extent	To a Large Extent	To a Very Large Extent
a. adequate <u>access</u> to computers and internet at <u>school</u>?	○	○	○	○	○
b. adequate <u>access</u> to computers and internet at <u>home</u>?	○	○	○	○	○
c. adequate technology <u>training</u> or other supports?	○	○	○	○	○

How Schools Are Meeting the Legal Mandate to Provide Online Education

Decision Makers

27. What _influence_ do the following entities have on decisions related to how your school meets the Michigan mandate for online educational opportunities for each student?

	No Influence At All	A Small Influence	A Moderate Influence	A Large Influence	A Very Large Influence
a. Local employers expecting graduates have 21st century online skills	○	○	○	○	○
b. Your building instructional departments	○	○	○	○	○
c. Your building Professional Learning Committees	○	○	○	○	○
d. Your building Curriculum Committee	○	○	○	○	○
e. Your building Technology Committee	○	○	○	○	○
f. Your building administrators	○	○	○	○	○
g. Your district administrators	○	○	○	○	○
h. Your school board	○	○	○	○	○
i. Your parents	○	○	○	○	○
j. Your students	○	○	○	○	○

28. Please describe the decision making process your district used to decide which online educational opportunities your school would utilize to meet the Michigan mandate?

How Schools Are Meeting the Legal Mandate to Provide Online Education

Overall Impressions

29. I am confident that my school is meeting the state mandate requiring online educational opportunities for all students prior to their high school graduation.

◯ a. Not Sure

◯ b. Fairly Sure

◯ c. Definitely Sure

30. Overall, our school has benefited by meeting the requirements of providing online educational opportunities for each student prior to high school graduation.

◯ a. Strongly Disagree

◯ b. Moderately Disagree

◯ c. Disagree

◯ d. Agree

◯ e. Moderately Agree

◯ f. Strongly Agree

31. Please share any thoughts that you have related to the Michigan Merit Curriculum's mandate for online learning experiences as a condition for graduation.

How Schools Are Meeting the Legal Mandate to Provide Online Education

Thank You for Your Time!

Thank you for taking time to complete the survey!

Appendix B

Human Subjects Instructional Review Board Approval Letter

WESTERN MICHIGAN UNIVERSITY

Human Subjects Institutional Review Board

Date: July 9, 2012

To: Louann Bierlein Palmer, Principal Investigator
       Mark E. Deschaine, Student Investigator for dissertation

From: Amy Naugle, Ph.D., Chair

Re: HSIRB Project Number 12-07-02

This letter will serve as confirmation that your research project titled "How schools are meeting state legal mandates to provide online education" has been **approved** under the **exempt** category of review by the Human Subjects Institutional Review Board. The conditions and duration of this approval are specified in the Policies of Western Michigan University. You may now begin to implement the research as described in the application.

Please note: This research may **only** be conducted exactly in the form it was approved. You must seek specific board approval for any changes in this project (e.g., *you must request a post approval change to enroll subjects beyond the number stated in your application under "Number of subjects you want to complete the study"*)." Failure to obtain approval for changes will result in a protocol deviation. In addition, if there are any unanticipated adverse reactions or unanticipated events associated with the conduct of this research, you should immediately suspend the project and contact the Chair of the HSIRB for consultation.

Reapproval of the project is required if it extends beyond the termination date stated below.

The Board wishes you success in the pursuit of your research goals.

Approval Termination: July 9, 2013

Walwood Hall, Kalamazoo, MI 49008-5456
PHONE: (269) 387-8293 FAX: (269) 387-8276

Appendix C

Initial Email

Dear Public School High School Principal,

Michigan law requires all public school districts provide online learning experiences to all students as a condition of graduation. The law went into effect with the 2010-2011 graduating class. We invite you to participate in a statewide research study that examines the impact this mandate has had on public high schools.

The principal of each public high school in Michigan will be contacted and your participation is very much appreciated.

This study is will take approximately 10 minutes to complete. All responses will be kept confidential and your participation is completely voluntary. You may access the survey through the following link: https://www.surveymonkey.com/s/LPMNX6S

For the purposes of this study, building principals have been identified as the person ultimately responsible for the oversight of diploma criteria. If you have received this information and you are not the person responsible for determining diploma eligibility in your school, please forward this email to the individual who serves this role in your district. If you are responsible for more than one high school in your district, please only complete this survey once, and base your answers on your overall impressions.

Your expenditure of time with this endeavor will provide valuable information as to how districts are meeting the mandate for online learning experiences. Thank you in advance for your wiliness to participate in this research.

Respectfully,

Mark E. Deschaine, Student Investigator

Jamey Fitzpatrick, President & CEO Michigan Virtual University (MVU)

Ric Wiltse, Executive Director - Michigan Association for Computer Users in Learning (MACUL)

Appendix D

Written Permission to Utilize Organization Letters of Support

WMU Webmail Plus

± Font Size –

Re: Written Letter of Support for Dissertation

From : Ric Wiltse <rwiltse@macul.org>   Fri, Jun 08, 2012 09:27 AM

Subject : Re: Written Letter of Support for Dissertation

  To : Mark Edward Deschaine <mark.e.deschaine@wmich.edu>

  Cc : Louann Bierlein Palmer <l.bierleinpalmer@wmich.edu>

Mark,
You have my permission to use my name and organization as a co-signer of the email you are proposing to send to assist you in your graduate research project. Good luck!

Best Regards,

Ric Wiltse, Executive Director
Michigan Association for Computer Users in Learning (MACUL)
rwiltse@macul.org
http://www.macul.org
3410 Belle Chase Way, Suite 100
Lansing, MI 48911
517.882.1403

International Society for Technology in Education (ISTE) Board Member, 2011-2013

On Jun 7, 2012, at 12:08 PM, Mark Edward Deschaine wrote:

> Dear Jamey and Ric,
>
> Thank you both once again for your willingness to allow me to include your name on emails to potential participants for my research.
>
> In order to document that I truly have your consent, I need to ask you to send me an email stating your willingness to allow me to utilize your name and organization. If you are unable to provide this for any reason, it if completely fine.
>
> Thank you to both of you for your longitudinal support and encouragment with this project, as well as my professional journey. It means a great deal to me.
>
> Mark

WMU Webmail Plus

Fwd: Letter of Support for Dissertation

From : Mark Edward Deschaine <mark.e.deschaine@wmich.edu>   Tue, Jun 12, 2012 03:26 PM

Subject : Fwd: Letter of Support for Dissertation

To : Mark Deschaine <mark.e.deschaine@wmich.edu>

----- Forwarded Message -----
> From: "Jamey Fitzpatrick" <jfitz@mivu.org>
> To: "Mark Edward Deschaine" <mark.e.deschaine@wmich.edu>
> Sent: Monday, June 11, 2012 2:55:32 PM
> Subject: Re: Letter of Support for Dissertation
> Mark,
>
> Sorry for the slow response, I thought I had previously sent you a
> note indicating my support for your research project.
>
> I am comfortable with having my name appear on the letter you have
> drafted below.
>
> I look forward to seeing the results if this project.
>
> Thanks,
>
> Jamey
>
> Sent from my iPhone

Appendix E

Follow Up Email

Dear Public School High School Principal,

About a week ago you were sent an email from Jamey Fitzpatrick, President & CEO Michigan Virtual University (MVU); Ric Wiltse, Executive Director - Michigan Association for Computer Users in Learning (MACUL); and me inviting you to participate in a study related to Michigan's law that requires online learning experiences as a condition for graduation.

If you have already completed this survey, thank you very much for your willingness to participate and the time you expended. If you have not had the chance to participate, I would like to encourage you to do so. This statewide research study examines the impact the mandate for online learning experiences has had on public high schools in Michigan.

You may access the survey through the following link: https://www.surveymonkey.com/s/LPMNX6S

This online study will take approximately 10 minutes to complete. All responses will be kept confidential and your participation is completely voluntary.

If you are not the person ultimately responsible for the oversight of diploma criteria, please forward this email to the individual who serves this role in your school. If you are responsible for more than one high school in your district, please submit information for each school individually.

Thank you in advance for your wiliness to participate in this research; your expenditure of time with this endeavor is very much appreciated.

Respectfully,

Mark E. Deschaine, Student Investigator

Appendix F

Second Follow Up Email

Dear Public School High School Principal,

A few weeks ago you were sent an email from Jamey Fitzpatrick, President & CEO Michigan Virtual University (MVU); Ric Wiltse, Executive Director - Michigan Association for Computer Users in Learning (MACUL); and me inviting you to participate in a study related to Michigan's law that requires online learning experiences as a condition for graduation.

If you have already completed this survey, thank you very much for your willingness to participate and the time you expended. If you have not had the chance to participate, I would like to encourage you to do so. This statewide research study examines the impact the mandate for online learning experiences has had on public high schools in Michigan.

You may access the survey through the following link: https://www.surveymonkey.com/s/LPMNX6S

This online study will take approximately 10 minutes to complete. All responses will be kept confidential and your participation is completely voluntary.

If you are not the person ultimately responsible for the oversight of diploma criteria, please forward this email to the individual who serves this role in your school. If you are responsible for more than one high school in your district, please submit information for each school individually.

Thank you in advance for your wiliness to participate in this research; your expenditure of time with this endeavor is very much appreciated.

Respectfully,

Mark E. Deschaine, Student Investigator

Appendix G

Email to Human Subjects Instructional Review Board Requesting Extension of Data Collection Window, as well as a Request for Another Follow Up Email to Potential Participants

WMU Webmail Plus   reg9837@wmich.edu

HSIRB Project Number 12-07-02 Update and Request

From : Mark Edward Deschaine   Sun, Aug 26, 2012 07:35 PM
           <mark.e.deschaine@wmich.edu>

Subject : HSIRB Project Number 12-07-02 Update and
           Request

To : Amy Naugle <amy.naugle@wmich.edu>

Cc : Louann Bierlein Palmer
        <l.bierleinpalmer@wmich.edu>

Dear Dr. Naugle,

Dr. Bierlein Palmer has encouraged me to write to you to provide you an update about my dissertation, HSIRB Project Number 12-07-02.

Soon after I sent out my introductory email for my study, I received an email response from Karen Ridgeway, Superintendent of Academics for the Detroit Public Schools. In her email dated August 1, 2012 (the first date of the study), Ms. Ridgeway stated "You may not contact principals in DPS directly. You must have approval to conduct outside research in our district." I complied by submitting an application to the Detroit Public Schools on August 6, 2012. I was told that I should receive an answer within 4-6 weeks. As of the time of this email, I have yet to hear from the Detroit Public Schools.

On my HSIRB application I stated that I was planning on an assessment window from August 1, 2012 to August 31, 2012. I also requested that I be allowed an initial contact email, plus two additional follow up emails to the potential participants. As of this writing, all three of these emails have been sent out to the potential participants, and I have received 106 responses.

Based on encouragement from Dr. Bierlein Palmer, I am requesting that my assessment window be extended to September 21, 2012. I addition, since I have not heard back from the Detroit Public Schools I would like to request one additional final follow up email to the total group. I hope both of these measures will encourage further participation from the potential group of respondents.

Thank you for your consideration on these issues.

Mark Deschaine

Appendix H

Human Subjects Instructional Review Board Secondary Approval Letter

WESTERN MICHIGAN UNIVERSITY

Human Subjects Institutional Review Board

Date: August 27, 2012

To: Louann Bierlein Palmer, Principal Investigator
         Mark E. Deschaine, Student Investigator for dissertation

From: Amy Naugle, Ph.D., Chair

Re: HSIRB Project Number 12-07-02

This letter will serve as confirmation that the change to your research project titled "How Schools are Meeting State Legal Mandates to Provide Online Education" requested in your memo received August 27, 2012 (to extend the assessment window to September 21, 2012; to add one additional final follow up to the total group) has been approved by the Human Subjects Institutional Review Board.

The conditions and the duration of this approval are specified in the Policies of Western Michigan University.

Please note that you may **only** conduct this research exactly in the form it was approved. You must seek specific board approval for any changes in this project. You must also seek reapproval if the project extends beyond the termination date noted below. In addition if there are any unanticipated adverse reactions or unanticipated events associated with the conduct of this research, you should immediately suspend the project and contact the Chair of the HSIRB for consultation.

The Board wishes you success in the pursuit of your research goals.

Approval Termination: July 9, 2013

Appendix I

Final Follow Up Email

As a high school principal, you are invited to participate in a research project looking at how schools are meeting the legal mandate to provide online education. The overall results may be helpful to school districts in their continued efforts to utilize more online educational experiences.

You may access the survey through the following link: https://www.surveymonkey.com/s/LPMNX6S This online study will take approximately 10 minutes to complete. All responses will be kept confidential and your participation is completely voluntary.

If you have already responded to one of the previous emails and have completed this survey, thank you very much for your willingness to participate and the time you expended. If you have not had the chance to participate, I would like to encourage you to do so. The study closes September 21, 2012.

If you are not the person ultimately responsible for the oversight of diploma criteria, please forward this email to the individual who serves this role in your school. If you are responsible for more than one high school in your district, please submit information for each school individually.

Thank you in advance for your wiliness to participate in this important research; your expenditure of time with this endeavor is very much appreciated and may provide valuable insight into the ways online educational experiences are impacting programs across the state.

Respectfully,

Mark E. Deschaine, Student Investigator

Appendix J

Open Ended Responses to Survey Question 10

QUESTION 10 – OTHER FACTORS

- classes offered
- I use it along with alternative education students as a virtual HS
- Helped meet Michigan Merit Curriculum standards.
- Your bullets wouldnt work
- Eliminate non-academic courses to fill the day, i.e. add more rigor!
- To offer class that we could not otherwise offer because lack of teachers.
- To accommodate students' schedule
- In some cases factors in students personal lives play a large role in deteriming to use online courses.
- Course offering improvement and scheduling issues.
- Class is not offered at our school. Seat Time Waiver student(s).
- Increased options to meet student needs.
- Differentiate instructional delivery and provides students and parents with choices about learning.
- Schedule flexibility
- Conflict with a teacher Discipline problem in the classroom
- none
- none
- Flexibility of the curriculum. Availability of online
- Used when a course cannot be offered because of class sizes being too small.
- Class conflicts
- All students in our alternative education program have an online class during the day. We are to small to offer all classes students need.
- Classes we do not offer.
- Allows students to take additional elective courses.
- Scheduling flexibility.
- Use for all Juniors for ACT Prep and Workkeys.

Appendix K

Open Ended Responses to Survey Question 12

QUESTION 12 – ADVANTAGES OF FULLY ONLINE COURSES

- We are able to offer over 400 courses to students in need of credit recovery or credit advancement. This gives us a chance to service the unique credit needs of each student who enrolls here.
- Cost and flexibility of scheduling were the two primary factors in utilizing the online courses. Some students do benefit from the self-paced instruction as well.
- Online courses allow students behind in credits to recover at their pace both in school and at home.
- We can place more kids taking multiple subjects in one classroom with one teacher than a multiple of classrooms and teachers.
- Students can work at home and school for credit recovery.
- Flexibility Pacing Meets on Line requirement
- flexibility in scheduling credit recovery
- Scheduling flexibility
- Flexibility in scheduling, opportunities for students to make up classes, take advanced classes at a convenient time and place.
- scheduling
- credit recovery implications.
- Flexibility within the schedule.
- ease, flexibility and the ablity to adapt to the individual student needs.
- Elective choices. We cannot offer all of the courses that students are interested in taking. Our Distance Learning Lab will have students taking AP, World Language, and Credit Recovery courses all at the same meeting time.
- Students meet the achievement Standards at their own pace With many options for reteaching and assessing.
- It is a branch of our school offerings.
- Expanded course offerings at a reasonable price, provides anytime/anywhere learning
- Assisted at risk kid in credit recovery
- Flexibility in scheduling for students including those students participating in Dual Enrollment etc.
- ability to provide alternative education in a rural area
- Programming options
- To recover credits and to take courses we cannot offer
- More flexibility and opportunity for varied intervention.
- Credit Recovery
- Reduction of cost of credit recovery.
- credit recovery

- Wider variety of courses offered, credit recovery and summer school options
- It helps us to have a more flexible schedule for both at-risk students and accelerated students. It allows us to offer courses we do not have enough personnel to offer, especially to a small student population.
- Helped provide curriculum needed for MMC or solved scheduling conflicts. Also used for credit recovery.
- Flexibility for small schools
- Flexibility and choice
- credit recovery with MMC demands
- Flexibility
- courses available we do not offer
- Opportunity for students to engage in 21st century learning modalities.
- Students are able to advance at their own pace.
- Helps students take courses not provided by the district, also used as credit recovery for those needing additional course work and can accelerate learning for the more advanced students.
- Students can have a class that is not offered in our school.
- self-paced, acceleration for students behind in credits
- Less staff needed
- Credit Recovery
- Flexibility in scheduling and credit recovery
- schedule flexibility and advanced courses not provided locally
- I oversee an alternative high school and all of my students come to our program behind in credits required by the MMC. Fully online semester long courses have provided most students with the opportunity to recover failed course credit and graduate on time or close to on time. They have also offered flexibility to students with unique situations in their personal lives that restrict their ability to meet the requirements to participate in a traditional school setting.
- On-time graduation; students can take classes we don't offer as well was ones they can't get scheduled due to major schedule conflicts
- offers more curricular flexibility
- Course offerings and schedules
- Allows us to offer students more than we can in our school day
- We have seen very little advantages within our school using online classes. It does offer flexibility for classes that we do not offer.
- Quality learning opportunity available to students; any time, any where, any place.

- Online classes allow our small school to fit in classes that capture student's attention and fit into their schedule.
- Flexibility Differentiation Student Directed Learning Cost Effectiveness Self Paced Learning Proficiency based credit vs. seat time
- Credit recovery, availability of coursework 24 hours a day
- Allows students to move at their own pace. Since it is mostly used for credit recovery, students are already familiar with much of the content.
- Students can take what they need any period of the day irregardless of the class schedule.
- Scheduling
- We have a small school.....one teacher for a class. If a student fails a online course offers another option . Tough for a student to be successful in a class, from a teacher that has already failed him or her.
- Offers non-traditional students options and helps us maximize use of facilities and resources.
- Diversification of courses
- credit recovery
- Students can work at own pace, solves scheduling problems, speeds up credit recovery
- Option for student Provide other classes that are not offered in the classroom due to budgetary reasons
- As money becomes tighter and tighter and staff becomes smaller and smaller, online courses offer an opportunity for students to take courses we would not be able to offer to one or two kids.
- Ability to help students in lieu of master scheduling.
- Student independence
- We provide a teacher mentor for each student. That ensures success. Small classroom labs allow teachers to quickly identify problem areas and address them
- Allowed students to take a course that we were unable to offer in the master schedule.
- They allow students to work at home.
- Flexiblity in certain content areas to meet individual schedling needs.
- Flexibility
- They helped our students who had attendance problems.
- Allows for credit recovery at any time during the day.
- Can fulfill content areas where we have no cetified teacher (phys ed, health) and can accomodate students with course conflicts and students in need of credit recovery.

- Being a small school, online courses give our students opportunities to take classes that we cannot offer.
- We are able to offer students a variety of classes.
- Meets the needs of students
- Noted above
- when course may be taken where course may be taken
- credit recovery
- Ability to offer classes not offered due to lack of numbers.
- The main factor is that online courses allow us to offer students courses that we do not provide in a traditional manner.
- Students can recover credit right away and not wait until the summer to do so.
- Primarily, these courses offer flexible scheduling options which would otherwise be difficult to achieve in class c rural school.
- Provide courses we do not offer, credit recovery and enrichment
- Credit Recovery and Acceleration Options
- Allows students the opportunity and flexibility to develop an individualized curriculum plan.
- More opportunities/offerings for students
- Wide options for students wanting to take electives not offered at our school; Self paced with electronic progress monitoring; and Allows for credit recovery within a semester system.
- Flexibilty

Appendix L

Open Ended Responses to Survey Question 13

QUESTION 13 – DISADVANTAGES OF FULLY ONLINE COURSES

- On-line education is technologically demanding. Depending on the company, students always find tricks around learning the material. Additionally, students with ADHD struggle when sitting stationary at at computer for 72 minutes. Even non-ADHD students need a bit more social interaction that an on-line curriculum can provide. There is nothing like a live teacher who can provide an interactive learning environment.
- Quality of instruction, rigor, etc. In addition, some students simply do not learn well on a computer and/or self-paced.
- Lack of a teacher
- I do not believe that they have the rigor or the supervision (when a student is off campus doing work) to be sure it's the student's work.
- They can cheat... academic integrity is an issue.
- Motivation Learning style
- na
- Student time management and prioritization to meet curricular objectives because course have been asynchronous.
- Not as rigorous in the ELA area due to less writing.
- course completion
- lack personal technology tools at home.
- We have limited the disadvantages over the years by only allowing certain vendors.
- lack home internet, cost
- Lack of instructional support. Our lab is monitored by one person who could never aid learners in all of their challenging online courses. Some students game courses so they guess the right answers and do not actually learn content.
- Unmotivated students still require structure and supervision to meet standards.
- Students completions of courses
- Integrity of the course is constantly reviewed to ensure rigor and fidelity of implementation.
- Only useful for some kids; this style of learning is not conducive to many student's learning styles
- Student motivation/pacing.
- letting the local community know that we are meeting expectations academically
- Rigor/student giving required effort
- Not in front of a teacher and students who are not self-directed
- Need training for staff regarding how to be an online instructor - it is different from what they have been trained for.

- Delayed communication between student and omline staff
- No personal contact.
- extra time if the student completes the course before the semester ends.
- Support from teacher overseeing the program.
- Concerns lie more with proper student placement than curriculum. Professional development is needed to help teachers who are attached to these courses learn how to construct a "blended learning' model the proper way.
- Supervision to make sure students are working on their curriculum and not having someone else do the work.
- Students struggle with the lack of teacher interaction
- Student follow through
- no relationship with students ...students need to to very self motivated
- Easy to game....need more algorithmic programs
- level of difficulty
- Cost containment as this option becomes more accepted for students.
- Students lack motivation to continue working largely on their own.
- As with any on-line course there is a concern that the work is being done by the student. We did have one student who was soliciting people to do his work for him.
- We use Mvhs. Students who are motivated do well, students who are not motivated do not do well. Feed back can be a problem.
- lack of depth of instruction, students need to have some level of self-motivation
- Technical support is an issue at times. Students finding ways to cheat the system through a search engine.
- Lack of differentiated instruction that a real teacher could provide.
- Building one-on-one relationships. It's not for the unmotivated student.
- space and time.
- We have had to change grading scales and add academic requirements to commercial vendor online courses to increase the rigour of their courses used for the purpose of credit recovery. Courses used through GenNet's providers offer wonderful rigor comparable to that of a typical classroom, but very few students have been successful with them.
- Lack of constant communication with an instructor for some vendors; student responsibility for finishing a course.
- not well aligned with our courses
- World language classes didn't meet the need of our students.
- lack of support

- Very little monitoring when students work away from school. Students are not accustomed to working within these parameters. Rigor of the courses compared to teacher led classroom courses. Connection between the teacher and student(s).
- Students do not budget time wisely for completing couse work with given parameters. Students tend do a lot of work at the last minute, as opposed to pacing their work over the entire timeline available to them.
- Lack of instructor for the student in that field.   Only highly motivated students gain a high degree of learning. Students with low motivation speed through without rich learning.
- Overcoming negative perceptions about online instruction. Maintaining integrity with the testing process.
- Intrinsic motivation of students lacking, do not finish the course
- Some classes lacka the depth and rigor of our regular curriculum.
- Some concern about the rigor as implemented.
- No feedback or interaction for student.
- Some concerns about being able to deliver non-core experiences and values, character education, etc.
- Occasional technology issues
- very poor success rate
- rigor
- Students must be self motivated and most are not, students typically do not do well in online classes unless it is a class that they have already been exposed to, many of the systems provide students easy ways out to get the work completed.
- Student motivation Lack of student technological skills Lack of quality internet at student's home
- Concerns are mostly about curriculum and how rigorous the courses are in comparison to those taken on site.
- Have to find a second semester class.
- Student inability to structure time effectively
- Not enough variety, especially in the sciences and ELA areas
- There is a very low completion rate.
- Fully online courses can be more difficult than traditional courses. Many students have not been successful on fully online courses.
- Requires a tremendous amount of reading and lack of human interaction
- A slight loss of control on the curriculum. Low completion percentage of online courses by at-risk students.
- Monitoring curriculum

- To an extent, students can guess on answers to recieve a minimum, passing score. Some of the courses have very technical vocabualry, which makes correcting essays challenging for a teacher not ceritifed in that content area.
- Some students have a difficult time staying on task.
- Student success in online courses continues to be our concern.
- must provide teacher to oversee programs
- Disengagement from school activities, degree of student responsibility required, student monitoring and mentoring
- some students get bored with little interaction with peers if taking more than one on-line course
- consistency in application
- Accountability and student motivation
- Our main concern that we have with online courses is the requirement for students to be self-directed. There are some logistical challenges in keeping as current with student progress as compared to the traditional classroom setting.
- Level of rigor.
- These types of courses are not appropriate for students who are not self-motivated.
- None
- Plagiarism and Cheating
- The learning is self-paced. Therefore, students have to possess a high level of motivation in order to be successful.
- None
- Cost is a factor especially when students pay for the courses during summer school. The economy has put a crunch on needy families; and Some concerns about students having others do the work in their name.
- lack of teacher contact, need for students to be monitored within the building and within their progress through course activities and assignments

Appendix M

Open Ended Responses to Survey Question 17

QUESTION 17 – OTHER FACTORS

- Michigan Merit Curriculum requirements
- Requirement #1
- We have a 1:1 student to computer program in our high school and middle school. We also have a New Tech High program that utilizes inquiry driven project based learning.
- not really sure i understand your question
- Important for the teaching staff to increase their comfort with 21st century learning, too.
- Curriculum enhancement; application; research
- Please note the responses here are done with an CMS (course management system) called Moodle. All of our teachers have Moodle available to them and that is resource these answers are based on.
- The skills and motivation of student body to complete courses online
- Opportunity to have students work on specific concepts they did not understand.
- parent request
- We are trying to incorporate more online experiences in our senior classes to better prepare our students for college.
- Increases access to materials, resources, and assignments

Appendix N

Open Ended Responses to Survey Question 18

QUESTION 18 - ADVANTAGES OF ONLINE EXPERIENCES

- Students love to interact with a computer, especially when a curriculum can be adjusted to each student's level. The differentiation piece is very difficult in a traditional setting.
- learning style
- many students can be given oppotunities with our limited technology
- Advantages include opportunity for acceleration of credit recovery at no cost, which is typical of after-school and summer programming in our district. Student motivation is an important factor as well, with structured online monitoring a key component in their success.
- Managed easier integrated into a class, utilizes our faculty, accountability easier with in house versus farmed out online classes, integrates 21st learning with existing courses to supplement instruction and learning
- Students have opportunities to learn skills at their own pace.
- Flipped classroom-higher achievement
- We created a course that is required for all 9th graders that meet the online education requirement so we knew everyone would get that out of the way.
- They replicate the world outside of school.
- More time for remediation and guided practice.
- More options for students
- Enhance learning experience and inquiry based learning...shifts more responsibility for learning to students.
- Students are prepared for college. The majority of students attending a college or university will be required to participate in an online course, we want to be sure they are prepared for this.
- Differentiated instruction
- Flexibility in scheduling, remediation/Credit Recovery, challenging content for advanced students
- Again, create increased flexibilty regarding reteaching and retesting opportunities. Allows for mastery learning.
- Credit Recovery
- More individualized instruction during class time.
- In the core areas it allows us to offer courses we may not have been able to otherwise; it allows us to use a blended learning model for at-risk students; it allows us to teach more than one course in a period in our business curriculum.
- Flexibility
- none last year, this year we are running content area lab courses using online courses to suplement content delivery for some learners

- Differentiate curriculum
- teachers guide them
- Differentiated instruction. Access for students 24-7.
- Advance at their own pace
- Teachers are able to monitor and personnally assist the students, more directed to gain greater experience with on-line learning.
- exposure to technology used in the workplace
- Students like using technology
- directly none; staff integrates activities to add depth to instruction - they would have done this without the provision as a component of good instruction
- Provides additional academic support
- Today's students are "digital natives" and are more comfortable communicating and navigating through course materials in a digital environment than in a classroom. Course discussions were good in the online chat interface and students that normally weren't comfortable speaking up in a regular classroom participated in the online discussions. We also battle attedance issues with many students and the ability to have course assignments and recorded lessons available online made it easier for students to recover from any absenteism.
- Overall course management; ease of assigning work and collecting work; ease of assessment
- More resources
- provides another way to access curriculum; extend curriculum; reinforce curriculum; remediate curriculum
- Ease of use, cost effectiveness, and materials available.
- Able to reinforce the information learned. Student has 24 hour access to needed information.
- Multiple learning stlyes can be addressed.
- Real teachers that students can interact with. Lessons can be differentiated.
- Student Directed Learning Self Paced Diagnostic in nature Ease in data collection Provides effective data review Provides information about learning gaps Shows areas of proficiency and weakness
- Convenient for student, depth of curriculum, district teacher assistance
- Students have an opportunity to have a concept presented differently and have the opportunity to practice a skill to learn a concept.
- Allows for differenciation of instruction
- Exposes students to skills they will need in the future.
- Flexibility of pacing and ability to do significant work away from class time
- Expanded resources and options

- 21st century skills
- student-parent happy
- kids are more engaged, learn 21st century skills, larger audience, enrich curriculum, more options for classes, students are more organized, teach students to use tech wisely
- Allows more individualzed instruction based on teacher instruction. Able to reach almost all students during a school year.
- It gives all children exposure to online classes
- Flexibility
- More flexibility
- Allows for gaining tech skills across curriculum
- Supplements the curriculum in most classes that use online resources.
- Student engagement, gaining experience working through online programs. Students did online writing through "I am Online" and WIN for WorkKeys in Careers class.
- All of our classes offer online experiences so if a student does not take an online semester long course they are still able to get their online experience within their courses.
- Self paced curriculum. Students can work at home or off campus.
- There is a multitude of options available and it keeps teachers and students energized.
- Same as noted earlier
- Always best to integrate technology in all courses
- Access to a different approach Additional visual resources
- Implementing an online experience within every classroom provides an additional differentiated experience as well as an opportunity for our students to practice 21st century learning skills.
- Challenges the students, extention activiteis, research opportunities
- Teachers are able to incorporate additional lessons/reviews utilizing technology.
- Enhances the course makes it more real life by use of technology
- 21st century learning
- The online experience allows for students and teachers to explore the curriculum from a more diverse perspective.
- Everyone is required to do it...good way to meet requirement.
- No additional costs; Seamless integration into the content; and Teachers and students interact in same space and time.
- increased access

Appendix O

Open Ended Responses to Survey Question 19

QUESTION 19 - DISADVANTAGES OF ONLINE EXPERIENCES

- At this time, the only disadvantage I can see in a blended model is that students may try to access other areas on the computer during their computer time. In a well managed classroom, this does not occur.
- the accessibility of technology
- With the small nature of our program (approximately 120 students), the accessibility of computers is an issue, as our lab has 20 student stations and is utilized 3 out of 6 periods per day.
- Online seems to be a panacea for all in education, accountability is biggest issue, academic dishonesty with any online experience, research on effectiveness all over the map (look at online charter research)
- Acquisition to computers when students need them.
- Parent acclimation
- None
- None.
- Technology issues and students not following protocols.
- completions of courses.
- Students do not know how to pace themselves and fall behind in curriculum.
- Students don't always complete all lessons
- Alignment to standards
- Mostly logistical - teaching all staff members how to appropriately operate the system.
- student paced
- Getting parents and students to "buy in".
- More teacher training is needed. Better advanced knowledge of students' reading level is needed for better placement and use of intervention strategies.
- Lack of teacher interaction
- don't really know yet
- none
- Some disparity for families without high speed internet connection.
- Not disciplined enough to maintain consistent progress
- The only issue is if the student's have the availability to use the computers outside of the school.
- none
- Can get bogged down in technology and forget the real reason they are in the class.
- limited access to technology - one school has only one computer lab;
- cost of classes

- The time it will take teachers to get their course content online. It has been a very slow process in getting teachers to get their course content online for student use. Thus far I have not witnessed any disadvantages from the students perspective.
- none
- None
- amount of technology accessible to students
- Student cooperation(motivation to excel), access to computers/technology
- Computer availability.
- Some students do not do well with on-line learning.
- Lab space Funding for updated technology
- Requires additional technology support and hardware Very costly to purchase
- Assurance of student understanding of material
- Ability of the teacher to manage the software while still instructing the class.
- None.
- Conne tivity issues
- Occasional technology issues
- ease of gathering information, such as copy and paste content
- done via moodle
- technology can be distracting, time for PD for teachers on how best to use on line resources and time for them to research material available
- The experience can vary depending on the teacher a student has.
- Technology that doesn't function well enough to make it a valuable experience. Too many kinks in the system and not enough resources to make it better
- None
- Low completion percentage for at-risk students
- amount of availability of necessary technology
- A lack of computer time for classroom teachers. We need to add computer labs to fully accommodate all of the students.
- Internet speed and connectivity. In "I am Online", the teacher has to respond to student writing, so there was a lull between submission and response.
- It is sometimes difficult for the teachers to set up the online experience within their classes because of time contsraints.
- Length of time for students to finish classes. Student perceptions of online learning.
- The multitude of options can be overwelming and the overall availability of technology resources, including infrastructure, has limitations.
- Same as noted earlier
- none

- Student motivation Infrastructure concerns.
- Monitoring the fidelity of implementation within each classroom.
- None
- Not all students take advantage of the opportunities.
- Supervision of those students taking one course
- cheating
- N/A
- Loss of time in those classes.
- None
- None

Appendix P

Open Ended Responses to Survey Question 28

QUESTION 28 – DESCRIPTION OF DECISION MAKING PROCESS

- We explored the companies being used in our county, then brought them in to present to our administrative team. We then tried two different vendors and compared the two. When these did not meet our needs, we shopped around again to find a third. This "third" is what is currently being used in our school to deliver on-line curriculum. The director of our on-line program made the final decision on the matter.
- collaborative effort between administrators, teaachers, and guidance counselors
- Technology department researched
- The district investigated multiple options, then encouraged visitations to programs utilizing programs. Once a decision was reached, piloting of program in summer school and after-school campus started, then within the alternative programming, then to our large, comprehensive high schools.
- Looked at what we were already doing and it met the requirements. We did add more opportunities.
- District level committee
- HS principal and Curriculum Director, along with our Online Learning Coordinator meet often to review the curricular offerings available for students.
- We have a 1:1 laptop program in Pinckney and New Tech High school. We are light years ahead of the state of Michigan.
- We used several programs and used student achievement data to determine which one works best.
- Principal decided in consultation with dept chairs, students and district admin. dept chair and district admin were most reluctant, but program use has grown every year.
- The district investigated different online tools and ultimately agreed to one with teacher, admin and parent input.
- We were already providing online opportunities for our students.
- team and demo-based, inclusive of students.
- Review by School Improvement Team, Parent Advisory Council, student survey and general staff.
- Data based
- Through meeting with staff, administrators, board members, parents, and certainly students.
- Building School Improvement Team recommends to Principal's Department Advisory Team who recommends to full faculty; Principal then takes recommendation to Director of Curriculum & Instruction/Technology Director who facilitates recommendation to the District Technology Team. What comes

out of that is then brought to the Superintendent & Asst.Superintendent of Finance prior to deciding if the recommendation will go before the Board of Education.

- Principal recommendation
- consortium price from vendor for the ISD, local school board approval
- faculty and leadership discussions
- Curriculum Council, then recommendation to the Board.
- not sure
- A committee is formed to examine the on-line and technology opportunities for the students/teachers. The recommendations are based on research and then referred to the superintendent/board for action. The Technology Committee assures the recommendations are aligned to the State standards and requirements.
- part of ongoing school improvement planning meetings
- We have an acceptable use policy and an IT department that determines which sites on line we can access as a district. It is important to note there are two schools within one building that I oversee as principal - one is an alternative - credit recovery high school and the other a STEM program. The former has limited access to technology but the latter interacts with technology in every class every hour of every day.
- Cost and curriculum standards
- We work as a professional learning community.
- The state said we have to do it, let's get on it. We then checked with outside vendors who had curriculum's that aligned with the MMC, then found the most cost effective one that we could afford.
- Professional Learning Committees recommend to instructional departments.
- District Curriculum staff reviewed many vendor programs and chose the one closest in curriculum rigor to our teacher delivered classes.
- Information from MDE, compliance initiative
- The programs we already in place so new decisions needed to be made.
- ISD selected
- All of the above groups give input. Decisions are made by administrators.
- Unknown
- Research, discussion with on-line providers, collaboration with colleagues within and outside of the district.
- Alignment to Michigan's state standards and benchmarks, along with district vision and mission for student growth and achievement.
- none

- The principal and teachers meet weekly to discuss tools and research what is available, best practice and opportunities - contact with other district leaders and teachers, conferences and reading material
- They were place before I arrived. However I am increasing the opportunities this coming year by adding an online classroom where students can take accelerated classes through MVHS.
- Administration meeting with vendors and teachers to determine the programs that best fis our needs
- Curriculum committee meets regularly to access at-risk, general and accelerated needs of the district. Decisions are then made if it is fiscally sound to increase these opportunities.
- We look at the options through departmental meeting and general staff meetings.
- Decided on at the district and building level
- Administration and teachers make the decisions regarding online educational opportunities together.
- We chose a program that was user friendly yet challenging. Cost was a factor also.
- School Improvement Team 2. Technology Lead 3. Content Area Department Leads 4. District Team 5. Instructional Coaches
- Trial and error and past experiences
- All curriculum decisions are run through an Instructional Policies Committee which evaluates curriculum (online or traditional.) If our district criteria is met, the class is approved.
- The School Improvement Plan drives the influence of online experiences within the school curriculum. For individual students taking online classes, the chain of decisions begins with the building counselor and leads up to the principal for approval.
- State mandates, discussion with administrators, staff, and Central Office staff.
- Curriculum Committee to Superintendent then finance committee of the board
- Our district has created School Improvement Teams throughout each building within the district and also collaborates from a district improvement team level once a month. During these meetings, plans for online learning courses are presented and discussed. If passed by both groups, the recommendation is then taken to the Board of Education for approval.
- Educational development plans (EDP's) for all students grades 7-12 required by state. District decision.
- Discussion within the high school facilitated and approved by the Superintendent.

- student need (course, academic achievement level, ability to work independently through content), teacher capability to set up and deliver course (time for preparation and ongoing monitoring, technological capabilities to set up the class), availability of courses in the master schedule and from neighboring districts

Appendix Q

Open Ended Responses to Survey Question 31

QUESTION 31 – THOUGHTS ON MANDATE

- Regardless of this on-line experience, we would still pursue on-line programs, as it is essential for students who need certain credits.
- none
- My opinion is that it is a positive experience under proper supervision and support mechanisms. We are confident that our students are not only garnering a positive educational experience, but also engaging in technology-rich activities and gaining technology proficiencies along the way
- Students need to possess 21st century skills but the mandate does not guarantee that students will gain them throw gh online learning.
- Not a lot of support for implementation.
- It may work to keep districts honest in maintaining technology access to students. However, districts need to take the initiative to utilize technologies that the world uses outside of classroom walls and break down the barriers to learning that limit student potential by only relying on human resources that haven't adequately been trained to teach 21st Century learners in classrooms that were designed structurally and pedagogically for 1940's learning needs.
- Technology use and 21st Century Skills has always been a priority to our school and district.
- Questions that only allow for a agree to disagree range or limiting and constraing, and often do not measure the construct. For instance, Question 30 cannot be answered because it implies the respondent agrees the students have benefited from the mandate. Our students have benefited from the online opportunities we planned to provide and do, as part of the program design. It had nothing to do with the mandate. So they did not benefit for the mandate. They benefit from the program and the teachers.
- It is a good push in the right direction - the state needs to now work to catch up with the rest of their policies - seat time, pupil accounting, etc . . .
- Helps school graduation rate
- If we are truly charged with preparing our students for the world of work in the 21st Century then we better teach them the necessary strategies, skill sets, collaboration processes leading to problem solving that is being done in the real world as we know it. Schools need to learn how to embed the use of technology into their everyday teaching so that what is being learned can be applied in tomorrow's world on multiple levels in the work force.
- Online learning is a reality for post secondary education. I was unable to complete the questions with bullets. They wouldn't work on my iPad
- do not think that we can do without this requirment in this day in age

- I appreciate the intent of the mandate, and the fact that local districts were able to make the decision on how to implement effectively for their community's needs.
- A sign of the times
- It has been a good guide to having students do more with technology.
- The presence of the law has not determined what or why we access technology - our teachers' desire to provide students with indepth experiences and to access social network sites guides decisions. Many students in the alternative program do take on-line courses outside of the school day as a means of recovering credits; those in the STEM school (magnet program) access on-line courses as a way "to get ahead."
- State mandated curriculum with out state funding. Unfunded mandates are very difficult for schools to meet.
- Students live in a digitial world - this is how they work and learn. Many adults are here too. It is the way of the present, and employers expect competency. It needs to be included.
- We were already doing it before it was mandated.
- I would like to see the state directly fund a particular vendor and provide instruction/curriculum that we all can use.
- With the growth of the 21st century technology movement I often wonder if the online learning experiences are outdated.
- A necessary experience needed by today's students
- Our district strongly supports this mandate. We have invested financially in infrastructure, hardware, software, and facilities dedicated to providing online/virtual learning opportunities. In addition, the local district has developed off site online learning programs with assistance and approval from the Michigan Dept. of Education.
- Very important for students to experience online learning as they will most certainly be required to use it post secondary and for career readiness.
- Good idea.
- Expect it to continue -- definitely an advantage for students in preparation for college/career readiness.
- Sufficient due to the other MMC requirements.
- No opinion.
- It is something that needs to happen, if the state needed a mandate to make it happen I am glad it is there to help schools change and adapt.
- Is it fully funded?
- The students are very well versed in usage of technology, I don't see the mandate as a big issue, it is the availability of technology in the building. We need to get

WiFi to enable more students to BYOD to the classrooms and have instant access to the technology.

- It is very easy for us to achieve this mandate.
- We have always provided on-line learning so the new mandate was not an issue at all.
- It is an important element in today's world
- All students are different, as well as all school districts. Quite frankly, mandates from the state and federal government are difficult as the "one size fits all" approach does not work in education.
- Needed but should not be mandated
- Not a problem to meet the requirement.