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The University of Southern Mississippi

THE RELATIVE VALUE OF ONLINE LEARNING
ENVIRONMENTS AS PERCEIVED
BY HIGH SCHOOL TEACHERS

by

Daryl Joe Scoggin

Abstract of a Dissertation
Submitted to the Graduate School
of The University of Southern Mississippi
in Partial Fulfillment of the Requirements
for the Degree of Doctor of Education

May 2010

ABSTRACT

THE RELATIVE VALUE OF ONLINE LEARNING
ENVIRONMENTS AS PERCEIVED
BY HIGH SCHOOL TEACHERS

by

Daryl Joe Scoggin

May 2010

Online learning environments have become more popular for use in education from year to year. This medium for teaching and learning has been successfully used in higher education for years. Only within the past decade has this instructional platform made its way into the P-12 arena. With the expansion of online learning environments becoming more popular, this type of lesson delivery may eventually make its way to the building or site level. As in a face-to-face classroom, teachers have an effect on the success of the students. The perceptions of teachers regarding dimensions of implementation and use of online learning environments could determine its success or failure.

The purpose was to determine the perceptions of two groups of high school teachers, those who are teaching or have taught using an online learning environment and teachers who have never taught using an online learning environment. A questionnaire, developed by the researcher, posed questions that revealed demographic data, selected instructional elements, course composition elements, student support elements, and administrative support elements.

Data were collected from one 158 teachers who responded to the online survey. These current practitioners throughout Mississippi public schools and the Mississippi Virtual Public School (MVPS) elected to participate with superintendent and director approval. The researcher-created *Online Learning Questionnaire* included demographic questions for all respondents. Teachers who taught using an online learning environment responded to only six of the 10 demographic questions.

No statistically significant differences were found between the two groups of teachers in their perceptions of selected instructional elements, course composition elements, student support elements, and administrative support elements. A statistically significant difference was found between the two groups of teachers in their perception of class load. Online teachers indicated little need to restrict class load while face-to-face teachers tended strongly to believe that class load should be restricted. It was conjectured that this difference could be related to the fact that online teachers are typically compensated according to the number of students completing their courses.

There was no statistically significant relationship found between the demographic information provided by the two groups of teachers and perceptions of online learning. The online teachers answered by a ratio of more than 2 to 1, relative to the face-to-face teachers, that they had taken an online class.

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Most of my life has been spent in education. My mother, Nell F. Dobbins Scoggin, was a teacher for thirty-five plus years. Her dedication and devotion to the profession has been a guiding light for me throughout my teaching career and has led me in the pursuit of my degree.

To all of my children, who have endured the good times and bad, the long hours I have been away from them and the moodiness from countless hours of lack of sleep, I want to say I love you. To my wife, Nora, without you none of this would have been possible. You have allowed me to pursue a dream, all the time remaining my partner in the journey, always providing me with support. I love you, thank you for making my journey much easier to bear.

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CHAPTER I

INTRODUCTION

The purpose of this study was to analyze the perceptions of two different groups of high school teachers regarding online learning environments. The two groups of teachers were determined based on the following distinctions among these teachers: those who have taught using an online format and those who have not. A researcher-developed online learning questionnaire was distributed and used to gather responses from each of the teachers selected.

Chapter I introduces the study and provides a statement of the problem, the purpose of the study, background information, research questions, delimitations of the study, definitions of related terms, assumptions of the study, and justification for the study. Chapter II provides a review of the literature related to specific elements of the study as well as the theoretical framework for the study. Chapter III describes the methodology for the study, including the population sampled, the methodological procedures used, the instrument used, and the statistical tests conducted. Upon completion of the study, Chapter IV presents the results of the study and the statistical analysis. A discussion of the findings, along with related conclusions and potential implications is provided in Chapter V.

Background

Online education has been a staple of class and lesson delivery for higher education for many years. Only in the past decade has this form of learning environment made its way into the P-12 arena. There are several factors prompting the adoption of this instructional technology; one is the belief that online instruction can help stem the

dropout rate among high school students. Another is an interest in offering courses to students in small high schools in which they would otherwise not be able to get the courses because of lack of student demand or licensed qualified teachers. Yet another factor is the interest in implementing the concept of credit recovery. Credit recovery is a program that allows students who have failed a course to retake part of the course online, instead of having to repeat the whole course and lose the opportunity to remain on track toward graduation.

During this evolutionary period for online learning in the P-12 educational system, studies have shown that students who experienced the most success were intrinsically motivated. They possessed certain values such as high literacy and technology skills along with strong time management (Cavanaugh, Barbour, & Clark, 2009).

In the early days of online courses, the common method for course development was to allow faculty members to be absent from their classroom and/or provide stipends to develop the online courses for classroom use. The earliest development of online courses involved faculty members who believed that information technology could transform learning. Many of these faculty members were willing and able to master the required technological skills (Oblinger & Hawkins, 2006).

Online education today is most often offered in one of four basic formats; asynchronous online, synchronous interactive online, or hybrids of both that may offer some instruction in a face-to-face environment. In the asynchronous online format, students in the class do not have to be present at the same time. With this format, students may attend the class online at their convenience, viewing material that has

already been placed in the class site and making entries, participating in chat or threaded discussion, and submitting assignments as needed. The synchronous interactive format includes audio transmission and receiving capacities, and usually requires that all students enrolled in the class to be present, logged in to a virtual room, and participating in the class at the same time. The hybrid versions involve some face-to-face instruction, along with some of the online elements listed above for the asynchronous and synchronous components. Post and chat components in each of these versions afford learning opportunities which students may or may not be required to attend at the same time.

Proponents of online instruction assert a number of advantages of online courses. When well designed and delivered, such courses allow students to experience educational opportunities beyond the four walls of the classroom. Online classes open new doors to students who otherwise might not be exposed to the richness of information available via the Internet. Proponents also acknowledge that rather than being a panacea for the ills of the American educational system, online instruction is one more tool with which to address the changing needs of students.

While there is significant emerging interest among P-12 organizations in Internet-based instruction, research into the use and effectiveness of online learning environments in this context is limited. This study will help to expand the research base and may help determine possible characteristics needed by individual teachers and organizations in order to successfully implement and use online learning environments.

Research Questions

The research that has been conducted previously in the P-12 arena does not focus or adequately address teacher perceptions of online learning environments. The purpose of this study was to analyze the perceptions of two different groups of high school teachers regarding online learning environments.

The following research questions were addressed by this study.

1. Is there a difference in the perceptions of online teachers and face-to-face teachers regarding the relative importance of selected instructional elements?
2. Is there a difference in the perceptions of online teachers and face-to-face teachers regarding the relative importance of course composition elements?
3. Is there a difference in the perceptions of online teachers and face-to-face teachers regarding the relative importance of elements of student support?
4. Is there a difference in the perceptions of online teachers and face-to-face teachers regarding class load?
5. Is there a difference in the perceptions of online teachers and face-to-face teachers regarding the relative importance of administrative support?
6. Do relationships exist among the demographic characteristics (e.g., experience, age, gender) of online teachers and face-to-face teachers and their perceptions of online learning environments?

Delimitations

This study was confined to two groups of teachers, those who have never taught using an online environment and those who have or are currently teaching in an online environment. The teachers with no online experience came from one public school in

each of the eight (8) geographic regions as designated by the Mississippi High School Activities Association (MHSAA) from the 4A classification. The stratification variables of socio-economic status of the surrounding community and geographic location were used to select the schools within the 4A classification. Teachers who have taught or are currently teaching using The Mississippi Virtual Public School (MVPS) were used as the online teaching participants. This study was delimited to the specific population under investigation. Generalizations from this study are, therefore, restricted to a population with characteristics similar those included in the study.

Assumptions

The researcher assumed that participants would respond honestly and promptly to the study questionnaire. It was further assumed that respondents would have the technical capabilities to access the survey online from the designated website.

Definitions

- *Asynchronous Online Instruction*- Courses or classes taught via the Internet in which students and instructor do not have to be in class at the same time.
- *Behaviorist* - The theory or doctrine that human or animal psychology can be accurately studied only through the examination and analysis of objectively observable and quantifiable behavioral events, in contrast with subjective mental states.
- *Constructivism/constructivist* - A psychological theory of knowledge which argues that humans generate knowledge and meaning from their experiences.
- *Course composition element* – Distinct part of the course that, used in combination with others, makes up the whole course.

- *Credit Recovery* – A program that allows a student to recover credit, for a failed course, without retaking the complete class.
- *Distance learning/distance education* - a field of education that focuses on the pedagogy and andragogy, technology, and instructional systems design that aim to deliver education to students who are not physically "on site".
- *Face-to-face Instruction* - This is the traditional form of lesson delivery in a regular classroom with the teacher and students physically present.
- *Hybrid Online Instruction* – This form of instruction includes a combination of face-to-face and online lesson delivery for the course.
- *Instructional element* – Distinct method of instruction, used in combination with others during lessons to deliver instruction.
- *Internet* – A global system of interconnected computer networks that connects millions of people.
- *Online environment* - Online classrooms in which people interact with one another. This can include asynchronous discussion boards, synchronous chat, multi-user online games, or any other computer-mediated communication tool.
- *Pedagogy* - The correct use of teaching strategies. The term generally refers to strategies of instruction, or a style of instruction.
- *Synchronous Online Instruction* – Courses offered via the Internet in which the students and instructor are logged in present at the same time online.

- *Two-way interactive video* – Courses broadcast via Internet or airwaves that allow students in separate locations to attend class at the same time and interact using a communication system.
- *Virtual school* – Schools established via the Internet offering courses via the Internet in different formats such as synchronous, asynchronous, and a combination of both.

Justification

With online learning becoming more popular from year to year, it is only a matter of time before this forum for lesson delivery is made uniformly available at the P-12 site level. Success may depend on a teacher's perception of the use and effectiveness of this type of lesson delivery. To this point, little research has been done with the teacher's perception as the focal point of analysis.

Many factors may affect the implementation and success of online learning environments at a local level. Whether the teacher feels comfortable with this type of lesson delivery, whether the teacher is comfortable with the use of technology, or whether the teacher feels comfortable with the lack of face-to-face contact may influence the success of online learning environments. Teacher's perceptions of this type of learning environment are just some of the many factors that affect implementation and use of online learning environments.

The information obtained from this study provides scientific evidence concerning the perceptions of two groups of teachers toward online learning environments. This research has the potential to positively affect the use and implementation of online learning environments at the local school level and define further the impact and role of

the teacher in implementation and use of these methods of instructional delivery. This research may also yield specific characteristics of teachers who are more likely to be successful in the use and implementation of online learning environments.

Summary

Online learning environments have been in use for over a decade. What was once thought of as a way to teach adult learners, has now found its way into P-12 schools across the country. There use of the Internet classes in the P-12 arena has been largely limited to virtual schools operated at the state level. Much of the research to this point has been devoted to barriers, design and development, success, and best practices. Online learning environments may soon transition more extensively to the building site or regional level in order to become more accessible to students. In order to use this type of learning environment schools, districts, and regions should be able identify teachers who are prepared to work with this type of lesson delivery.

Online learning environments allow flexibility for students and instructors. Both are able to access and work with class material anywhere and anytime there is Internet access. With online courses being frequently based upon a student-centered philosophy, Ally (2004) asserts that when learners have access to the Internet to obtain information, teachers find it easier to direct learning to meet the needs of the learner. In directing the learning, teachers are able to make assignments so that learners will achieve the desired outcomes. This study was designed to assess the perceptions of teachers regarding this type of learning environment.

CHAPTER II

REVIEW OF RELATED LITERATURE

Introduction

Chapter II provides a theoretical framework for the study and reviews research and professional perspective literature that address online learning environments. Online learning or online classes have not been in existence long in the P-12 public school arena but have experienced tremendous growth in the past decade. Online learning environments are still in their early development in many respects and the full potential has yet to be realized. Koohang and Durante (2003) recognize, even as the interest continues to grow for online learning and the Internet, which this form of lesson delivery is still in its infancy. Online courses were first developed and offered at the post-secondary level for adult learners. This type of lesson delivery via the Internet continues to be more prevalent at the university level.

Supporters of online education have cited the medium's ability to provide educational opportunities to students who have historically been deprived of advanced educational instruction. Many earlier supporters saw online classes as a way to not only provide self-paced instruction to students, but to also provide students, in particular those in isolated or rural areas, access to classes that had previously been unavailable to them, due limited enrollment, lack of trained staff, or school district recourses (Bral, 2007).

While early supporters saw the benefits online courses could provide in terms of student access to a more diverse curriculum and new educational opportunities, even they failed to recognize the advantages the Internet provided for new educational design and the unique pedagogical possibilities of learning online. Online courses were heralded as a

new way to provide needed access to curriculum, but not as a new way to provide content and context to students who had come of age in a technologically advanced society. The deeper understanding of the role web-based courses could play in education had not yet been realized when early programs started presenting online curricula in the late 1990s and the early part of the 21st century. The role of the Internet in learning was conceived of as limited to its role as a new delivery model, and not that of an entirely new pedagogy for a new generation of students (Bral, 2007).

Since the inception of P-12 virtual schools in 1996, teaching and learning in these schools continues to be an attractive option for some contemporary schools. Twenty-four state-led virtual schools were in operation by 2006, while 12 other states were in the process of implementing them (Watson and Kalmon, 2006). The National Center for Education Statistics (2004) reported that in the school year 2002-2003 approximately 36% of public school districts across the nation, enrolled students in some type of distance learning course. The state of Michigan mandated virtual learning in 2006 and required that every student have an online learning experience prior to high school graduation (Brumfield, 2006). This chapter reviews the literature related to issues surrounding online learning environments. The focus is on the literature related to current online learning use, popularity, contemporary student's today, effectiveness/ineffectiveness of online learning, and the development, design, and instructional elements associated with online learning.

Theoretical Foundations

In his paper entitled “Toward a Theory of Online Learning”, Anderson (2004a) asserts that a “good learning theory helps us make things. We need theories of online learning that help us to invest our time and limited resources most effectively” (p. 33).

The behaviorist approach was applied to the design of the earliest computer learning systems. Behaviorists claim that observable behavior provides evidence of learning has occurred, but does not disclose what the learner is thinking. There began to be a shift away from the behaviorist theory when it was realized that there might be more to learning than a change in behavior and that not all learning can be observed (Ally, 2004).

In an effort to explain distance education, the Theory of Transactional Distance by Michael Moore (1997) has been used often by theorists. The theory identifies distance as a pedagogical phenomenon. The sense of distance a learner feels during the learning process goes beyond space and time and focuses on student interaction and engagement in the learning experience (McBrien, Jones, & Cheng, 2009). Clive Thompson (2008) reinforced these concepts with the theory of ambient awareness. Ambient awareness has been described as being physically near someone and noticing his/her mood through little things such as body language, sighs, and stray comments. The Internet has allowed individuals to develop this type of awareness with other people even while not physically occupying the same room, state, or even country through blogs and post and chat components of online learning environments and social networking. These personal posts to the internet are not so much about telling everyone everything he/she is doing or knowing everything that everyone else is doing. These personal posts give him/her an

ambient view into what is going on in the lives of whomever they follow and who is following them. This phenomenon makes one feel much more connected to others than they might otherwise. Having an online audience viewing his/her personal posts can make self-reflection more acute as he/she tries to describe day-to-day activities in a way that is not necessarily accurate but interesting to others (Burn, 2008). People are now able to use any number of digital resources that allow them to span time and space in order to stay in contact with others about almost anything.

Many of the developments in contemporary online learning programs are based on constructivist beliefs, which emphasize child-centered learning environments supportive interactions by teachers, construction of knowledge richness of context, and connection of experience to learning (Kelland, 2006). According to constructivist theory, the learner should be encouraged to ask essential questions about the concepts to which he or she is introduced. From those questions and dialogue with other learners, the learner is encouraged and supported as he or she constructs knowledge regarding the concepts and the essential questions he or she has developed. In the constructivist model, learning becomes very personal, and thus, it is theorized, the learner is highly motivated and engaged. Instead of focusing on just content, the teacher focuses on the context of the information gathered and learners are encouraged to construct their own meaning from the information they have gathered (NSF, 1994).

With online learning environments being developed very consistently with constructivist beliefs, developers believe that learning should foster an integration of thinking, feeling, and acting. Constructivists see learners as being active participants rather than being passive receptors. In this concept, knowledge is not received from the

outside or given by someone else, it is an active process by which learners interpret and process the information they receive to create knowledge. In this concept, the learner is taking an active role, he or she is in the center of the learning process, and the instructor acts as an advisor or facilitator of information (Duffy & Cunningham, 1996). Other constructivists believe that learners synthesize information presented to them based on their current situations. For these learners they internalize information by observing, processing, and interpreting so they can apply it to their personal lives (Wilson, 1997).

Constructivists view of the use of technologies as supporting the development of higher-order thinking skills that students could use to succeed with real, open-ended questions, much like those they will have to address throughout their adult lives (Agostinho, Meek, & Herrington, 2005). Learning in this context is moving away from one-way instruction to an interaction between instructor and learner in which the learner constructs and discovers knowledge (Tapscott, 1998). Current research suggests that teachers applying constructivist-learning theories are more likely to show an effective and consistent use of technology in the classroom (Becker & Riel, 2000; Judson, 2006; Kadel, 2005; Oosthoek, 2005; Vannatta & Fordham, 2004). Duffy and Jonanssen (1992) pointed out early on that instruction “should not focus on transmitting plans to the learner, but rather in developing skills of the learner to construct (and reconstruct) -plans in response to situational demands and opportunities” (p. 4).

Regardless of the theory cited, the purpose and application appear to be the same: to differentiate instruction and offer multiple learning opportunities to learners when designing lessons. In the design and development of online learning, there are several unique challenges as well as opportunities presented to developers. The most obvious

challenge is that online learning is not appropriate for all learners. Students who prefer a more hands-on or kinesthetic learning environment may well feel frustrated with the primarily text-based nature of many online classes. In addition, auditory learners who prefer hearing and discussing the material presented will be equally frustrated with the text-based nature of online classes. At the same time developers who have successfully integrated the resources for collaboration and virtualization offered by the Internet may be able to design curriculum that is more engaging to learners who prefer a more hands-on and non sequential style of learning. Additionally, a well-designed online class should allow a learner to move through the curriculum at a speed and pace they are comfortable with versus the traditional classroom in which all learners are expected to learn at the same pace (Gladstein, 2008).

Educators have long known that not all students learn in the same manner; individual students exhibit strengths and weaknesses in different areas. Some students seem to learn more effectively when reading new material, while others learn better, when the material is discussed in the classroom. Some students seem to thrive in an environment where they can freely explore information on their own, while others do better in an environment where the information is presented in a sequential manner. For years, teachers have been aware of the various learning style theories popular in P-12 education. Gardner's work in multiple intelligences aligns well with constructivist's beliefs of online learning. He identifies and discusses seven unique intelligences: "linguistic, logical-mathematical, intrapersonal, spatial, musical, bodily kinesthetic; and interpersonal" (Berge, 1999, p. 5). Theories that are more traditional identify students'

learning styles as concrete versus abstract, sequential versus random, and auditory versus verbal learners.

Condie and Livingston (2007) point out that in online learning environments the focal point in the traditional classroom shifts from teachers being the transmitter of information to students, to the students actively engaging in the learning process. In this type of environment, teachers not only must have knowledge of their subject but also must be competent in creating active learning environments to engage students in the learning process. Von Glasersfeld (1995) compares the role of the teacher in his radical constructivist conception of learning to that of a “midwife in the birth of understanding” rather than the “mechanic of knowledge transfer” (p. 375). Smith (2005) concludes that within most online learning environments, students may view communications from the teacher and other students of equal importance.

As has been documented from the research, in a constructivist setting, transmission of knowledge is not the only objective. The role of the teacher for online learning environments when implementing constructivist beliefs is to be an organizer. The teacher gathers information and disseminates ideas, questions and differing situations to get students involved. With the advent of web-based courses and online education, it is necessary to carefully consider how the use of technology and the teacher’s perceptions of this format, foster the learning intended. In online learning environments, there are two important components of the teachers’ role: first, they should introduce new ideas when and where necessary and give support and guidance to students in order for them to gain personal understanding. The second requirement is for the teachers to use effective

instructional practices to evaluate lessons and provide ways in which the lessons may be interpreted by the student.

Current Trends in P-12 Internet Use

Many P-12 schools have not yet embraced online learning as a means of delivery for distance education. Several previous studies have found that the majority of students and teachers have a positive opinion of online classes and use of the Internet. Blanchard and Marshall (2004) reported on a 2001 poll that posed the following question to United States students aged 6 to 11: "What makes a new subject in school most interesting to you?" (p. 43). The most common student response (34%) was the Internet; this indicates that students hold a positive view of Internet-based learning. Project Tomorrow (2006) conducted another study of students who had taken an online course, or knew someone that had taken an online course. Their study found that 65% of students reported online learning as a positive experience. The student responses in the survey indicated that online classes provided them with learning opportunities not offered at the school. It was also noted that online courses were good options for students who want a nontraditional high school experience or want to take classes outside of school hours. Teachers in the survey agreed; 86% of them indicated at least one benefit of online learning.

Out of nearly 50 million students, there were an estimated 328,000 P-12 students enrolled in distance education courses during the 2001-2002 school year, with 68% of those enrolled in online courses. The number of high school students enrolled in online instruction represented a very small portion of the high school population (likely less than 1-2%). Picciano & Seamen (2007) updated the estimated the number of online enrollments to around 700,000

Setzer and Lewis (2005) conducted a national study using a representative sample of 2,305 school districts across the country and discovered that during the 2002-2003 school year, online courses were not the most common delivery method for distance education in schools. Two-way interactive video, used by 49% of the sample, was the most common technology used to deliver distance education courses. Internet courses followed, with 35% of the districts using asynchronous Internet courses and 9% using synchronous Internet courses. The preference for using video-based (TV) distance education modalities may have arisen more from administrator beliefs, than from actual benefits of the two types of technology. The use of video-based delivery may be driven more from administrator beliefs even, though Patton (2005) found that the current generation of students spends more time on the Internet than watching television. Administrators typically came from a generation that is more comfortable with TV than with the Internet.

DeBell and Chapman (2006) conducted a recent national study on computer and Internet use among students and found that 97% of students in grades 9-12 use computers, with 91% of students reporting computer use at school. Additionally, 79% of high school students (grades 9-12) use the Internet. Students reported a variety of locations for Internet use. Sixty-four percent (64%) reported accessing the Internet from their homes, 15% from libraries, 14% from others' homes, and 63% reported accessing the Internet at school.

Parsad and Jones (2005) found that in 2003, 100% of public schools reported having Internet access. The ratio of students to instructional computers with Internet access fell from over 12 to 1 in 1998 to just over 4 to 1 in 2003. Many of these students

relied on the school to provide computer and Internet access since they tended not to have computers in their homes. The National Association of State Boards of Education (2001) suggested that in order to assure equity in access to online learning opportunities, schools must provide all students with access to adequate equipment, fast Internet connections, and the other resources needed for online learning. Schools should also actively seek collaborative partnerships with other agencies to ensure continued student access to online learning outside the normal school hours and calendar.

In 2009, more than half of the U.S. states operate some kind of online learning environment for P-12 students. This number represented an increase of 15 states over a two years period. Of the 26 states utilizing online programs, a dozen reported at least a 25% increase in enrollment since 2007 (Manzo, 2009). Florida and California accounted for the largest number of students enrolled. In Florida, nearly 57,000 students generated 250,000 course registrations. California has nearly 33,000 students enrolled even though there is no state initiative (Center for Digital Education, 2008).

Perspectives Regarding Online Learning Environments

The interest in online classes has increased in recent years. As online education grows, it may benefit many with the delivery of rigorous and relevant courses necessary for graduation and developing job skills. At the high school level, a rigorous curriculum means meeting state and local standards along with other criteria required by higher education and the work world (Bral, 2007).

Current economic conditions are causing school district leaders to search for new and more cost effective opportunities to provide quality education. In many cases, these leaders are seeing online learning as a potential win/win situation. This form of lesson

delivery allows them to maintain instructional quality and consistency while reducing key operational costs (Eduviews, 2008).

Watson (2007) reported that online classes have become more popular with secondary school students in need of taking classes not offered by their schools or those who want to make up additional credits outside of the normal school hours. He found students enjoy the flexibility of online classes, and the number of secondary students in online classes is continuing to grow each year.

While many states do not collect data pertaining to online courses usage, the Iowa Department of Education has collected data annually since the inception of online courses. They report that during the school year 2005-2006, 89 of the state's 265 school districts offered at least one (1) online course (24.3%). Courses offered by district range from 1 to 23 courses. Over half of the districts that offered any online course only offered 1-3 courses (Watson & Ryan, 2007). From 2006 to 2008, Iowa experienced a 20% growth in enrollment with 567 students enrolled in online classes (Center for Digital Education, 2008).

Watson and Ryan (2007) reported that Missouri began the development of a virtual school in 2006 with plans to enroll students for the school year 2007. Missouri also operated two university-based online learning environments for P-12 students (Watson & Ryan, 2007). Since its inception in 2007, Missouri has witnessed a 20-30% growth in enrollment, with 10,500 students enrolled in their state-led program (Center for Digital Education, 2008). Nebraska has two university-based high school programs and passed legislation in 2006 to increase online learning initiatives (Watson & Ryan, 2007). Currently Nebraska does not have a State funded online learning program. The state

however, does allow individual districts to provide online learning environments for which the state provides reimbursement (Center for Digital Education, 2008).

Although distance education was proposed by many as a solution that would allow small and/or rural schools to expand their course offerings and provide students with educational opportunities comparable to those found in larger suburban and urban districts, study results indicate this has not occurred on a consistent basis. Setzer and Lewis (2005) found the size of the school was positively correlated with the likelihood of having students enrolled in online courses. The larger districts, approximately 50% of them, were more likely to have students taking online courses, while 32% of the medium size districts and 37% of the small districts reported student use of online sources. On the other hand, 46% of rural school districts reported having students enrolled in online classes compared to only 28% suburban districts and 21% of urban districts. To further illustrate the lack of consistency in distance learning in rural schools a study conducted by Hannum, Banks, Barber, Farmer, Manturuk, Robertson. & Veal, (n.d.), found that 84.5% of districts reported using distance education in the past but only 69.8% (275 districts) reported the current use of any type of distance education suggesting that distance education use may actually be decreasing in rural schools.

Kennedy (2003) examined student motivations for enrolling in online classes and found postsecondary and secondary students had similar reasons, including (a) a lack of time to take a face-to-face class, (b) the class was only being offered online, or (c) the students did not want to attend class on a fixed weekly schedule. The initial motivation of both groups for taking online classes rather than face-to-face classes, based on the aforementioned answers, appears to be related principally to scheduling.

Attributes of Contemporary Students

The current generation of students has never known a world without cell phones, video games, instant messaging, and the Internet. Prensky (2001) refers to this generation of students as “digital natives” because they fully embrace and use the technology around them. According to Prensky (2001), teachers, along with many other adults in this generation, are known as “digital immigrants” because of the lack of effortless use of technology.

Tapscott (1998) used the term “Net Generation” to identify the original online generation students. He described them as diverse, curious, and self-reliant. Those students expected education to be interactive and engaging. They focused more on knowing than doing. Students of the “Net Generation” were expected to use the Internet and all of the online tools it possessed, along with the skills they developed in using it (p. 15).

Prensky (2008) makes this point about students today and the current state of education:

Although much in twenty-first century P-12 education still needs to be figured out, such as creating a generally agreed upon twenty-first century curriculum, one goal is, I think, now clear – the pedagogy with which our kids should be taught. Although it can be stated in many ways, the basic direction is away from the “old” pedagogy of teachers “telling” (or talking, or lecturing, or being the “Sage on the Stage”) to the “new” pedagogy of kids teaching themselves with teacher’s guidance (a combination of “student-centered learning,” “problem-based

learning,” “case-based learning,” and the teacher’s being the “Guide on the Side”).

Of course, this pedagogy is not really new, except, at the moment, to many of our teachers. Every teacher and administrator is, currently, somewhere on a continuum between the old and the new paradigms. Our Herculean task is to move all of them, around the world, to the new pedagogy as quickly as possible. (p. 2)

In identifying this need, Prensky (2008) also identifies the need and use of technology such as the Internet:

Today’s technology, though, offers students all kinds of new, highly effective tools they can use to learn on their own – from the Internet with almost all the information, to search and research tools to sort out what is true and relevant, to analysis tools to help make sense of it, to creation tools to present one’s findings in a variety of media, to social tools to network and collaborate with people around the world. In addition, while the teacher can and should be a guide, most of these tools are best used by students, not teachers. (p. 2)

Jukes and McCain (2001) discussed how students today operate at what he refers to as *twitch speed*, while educators have been only comfortable with a more traditional slower pace of learning. The premise for many educators for the introduction of any material in a classroom is “just in case” while today’s students have been looking for “just in time” learning. One can only imagine the frustration for learners who are forced to slow down and disconnect from the digital, networked world they have thrived in when they enter traditional U.S. classrooms.

Vedoe (2004), a proponent of online learning, suggested:

For today's students, an online learning environment may seem more natural to them than the traditional classroom. This is, after all, the generation that regularly communicates by instant messaging, looks first to the Internet for information, and is more comfortable with digital media than print. (p.6)

Effectiveness/Ineffectiveness of Online Learning

Studies have documented both favorable and unfavorable perceptions of those involved with online learning environments. Sherry (2000) notes that a learner's technical ability and learner characteristics may determine whether online learning environments are effective. Effectiveness could be described in terms of one's ability to help users meet their goals for education.

Proponents of online learning are quick to note the research and professional perspectives. The Sloan Consortium (2004) survey stated that, online teaching is "critical to the long term strategy," of schools (n.p.). Almost 75% of those surveyed reported the quality of learning in an online setting as being as good as or better than that in face-to-face instruction. Online learning environments help to promote critical thinking skills, deep learning, collaborative learning, and problem solving skills in students (Draves, 1999; Pallof & Pratt 2001; Yang & Cornelius 2007). Online environments allow schools to offer more curricula for less money all the while helping students gain technology skills they will need beyond their high school years.

A major concern of online learning environments is the quality of education compared to the traditional face-to-face classroom. Supporters of online learning environments believe that they can encourage non-discriminatory teaching and learning

practices since none of the participants are meeting face-to-face. Pallof and Pratt (2001) make the argument that since the teachers and students cannot see the race, gender, or physical characteristics of one another online education presents a bias-free teaching and learning environment.

McVay Lynch (2002) has identified other benefits for online education, which include:

1. All course content is in one accessible location for students and teachers;
2. Different learning styles can be addressed;
3. Active learning is increased;
4. Learning communities are fostered;
5. Students enjoy using a variety of media to learn concepts and theory. (135-138)

Draves (1999) makes the point that cognitive learning in an online environment is equally effective as the face-to-face environment, with the emphasis placed on cognitive learning, not all learning. He notes that learning factual data and knowledge can be better in the online learning environment because students learn at their own pace, in an asynchronous format, at their (individual) peak learning time. He suggested that learners can focus more on specific contents areas, can test themselves more frequently, and can have more interactions with teachers in online learning environments. Draves also recognized the significant potential of online learning and predicted, “online learning will do for society what the tractor did for food” (p. 163).

A study by Pena-Shaff, Altman, and Stephenson (2005) seems to contradict the conclusions of those who assert the benefits of online learning. In this study, students

reported that online teachers seemed to be less involved, less supportive, and less concerned about individual progress in the course. Students saw little value in the forums and threads between students and felt distanced from the online instructor. One possible answer noted in the study is that the discussion forums were not designed for active engagement of students in learning. This lack of activity produced a more negative than positive impact on student engagement in the course.

A study conducted by Ward, Peters, and Shelley (2007) looked at the perspectives of instructors and students regarding online learning and face-to-face environments. Instructors in this study identified significant challenges with implementation of the technology but did not indicate this had an influence on the social interaction for students or the quality of the learning experience. The majority of instructors in this study indicated they would continue to use this format of lesson delivery. While students from this study indicated a preference for synchronous online learning over face-to-face formats, they also indicated that the quality of collaboration in this online medium was not as strong as with face-to-face classes. They further indicated that they preferred a face-to-face classroom to the online courses in an asynchronous format.

Bernard, Abrami, Yiping, Borokhovsk, Wade, Wozney, Wallet, Fiset, Huang (2004) conducted a meta-analysis of the comparative distance education literature between 1985 and 2002. Of the 232 studies, they analyzed 688 independent achievement, attitude, and retention outcomes. The results from this study yielded no effect between all three measures and wide variability of the three. These results suggest neither distance education nor the face-to-face classroom preformed more significantly than the other does. After dividing achievement outcomes into synchronous and asynchronous forms,

they found that distance education produced a somewhat different impression. They found that participants at the mean for synchronous applications favored classroom instruction, while participants at the mean for asynchronous applications favored distance education.

A Canadian study found that the general perception of the public was that e-learning is a rapidly growing field in education. Some of the respondents were concerned that Canadian education agencies would come under pressure to expand their online offerings because of growing enrollments leading to a decrease in traditional classes. There was also the perception that e-learning could provide greater access to educational programs for students who may not be able to participate in them. From this study emerged two major concerns. First, the potential high cost of a system such as this and the potential risk that money may be diverted away from the more traditional formats of learning. Secondly, this type of learning environment may have a negative impact on the development of children's creative skills. For the most part, participants recognized that teachers and classrooms in any form are a necessary part of an educational system. A teacher's ability to communicate with students and facilitate learning is still highly valued (Abrami, et al., 2006).

Development and Design

Online courses can be developed in-house by the teachers in the program, purchased from software vendors and taught by the program teacher, or collaboratively created with other instructional agencies. In the early days of online courses, one of the more widely used methods of development was to provide faculty members with time away from their teaching duties and/or stipends for developing and delivering their own

courses. A group of faculty members who believed that information technology could transform learning developed these early online courses (Oblinger & Hawkins, 2006). Morris & Hinrichs (1996) early on suggested the design of online learning environments require more than placing information on the web. They believed that this type of learning environment dictated that teachers and developers acquire the necessary skills in order to communicate effectively with learners.

Initially, as online courses were developed for high school students, the same development criteria and models used for traditional postsecondary classes were applied to these new classes. Carr (2000) noted that P-12 students had a passing rate of less than 50% in the early online classes. Fortunately, educators paid attention to the failure rate among students and several features were added to online courses for P-12 students. These features involved an increase in avenues for collaboration among the students in course, an increase in the use of visual elements to enhance the course designs, and the use of simulations and interactive elements to engage the student learners. Additionally, teacher and student trainings were developed to teach students how to learn online and to help teachers learn how to teach online. These added features contributed to a dramatic increase in the completion rate for online classes. After adding these features, the Florida Virtual Schools experienced a 90% completion rate by students (Agostinho, Meek & Herrington, 2005).

Condie and Livingston (2007) believe that three significant strands have emerged from the development of online learning: (1) using new technologies, (2) shifting away from fact learning to students learning to learn and (3) adopting constructivist theoretical underpinnings to learning and teaching. When online learning instructional programs are

designed applying these three strands, students not only focus on the message but also interact extensively with each other and with the instructor.

Rosset (2002) believes that in order to optimize these technologies for the P-12 environments, P-12 organizations need to emphasize that online environments or classes be designed properly with learners and learning as the foci. Design is not enough however, there should be continuous support afforded the program. Yang and Cornelius (2007) assert, “To ensure the quality of online instruction, the online learning environment must be designed first before the instructor embarks on the online course delivery” (p. 7).

One of the biggest design parameters to emerge from this restructuring of online classes is the recognition that high school is a social experience for students and online designers should address the social needs of the learners when designing the courses. This means the development of more collaborative, team-based projects for online learners (Carr, 2000). Keller (2003) noted that flashy designs do not necessarily make a better course. He further asserted that in an online class, it was difficult for a high school student to assume the traditional role of passive learner. Some students were uncomfortable with a more active and engaged role. Designers should be aware of this and build sufficient opportunities into their online courses to provide support for students so they become comfortable with their new roles as active, engaged learners. Students would be quickly disenchanted with the course and feel uncomfortable with the level of interaction required in an online class especially if that interaction does not seem relevant or realistic.

Oblinger & Hawkins (2006) believe that institutions that want to develop and deliver online courses need to address the following questions:

1. *What is the best use of the faculty member, an expensive institutional resource?* Online courses involve many components: technical architecture, instructional design, graphic design, intellectual property and copyright clearance, and subject-matter expertise. The faculty makes up an institution's most highly trained, valuable resource. Is making them responsible for activities for which they are not trained (e.g., instructional design) and in which they may not be interested (e.g., technical architecture) the best use of their time? On the other hand, would a team approach work better?
2. *Does the institution have a process for strategically investing in course development?* What brings more value to an institution from online courses: having random courses available online, or having an entire program available online? In the early phase of online course development, faculty pioneers proved that putting courses online was possible. However, to sustain the required investment—in faculty time and in support—online learning must be visible and viable. Are the advantages of online learning undercut because only one course per department is offered? Visibility becomes important once the pioneering phase has passed, as does also critical mass: programs must have enough online courses available to attract students to the offerings. In addition, the more courses that are developed within an individual unit, the deeper will be

that unit's expertise, making success increasingly likely. Pursuing the "let a thousand flowers bloom" approach to online course development may not result in maximum impact for the investment.

3. *Does the institution confuse providing content with creating a learning environment or delivering a course?* When putting a course online, an institution may be tempted to focus on the content. However, institutions should be clear about what defines a course. If a course is simply the equivalent of its content, why do books rather than classrooms and faculty not define courses? A course involves content, to be sure, but it also involves interaction, dialogue, mentoring, and coaching. Clearly, content can be hosted on the Web, but how will interaction be handled? What technical infrastructure will facilitate communication and collaboration? In addition, what pedagogical approaches will draw students in, motivating them to learn more? How an institution defines, a course may well determine its success with online learning.
4. *What is the return the institution hopes to see from our investment in course development?* In the early days of online learning, many institutions believed they would "strike it rich" by enrolling tens of thousands of students. Today's expectations are more realistic. Online learning offers needed flexibility to time-constrained students. Investing in online course development may help the institution graduate students on time while avoiding opportunity costs for the student and capacity constraints for the institution. However, online course development

typically catalyzes a fundamental rethinking of the course, the content, the learning activities, and the desired learning outcomes. This re-examination exists at the program level as well. With information changing rapidly, with new disciplines arising constantly, and with the understanding of how people learn growing progressively more sophisticated, the reexamination catalyzed by online learning may be one of the best investments an institution can make. Institutions that are sincere about providing high quality, flexible educational experiences are finding that teams—not individuals— develop and deliver the most effective online courses. (Oblinger & Hawkins, 2006, pp.14-15)

Barbour (2007) developed seven principles for course developers to use in the development of asynchronous web-based online learning content.

1. Course developers should, prior to beginning development of any of the web-based material, plan the course with ideas for the individual lessons and specific items that they would include. This guideline was probably best described by George, one of the participants of the study. Do not attempt to write anything, do not attempt to construct anything, until you have designed your project out from end to end, from start to finish... if you fail to do this... and make a misstep... undoing that mistake usually means changes that percolate right through the web of the work that you've constructed... Second thing is that when you take the time to lay your project out from start to finish, the chances are you will confer with other people and that means that you will add layers of ...

important content ... to your project that would not otherwise have been there if you did not take the time.

2. Course developers should keep the navigation simple and to a minimum, but do not present the material the same way in every lesson. The participants of the study felt that diversity was necessary because, as they would be in the classroom, students become bored if these are presented to them in the same way every time.
3. Course developers should provide a summary of the content from the required readings or the synchronous lesson and include examples that are personalized to the student's own context. Participants felt it was important to consider the use of examples that the students were able to personalize to their own contexts.
4. Course developers should ensure students are given clear instructions and model expectations of the style and level that will be required for student work. The participants felt strongly that the directions and expectations be precise enough that students would be able to work effectively at their own pace and understanding and do not present a roadblock.
5. Course developers should refrain from using too much text and consider the use of visuals to replace or supplement text when applicable. Participants felt that course developers should use strategies to shorten long portions of text, using visual images. Visual images allow course developers to break up the amount of text presented to the students.

6. Course developers should use multi-media to enhance the content and not simply because it is available. All participants agreed that multi-media should be specific to the curriculum and does not have to be some sophisticated piece of computer programming.
7. Finally, course developers should develop their content for the average or below average student, while including enrichment activities for the above average student. The participants agreed the in order for web-based content to be accessible by all students; it would need to be designed in this manner. (pp. 101-107)

As is evidenced by the literature, design and development of online instruction can take on many facets. It is up to the individual districts and schools to determine which avenue they will take in order to effectively serve their purpose. Design of an online learning environment should not be the one factor that keeps schools from implementing such media.

Barriers to Online Learning

Hancock-Niemic, Llama, Martin, Mansfield, and Klein (2004), identified barriers to online learning and grouped them into three categories: administrative/strategic, experience/knowledge, and motivational/incentive. Time, critical experience, and knowledge of teachers related to online instruction and technology, and motivation to complete additional duties were all identified in the study as factors that hindered the process of online course development. Hannum et al. (n.d.) also sought to identify barriers to distance education use in three main areas: finance, technology, and beliefs about distance education. Additional factors that were identified as barriers by a majority

of teachers were lack of sufficient funding for distance education (62.7%), problems scheduling distance education courses (57.4%), and lack of priority given to distance education (53%).

Maddux (2004) suggests that one of the more significant barriers to integrating Web-based instruction in K12 schools may be a pedagogical issue. He suggested that there is a need for a paradigm shift for Web integration to be fully realized in P-12 schools. Attitudes, values, and resistance to change all needed to be addressed in P-12 and “how we think about teaching and learning” and “what we value about schools and schooling” are barriers to the changes needed (Maddux, 2004, p.158). Maddux (2004) asserts that the educational culture would need to undergo significant change in order to remove barriers related to Web integration in P-12 schools equating to what would be called a “megachange” (p.159). Vail (2001) voiced concern that online programs would be used as dumping grounds for troublesome or unwanted students. She was concerned that these students may be deprived of things vital to education such as social interactions and collaboration with other students and teachers.

In a large-scale factor analysis, Muilenburg and Berge (2001) determined the underlying constructs that could provide a framework for the barriers to distance education.

1. Administrative structure: The current administrative structure is not conducive for forming partnerships to reach agreements on fiscal issues where online learning environments are concerned.

2. Organizational change: The current organizational structure does not allow for collaboration within the organization in the development of a strategic plan, having a shared vision, supportive of distance learning.
3. Technical expertise, support, and infrastructure: The lack of technical skills by the teachers, along with the lack of support staff, and the lack of infrastructure makes changing to online learning environments further difficult.
4. Social interaction and program quality: Moving from the traditional social structure of the face-to-face classroom, along with the concerns about the quality of education in a student-centered, collaborative online environment have raised concerns.
5. Faculty compensation and time: Greater time requirements to administer online learning environments have led to questions and concerns over greater compensation for teachers.
6. Threat of technology: Teachers feel threatened that one day technology will replace them. Many teachers are intimidated by the use of technology to the point of being insecure about their jobs.
7. Legal issues: The use of the internet, with its ability to access information with seemingly no boundaries, for lesson delivery has posed new and unique legal problems for administrators.
8. Evaluation/effectiveness: There has been little research on the effectiveness of distance learning as well as effective evaluation procedures have led to concerns.

9. Access: Problems have arisen since online learning environments give the appearance is that students and teachers have almost unlimited access to the Internet, with all of its resources. In other cases, districts struggle to develop adequate access because of geographic location.
10. Student-support services: Institutions are struggling to find ways to develop adequate student support services such as advisement, library services, and financial aid for online learning environments.

Anderson (2004b) discussed some of the challenges that online learning has presented educators. In particular, he referred to preconceived notions some may have regarding online learning versus digital and networked experiences outside of the classroom. Anderson also questions the fact that some online experiences may be significantly different from others and the fact that different rules of behavior, grammar, and content sharing exist.

Instructional Elements

In order to allow students to choose their learning opportunities and learning style that best suits their personality, education pedagogy will need to evolve. This evolution of pedagogy will allow students to determine their learning opportunities that best suit their professional and technology needs in order for them to pursue different work opportunities. The traditional high school setting, offering only the face-to-face lecture classroom is quickly becoming out-dated for today's student. Students need flexible learning environments that provide new learning experiences (Young 2005a, 2005b).

Palloff and Pratt (2001) make the point that online teachers need to go beyond traditional pedagogy and use more facilitative practices. The constructivist approach to

online learning requires that teachers to go beyond being information providers. Instead, the teacher is asked to be an organizer, a facilitator of information, and to be an instructor who takes information and distributes it in many different ways. Teachers are asked to assist students in order to develop new approaches to learning, to help connect previous learning and ideas to the present (NSF, 1994).

Pape (2005) points out “the power of online education lies in its ability to support today’s students with learning activities and assessments” (p. 13). Typically, students in online classes read and respond to the material posted, and discuss the material placed by other students and the instructor in chat or threaded discussion sites within the course. This differs greatly from the typical lesson preparation and delivery and learner activity in a face-to-face P-12 classroom. Synchronous online learning environments, particularly when complemented by two-way audio technology, more closely approximate the interactions typical of face-to-face instructional settings.

Online learning environments have caused P-12 policymakers to re-think the roles of the teacher. Teacher readiness is related to the success and implementation of online learning environments. Differences in the levels of readiness for teachers may be manifested as follows:

- lack of teacher confidence in the technical aspects of hardware use
- skepticism about the benefits of online classes
- reluctance of the teachers to give up the role of the expert transmitter of knowledge (Condie and Livingston, 2007).

Phipps and Merisotis (2000) have identified 24 benchmarks against which to measure the effectiveness of Internet-based distance learning programs. There were 45

original benchmarks, identified in literature from organizations operating distance-learning programs. In comparing all of the benchmarks, the list was narrowed to 24, with several being combined and 13 others being eliminated. The 24 benchmarks remaining related to the successful development and implementation of online learning technologies. The benchmarks, considered essential for ensuring excellence in Internet-based distance education, fall into the categories of institutional support, course development, teaching/learning process, course structure, student support, faculty support, and evaluation and assessment:

1. A documented technology plan that includes electronic security measures is in place and operational to ensure both quality standards and the integrity and validity of information.
2. The reliability of the technology delivery system is as failsafe as possible.
3. A centralized system provides support for building and maintaining the distance education infrastructure.
4. Guidelines regarding minimum standards are used for course development, design, and delivery while learning outcomes-not the availability of existing technology-determine the technology being used to deliver course content.
5. Instructional materials are reviewed periodically to ensure they meet program standards.
6. Courses are designed to require students to engage themselves in analysis, synthesis, and evaluation as part of their course and program requirements.

7. Student interaction with faculty and other students is an essential characteristic and is facilitated through a variety of ways, including voice mail and/or email.
8. Feedback to student assignments and questions is constructive and provided in a timely manner.
9. Students are instructed in the proper methods of effective research, including assessment of the validity of resources.
10. Before starting an online program, students are advised about the program to determine (1) if they possess the self-motivation and commitment to learn at a distance and (2) if they have access to the minimal technology required by the course design.
11. Students are provided with supplemental course information that outlines course objectives, concepts, and ideas, and learning outcomes for each course are summarized in a clearly written, straightforward statement.
12. Students have access to sufficient library resources that may include a “virtual library” accessible through the World Wide Web.
13. Faculty and students agree upon exceptions regarding times for student assignment completion and faculty response.
14. Students receive information about programs, including admission requirements, tuition and fees, books and supplies, technical and proctoring requirements, and student support services.

15. Students are provided with hands-on training and information to aid them in securing material through electronic databases, interlibrary loans, government archives, news services, and other sources.
16. Throughout the duration of the course/program, students have access to technical assistance, including detailed instructions regarding the electronic media used, practice sessions prior to the beginning of the course, and convenient access to technical staff support.
17. Questions directed to student services personnel are answered accurately and quickly, with a structured system in place to address student complaints.
18. Technical assistance in course development is available to faculty, who are encouraged to use it.
19. Faculty members are assisted in the transition from classroom teaching to online instruction and are assessed during the process.
20. Instructor training and assistance, including peer mentoring, continues through the progression of the online course.
21. Faculty members are provided with written resources to deal with the issues arising from student use of electronically accessed data.
22. The programs educational effectiveness and teaching/learning process is assessed through an evaluation process that uses several methods and applies specific standards.
23. Data on enrollment, costs, and successful/innovative uses of technology are used to evaluate program effectiveness.

24. Intended learning outcomes are reviewed regularly to endure clarity, utility, and appropriateness. (p. vii)

Many teachers have never been exposed to online teaching techniques or the technology needed for online classes. Teachers cannot be expected to automatically understand and adapt to teaching in online learning environments. A specific set of skills have been identified for teachers to be successful teaching in an online environment. Smith (2005) identified 51 instructor competencies, related to the 24 benchmarks, necessary for teachers to be effective in online learning.

In order to be successful the instructor should:

1. Act like a learning facilitator rather than a professor/teacher.
2. Avoid overloading new students at the start of the course.
3. Be clear about course requirements.
4. Be willing to contact students who are not participating.
5. Become a lifelong learner.
6. Communicate high expectations.
7. Communicate technical information in plain English.
8. Create a warm and inviting atmosphere that promotes the development of a sense of community among participants.
9. Create an effective online syllabus – one that lays out the terms of the class interaction – the expected responsibilities and duties, the grading criteria, the musts and don'ts of behavior, and explains the geography of the course.
10. Deal effectively with disruptive students.
11. Define participation and grading criteria.

12. Develop reciprocity and cooperation among students.
13. Develop relationships.
14. Effectively and efficiently, manage the course.
15. Effectively use whatever technology has been selected to support online learning.
16. Emphasize time on task.
17. Encourage contacts between students and faculty.
18. Encourage students to bring real-life examples into the online classroom.
19. Evaluate ourselves.
20. Evaluate students.
21. Foster learning centeredness.
22. Get students to respect assignment due dates and agreed-upon working times.
23. Give prompt feedback.
24. Harness the technology.
25. Help integrate students into the institution and its culture.
26. Help students develop critical thinking skills.
27. Help students identify and use appropriate learning techniques.
28. Help students identify strengths and areas in need of improvement.
29. Keep informed of the latest trends and issues; continually improve his/her skills and knowledge.
30. Maintain the momentum of the course.
31. Make the transition to the online learning environment.
32. Manage student expectations.

33. Mandate participation. Step in and set limits if participation wanes or if the conversation is headed in the wrong direction.

34. Model good participation.

35. Network with others involved in online education.

36. Prepare students for online learning.

37. Promote collaborative learning.

38. Promote reflection.

39. Provide structure for students but allow for flexibility and negotiation.

40. Remember that there are people attached to the words on the screen.

41. Respect diverse talents and ways of learning.

42. Respect institutional performance guidelines.

43. Respect privacy issues.

44. Set up a well-organized course site.

45. Teach students about online learning.

46. Translate content for online delivery.

47. Use active learning techniques.

48. Use best practices to promote participation.

49. Use humor.

50. Use the web as a resource.

51. Most of all have fun and open himself/herself to learning as much from the students as they will learn from one another and from the instructor! (pp. 4-6)

Arguably, all of the 51 competencies identified are important since they have been identified within research, but Smith (2005) points out a need for instructors to have

18 specific competencies before ever teaching a course (Competencies # 2, 3, 5, 6, 7, 9, 11, 15, 19, 24, 29, 31, 35, 36, 39, 44, 46, 50). One of the key competencies needed (#9) is for the instructor to have created an effective online course syllabus; this enables the instructor to lay out many of the conditions for the course.

The teacher plays an important role in the implementation and use of online instruction. Research points out that teachers need to change the way they view their roles in the traditional classroom if they are to transition effectively to the online learning environments (Condie & Livingston, 2007). As has been noted, the role of the teacher changes significantly in an online learning environment. The time-honored mode of a teacher standing in front of a class and lecturing for 50 to 90 minutes is fading fast. For that reason teachers may greatly influence the implementation or success of a building-level online learning environment. Many teachers may have to relinquish what they consider a “right” to have a teacher-centered learning environment. Blending online learning with traditional practices presents a number of challenges. Teachers may feel threatened by having to change from traditional teaching methods to a learning environment in which students learn on their own via meaningful collaboration. Other teachers may feel a loss of control of the classroom and be unsure about when or how to intervene (Condie and Livingston, 2007).

Teachers and Technology

In the 21st century, technology exists in virtually every facet of daily life. It is important for teachers to be able to use technology and incorporate it into areas such as communication, preparation of materials, student progress, assessment, research and more (Brumfield, 2006; Judson, 2006). It is also important that teachers learn to utilize

modern technology in the classroom to support instruction consistent with student-centered learning. This type of instruction changes from the traditional role of the teacher as knowledge giver, to that of a facilitator of learning (McVay, 2002). In order for student to benefit fully from the use of technology, teachers must know how to properly integrate it into curriculum and use it to enhance student performance (Moursund, 2005).

As the focus in the classroom shifts from the teachers being the knowledge expert to students actively constructing learning for themselves, teachers need to adopt a new approach to instruction. The teacher will be required to know their subjects but will also need to be able to create a classroom environment conducive to students actively engaging in the learning process. The teacher's role changes to one of supporting learners enabling them to take ownership of their own learning. From this shift in the teacher's role, three strands emerge as significant: (1) their ability to use new technologies, (2) their skill in directing students in learning how to learn not just learning facts and (3) their readiness to adopt a constructivist belief regarding teaching and learning (Condie & Livingston, 2007).

In early online learning environments, the teacher was identified as the ultimate key to educational change. The level of teacher's readiness to online learning environments has been identified with the successful implementation of online learning. There can be a range of reasons for the difference in the levels. These reasons could include a lack of teacher confidence in the technical aspect of using an Information Communication & Technology (ICT) program. They may experience some skepticism about the possible benefits of such programs for their subjects, or reluctance to give up

their traditional teaching role, or simply a lack of understanding of how to promote learning within the program. Teachers may find it hard to be effective within the program, if there is evidence of any or all of these perceptions (Hargreaves, 1992).

Several threats have been perceived from the blending of online learning with traditional practices. For example, teachers may feel threatened by changing their traditional roles in teaching to that of support, where groups of students learn on their own. Others may fear a loss of identity and control of the classroom (Condie & Livingston, 2007).

Jones (2004) suggests that the degree to which teachers engage in an ICT program is impacted by their degree of comfort with technology. He says, “Many teachers who do not consider themselves to be well skilled in using ICT feel anxious about using it in front of a class who perhaps know more than they do” (p. 7).

Effective Practices

Virtual schools at the P-12 level have grown in popularity however, there is a limited research into the effectiveness of teaching and learning in this medium has been limited (Cavanaugh, Gillian, Kromrey, Hess & Blomeyer, 2004). The P-12 online environments have yielded little information about effective practices in teaching in these settings. Much of the existing research that is focused on teaching online is embedded in face-to-face content, is constructed using the post-secondary level, is not centered around content areas, or does not use data from the teachers themselves to show relationships in the data (DiPietro, Ferdig, Black, & Preston, 2008). Condie and Livingston (2007) have identified the following issues from the blending of traditional and online approaches that need to be understood:

1. the appropriate balance between these two approaches,
2. the methods of optimizing the links between teacher-directed and independent student study and
3. the implications for the role of the teachers and the students when sharing the learning process. (p. 344)

With students today being encouraged to take a more active role in their learning, teachers need to function more as facilitators, guides, and mentors. While teachers have known about these roles for some time, they have not been appropriately explored and used. Changes such as these represent a fundamental change in the identity between teacher and student. Many teachers may find this an uncomfortable experience at first, especially those teachers clinging to the “teacher expert” model. Models such as these, work against constructive change because they are so deeply embedded within the culture of today’s schools (Condie & Livingston, 2007).

Findings regarding virtual schooling and those who teach in them are instructive to the present study. Boston (2002) indicates that for teachers to be effective in online settings, they need to change from their traditional face-to-face roles. He has further identified the teacher’s use of communication tools in the online environment an important area of emphasis. Communication from teachers in the online environment should help to facilitate student learning (Volery, 2001).

Teaching in an online environment also means a change in pedagogy along with a change in instructional practices. Student learning in an online learning environment will be supported by the teacher’s knowledge of pedagogy and his/her understanding of the subject matter, such insights are necessary for the development of appropriate

instructional elements (Rovai, 2001). Ferdig (2006) further suggests that the use of technology by the teacher should be based on the teacher's knowledge of pedagogical content. Teaching in online environments will require the integration of technology in the effort to support student collaboration and will further require that teachers act as guides for the students in the online experience (Rovai, 2001).

Blomeyer (2002) points out many of the assumptions made about P-12 online learning are based on research investigating postsecondary online learning. Much of the research about online teaching does not come from communicating with teachers in online environments. In order to adequately understand the effective practices of online teachers, more research should be conducted that explores the perceptions held by P-12 online teachers and their effective practices (Frydenberg, 2002; Kurtz, Beaudoin, & Sagee, 2004).

Summary

Past literature has advanced our knowledge of online learning in many ways. Research has examined online learning factors related to accessibility, technology, skills, attitudes, delivery methods, and barriers. The criteria used to develop online classes and instructional models were typically shown to provide applicable guidance for the target population. Much of the early research conducted in online environments was done for postsecondary and adult learners, as these were the original target audiences for online courses. The learning styles and needs of adult learners and those of high school students, however, have proven to be drastically different (Agostinho, Meek & Herrington, 2005)

Online learning environments are not designed to replace the current face-to-face classroom experiences. They do however; provide an additional delivery system of

education to provide an opportunity to many students that would not have access to various curricula. Students, as pointed out by constructivists' beliefs, should be the central focus of design, development, and delivery of online learning. The current study builds on previous research but narrows the focus to high school teacher's perceptions to use and implementation in P-12 schools.

CHAPTER III

METHODOLOGY

Introduction

Chapter 3 describes the participants and the research design used in the study. This quantitative study analyzed the perceptions of high school teacher's who have taught online courses and high school teachers who have never taught online courses, regarding online learning environments. The researcher utilized a researcher-developed online questionnaire which was field tested prior to use in the study. The research questions addressed by the study are outlined in this chapter. The data collection process, the instrument used, and the data analysis are explained in Chapter IV.

Research Questions and Hypotheses

Online learning environments have the ability to offer many students a change from the traditional face-to-face classroom setting. The research that has been conducted previously in the P-12 arena does not focus on or adequately address teacher perceptions of online learning environments. In order to address this deficit in the literature the following research questions are proposed for this study:

1. Is there a difference in the perceptions of online teachers and face-to-face teachers regarding the relative importance of selected instructional elements?
2. Is there a difference in the perceptions of online teachers and face-to-face teachers regarding the relative importance of course composition elements?
3. Is there a difference in the perceptions of online teachers and face-to-face teachers regarding the relative importance of elements of student support?

4. Is there a difference in the perceptions of online teachers and face-to-face teachers regarding class load?
5. Is there a difference in the perceptions of online teachers and face-to-face teachers regarding the relative importance of administrative support?
6. Do relationships exist among the demographic characteristics (e.g., experience, age, gender) of online teachers and face-to-face teachers and their perceptions of online learning environments?

The hypothesis for each question is as follows:

1. There is a statistically significant difference in the perceptions of online teachers and face-to-face teachers regarding the relative importance of selected instructional elements.
2. There is a statistically significant difference in the perceptions of online teachers and face-to-face teachers regarding the relative importance of course composition elements.
3. There is a statistically significant difference in the perceptions of online teachers and face-to-face teachers regarding the relative importance of elements of student support.
4. There is a statistically significant difference in the perceptions of online teachers and face-to-face teachers regarding class load.
5. There is a statistically significant difference in the perceptions of online teachers and face-to-face teachers regarding the relative importance of administrative support.

6. There are statistically significant relationships among the demographic characteristics (e.g., experience, age, gender) of online teachers and face-to-face teachers and their perceptions of online learning environments.

Participants

The study was designed to include one 4A high school in each of the eight (8) different regions of the state as designated by the MHSAA and to include high school teachers in the Mississippi Virtual School. The demographics used to determine the schools within the MHSAA regions included geographic location and socio-economic status of the surrounding communities. One region, the Delta, is not represented. All of the schools within the 4A classification in the Delta region were contacted one-by-one and declined to participate. In order to include every region designated by the MHSAA, a high school was chosen that borders the northeast boundary of the Delta. The geographic regions of the schools participating in the study range from four (4) schools in the northern half of Mississippi to four (4) schools in the southern half of Mississippi, with Interstate 20 being the bisecting line. The four (4) schools in the north were located in north-central Mississippi close to the Tennessee border down the eastern and central part of the state to Interstate 20. The schools in the southern half of the state were located from just south of Jackson in central Mississippi to the Alabama and Louisiana lines and south to the Coast. Five (5) of the public high schools selected were from a county school district and three (3) of the schools were from separate school districts. The enrollment for the high schools that participated in the study ranged from a low of 486 students to a high of 681 students. The virtual school teachers were located throughout the state of Mississippi and their students attend all sizes of public schools ranging from

the largest, 6A, to the smallest, 1A. The teachers that participated in the study were from the high school arena, grades 9-12. The total number of teacher participants was 414.

Research Design and Procedures

The research design for this study was quantitative. Descriptive, differential, correlational and regression analyses were employed. A request to contact teachers that have taught in the Mississippi Virtual Public School and those teachers teaching in the public high schools was obtained in writing from the Director of Mississippi Virtual Public School and the superintendents of the districts in the schools selected was submitted (Appendix A). Written approval was obtained from University of Southern Mississippi Internal Review Board (IRB) (Appendix B). After obtaining approval from the IRB, the Superintendents and Director of MVPS were notified via email with a copy of the approval letter attached. The principals from the eight (8) different schools were then contacted with notification of the IRB approval (Appendix C). Email addresses were obtained for teachers from schools that had the email addresses posted on their home websites. The email addresses for teachers not posted on the school websites were obtained from a designated contact within the school. The MVPS director agreed to have their technician receive all information and distribute it to their teachers via email. Once all email addresses had been obtained, the survey instrument was activated and the web-addresses were sent to the individuals for completion (Appendix D).

Variables in the Study

The dependent variable for the study was high school teachers' perceptions of online learning environments. The independent variables for this study were each of the areas designated in the survey: instructional elements, items 1 – 12 of the survey; course

structure, items 13 – 23 of the survey; students, items 24 – 29 of the survey; administrative support, items 30 – 34 of the survey; and design and development, items 35 – 41 of the survey. Selected items in the survey instrument were grouped into subscales. These subscales were identified using the independent variables as their headings. The information used to develop the selected groups of items was identified from within the related literature. By dividing the survey instrument into subscales, the researcher was able to analyze both groups of teachers' perceptions regarding the individual subscales.

Instrumentation

Prior to implementation of this study the survey instrument was submitted to a panel of experts, then field-tested using two similar groups of teachers chosen by the researcher. Results from the field test were analyzed; changes suggested by this process were made to the questionnaire. A Cronbach's alpha was run to determine the internal reliability of each of the subscales. Instructional elements, items 1 – 12 had a Cronbach alpha of .91. Course structure, items 13 – 23 had a Cronbach alpha of .89. Students support, items 24 -29 had a Cronbach alpha of .70. Administrative support, items 30 – 34 had a Cronbach alpha of .95. Design and development, items 35 – 41 had a Chronbach alpha of .87. A Cronbach alpha of .70 indicates high reliability and all of the scores for the subscales are at or above a .70.

It was determined, that one survey instrument containing one set of demographic information would not suffice for this study. Using only one survey instrument would not allow us to distinguish between the two groups and some of the demographic information was not pertinent to MVPS teachers. For that reason, a second survey

instrument was created and the demographic information in the survey instrument was modified for the MVPS teachers. All other variables remained the same within the survey instrument. The variables for the study consisted of instructional elements, course structure, student support, class load, and administrative support. A separate web address was designated for each survey instrument.

Data Collection Process

Both groups of teachers were invited to participate in the study, and were notified by email of prior approval for the study and the website that they can visit in order to complete the questionnaire. The website was set up so that anonymity for each teacher was maintained. The questionnaire remained active for approximately three weeks. Copies of the instruments are provided as Appendix E and Appendix F.

Analysis of Results

The researcher obtained the responses from the participants and the data were entered into SPSS. A MANOVA (multivariate analysis of variance) was used to determine differences in the teachers' perceptions of online environments in research questions 1, 2, 3, and 5. Research question 4 was originally to be measured using a MANOVA. It was determined that the MANOVA would not yield the appropriate information needed for the study. Question 4 was analyzed using the Chi Square to determine if there were statistically significant differences in teacher's perceptions regarding class load in an online learning environment. Research question 6 was analyzed using a multiple regression to determine if there were significant relationships among the demographic information of the two groups of teachers and their perceptions regarding online learning environments. A Pearson Correlation was originally scheduled

to be used to determine significant relationships in research question 6. It was determined that test would not yield the appropriate information so a multiple regression was used. A .05 level of significance was used for all hypotheses.

Summary

Using a MANOVA and Chi Square test, the researcher attempted to identify significant differences, between the perceptions of two groups of teachers regarding the online learning environment areas designated in the questionnaire. Using a multiple regression, the researcher tried to identify relationships between the two group's demographic information that would be significantly different or similar. The Pearson Correlation was originally scheduled to test for significant relationships. Upon review of the data, it was determined the multiple regression test would be more appropriate and yield pertinent information.

The future will dictate whether online learning environments are to be extensively implemented at a building level. In order for teachers to be successful at the building level, teachers will need to be amenable to online learning, and possess certain characteristics.

CHAPTER IV

DATA COLLECTION AND ANALYSIS

Introduction

The purpose of this study was to determine if statistically significant differences existed between two groups of high school teachers: those teaching in the Mississippi Virtual Public School (MVPS) and face-to-face high school teachers. The high school teachers were selected from 8 different 4A high schools in different geographic locations throughout the State of Mississippi. The Virtual teachers either are teaching now or have taught using the online class format.

Descriptive Data

Emails were sent out to all participants explaining the study, and providing each with the web address of the survey pertinent to him/her. All participants were notified that participation in the study was voluntary. A total of 414 emails were sent with the web address for accessing the survey attached. A total of 314 emails went to regular high school teachers, while 100 emails were sent to MVPS teachers. The study yielded 158 total completed responses for a 38% rate of return for the entire group. From the MVPS teachers, 57 out of 100 surveys sent were completed. This produced a 57% rate of return for MVPS teachers. For the face-to-face teachers, 101 surveys out of 314 sent were completed. This produced a 31.8% rate of return.

The demographic information for both groups is in Table 1. The same 4 questions were chosen from both surveys for comparison purposes: gender, age range, whether the respondent had taken an online course, and years of teaching experience. Women made up a high proportion of the respondents in both groups of teachers, while

the majority of teachers in both groups were in the age range 51+ years. Almost 75% of the combined group responded yes to having taken an online course, with almost 95% of the MVPS teachers having taken one. The large majority of the respondents indicated they had less than 21 years of experience.

Table1

Descriptive Demographic Data

Variable	MVPS	Percent	Regular	Percent
Gender				
Male	15	26.8	32	32
Female	41	73.2	68	68
My age range				
21-30	10	17.5	18	18
31-40	17	29.8	24	24
41-50	9	15.8	26	26
51+	21	36.9	32	32
Have taken an online course				
No	3	5.3	38	38.8
Yes	54	94.7	60	61.2
Years of experience				
0-2	3	5.3	5	5
3-10	17	29.8	38	38
11-20	18	31.6	27	27
21-30	10	17.5	15	15
Over 30	9	15.8	15	15

The second part of the survey instrument consisted of 41 items divided into 5 groups. The questions were designed to be answered using a Likert type scale that ranged from 1 (strongly disagree) to 5 (strongly agree) (Tables 2 and 3 illustrate this information). The responses were analyzed using a MANOVA. The first criterion to be measured was the teachers' perception of selected instructional elements of online learning environments with items 1-12 serving as the subscale for the construct. MVPS teachers had a mean = 3.98 and the face-to-face teachers had a mean = 3.96. The second criterion was course structure of online learning environments, measured with items 13-23 serving as the subscale for this construct. MVPS teachers had a mean = 3.91 and the face-to-face teachers had a mean = 3.97. The third criterion to be measured was student support in online learning environments, measured with items 24-29 serving as the subscale for this construct. MVPS teachers had a mean = 3.74 and the face-to-face teachers had a mean = 3.98. The fourth criterion to be measured was administrative support of online learning environments, measured with items 30-34 serving as the subscale for this construct. MVPS teachers had a mean = 4.16 and the face-to-face teachers had a mean = 4.27. A Chi Square was used to analyze the perceptions of both groups of teachers pertaining to class load. This analysis revealed that 42.2% of the MVPS teachers disagree with a restricted 1/15 class size, with 26.3% having no opinion. At least 68% of the face-to-face teachers agree with the 1/15 restricted class size and 21% had no opinion.

Table 2

MANOVA - Descriptive Statistics

Dependent Variable	Group	Mean	Std. Deviation	n
Instructional	MVPS	3.98	.92	57
	Regular	3.96	.85	101
	Total	3.97	.88	158
Structure	MVPS	3.91	.95	57
	Regular	3.97	.75	101
	Total	3.95	.83	158
Students	MVPS	3.74	.92	57
	Regular	3.98	.82	101
	Total	3.90	.86	158
Admin_Support	MVPS	4.16	1.13	57
	Regular	4.27	.99	101
	Total	4.23	1.04	158

Scale

1 – strongly disagree, 2 – disagree, 3 – undecided, 4 – agree, 5 – strongly agree

Table 3

X² - Crosstabulation Table

Response	Group		
	MVPS	Regular	Total
Strongly Disagree	12	5	17
% within group	21.1	5	10.8
Disagree	12	6	18
% within group	21.1	6	11.5
Undecided	15	21	36
% within group	26.3	21	22.9
Agree	4	20	24
% within group	7	20	15.3
Strongly Agree	14	48	62
% within group	24.6	48	39.5
Total	57	100	157
% within group	100	100	100

Analysis of Data

Three statistical tests were used to analyze the data for this study. Hypotheses 1, 2, 3 and 5 employed a MANOVA with follow-up protected F-tests, $F(5,152) = 1.93, p = .09$. Hypotheses 4 was analyzed using a Chi Square test (Table 3) and hypotheses 6 was tested using a multiple regression analysis.

Hypothesis 1 was stated as follows: There is a statistically significant difference in the perceptions of online teachers and face-to-face teachers regarding the relative importance of selected instructional elements.

A one-way MANOVA was conducted to determine if there were statistically significant differences between the perceptions of online teachers (MVPS) and the face-to-face teachers. The instructional elements sub-scale, items 1-12, was used for this analysis. Table 2 illustrates the mean for face-to-face teachers of $M = 3.96$ ($SD = .859$) and the mean for MVPS teachers of $M = 3.98$ ($SD = .929$) on the construct of instructional elements. The MANOVA did not identify a significant difference between the two groups of teachers, $F(1,156) = .010, p = .920$. For this reason, this hypothesis was rejected.

Hypothesis 2 was stated as follows: There is a statistically significant difference in the perceptions of online teachers and face-to-face teachers regarding the relative importance of course composition elements. A one way MANOVA was conducted to determine if there were statistically significant differences between the perceptions of online teachers (MVPS) and the face-to-face teachers. The course composition sub-scale, items 13-23, was used for this analysis. Table 2 illustrates a mean for face-to-face teachers of $M = 3.97$ ($SD = .758$) and the mean for MVPS teachers of $M = 3.91$ ($SD =$

.951) on the construct of course composition elements. The MANOVA did not identify a significant difference between the two groups of teachers, $F(1, 156) = .228, p = .634$.

For this reason, this hypothesis was rejected.

Hypothesis 3 was stated as follows: There is a statistically significant difference in the perceptions of online teachers and face-to-face teachers regarding the relative importance of elements of student support. A one way MANOVA was conducted to determine if there were statistically significant differences between the perceptions of online teachers (MVPS) and the face-to-face teachers (Regular). The student support sub-scale, items 24-29, was used for this analysis. Table 2 illustrates a mean for face-to-face teachers of $M = 3.98$ ($SD = .823$) and the mean for MVPS teachers of $M = 3.74$ ($SD = .925$) on the construct of student support elements. The MANOVA did not identify a significant difference between the two groups of teachers, $F(1, 156) = 2.82, p = .095$. For this reason, the hypothesis was rejected.

Hypothesis 4 was stated as follows: There is a statistically significant difference in the perceptions of online teachers and face-to-face teachers regarding class load. A Chi Square test of independence was performed to examine the perceptions between the two groups of teachers regarding class load. The Chi Square did identify a significant difference, $\chi^2(N=157, df=4) = 25.316, p < .001$. The information derived from the test indicated that the majority of the answers between the two groups were significantly different. Table 3 illustrates the level of agreement within groups. The MVPS teachers did not see an issue with more than a 1/15 teacher pupil ration and the majority of the face-to-face teachers did. For this reason, the hypothesis was accepted.

Hypothesis 5 was stated as follows: There is a statistically significant difference in the perceptions of online teachers and face-to-face teachers regarding the relative importance of administrative support. A one way MANOVA was conducted to determine if there were statistically significant differences between the perceptions of online teachers (MVPS) and the face-to-face teachers. The administrative support subscale, items 30-34, was used for this analysis. Table 2 illustrates a mean for face-to-face teachers of $M = 4.27$ ($SD = .997$) and the mean for MVPS teachers of $M = 4.16$ ($SD = 1.13$) on the construct of administrative support elements. The MANOVA did not identify a significant difference between the two groups of teachers, $F(1, 156) = .406$, $p = .525$. For this reason, the hypothesis was rejected.

Hypothesis 6 was stated as follows: There are statistically significant relationships among the demographic characteristics (e.g., experience, age, gender) of online learning teachers and face-to-face teachers and their perceptions regarding online learning environments. A multiple regression analysis was run using instructional elements, course structure, student support, and administrative support as the dependent variables. The independent variables were gender, years of experience, age range, and whether or not the respondent had taken an online course.

There were no significant relationships identified from the analysis: instructional elements - $F(4, 149) = 1.011$, $p = .404$, $R^2 = .026$, course structure - $F(4, 149) = .965$, $p = .429$, $R^2 = .025$, student support - $F(4, 149) = 1.745$, $p = .143$, $R^2 = .045$, and administrative support - $F(4, 149) = 1.150$, $p = .335$, $R^2 = .030$. For this reason, the hypothesis was rejected.

Ancillary Findings

The analysis of the demographic information reported by the two groups of teachers revealed that a much higher percentage of the MVPS teachers than the face-to-face teachers indicated that they had taken an online course. However, the face-to-face teachers indicated within their group by almost a 2 to 1 ratio that they had taken an online course. The higher percentage among online teachers might be expected since they teach using an online environment. A further interesting aspect of this information is that it appears that many of the teachers answering yes to having taken an online class in both groups have had at least 3 or more years of teaching experience.

Summary

Chapter IV presented the descriptive and statistical test results from the analysis of survey responses provided from the teachers utilized for the study. The study sample was comprised of teacher from 8 geographically different locations along with teachers who teach using an online format. There were 414 surveys distributed online; 158 were returned, yielding a 38% return ratio. A MANOVA was performed on hypotheses 1, 2, 3, and 5 to look for statistically significant differences of instructional support, course structure, student support, and administrative support between the two groups of teachers. Results revealed no statistical difference in any area. Next, a Chi Square was performed to determine statistically significant differences between the two groups of teachers regarding class load. This test revealed there was a statistically significant difference in the two group's perceptions to class load. Finally, a regression analysis was run to determine if there were statistically significant relationships between the two groups of teachers regarding their demographic information. The regression analysis did not

identify any significant relationships. The results show that both groups of teacher's perceptions are virtually alike except for the size of the classes in the online learning environment.

CHAPTER V

DISCUSSION

Introduction

Online learning environments have become more popular over the last decade and especially now with the current state of the economy. Much of the research conducted on online learning environments has dealt with process, procedure, and success of the medium for course delivery. To this point, most of the online learning environments in the P-12 arena have been administered at the state level through virtual schools. The future may dictate that these environments be used more extensively in P-12 public education in order for students to have easier access to courses.

Online learning environments allow flexibility for students and instructors to access class material where ever there is a computer and Internet access. While being flexible, online learning environments present a specific set of challenges not typically experienced by teachers in face-to-face classrooms. However, an effective teacher is the most valuable resource in the classroom in either medium of lesson delivery. While the teacher may be the most valuable resource for and effective classroom, there are other variables not addressed in this study that could be damaging to the implementation and use of online environments, if not given an adequate level of support. These variables include the level of support given for the online learning environment from a financial, administrative, and technical standpoint.

The goal of this study was to assess the perceptions of two groups of high school teachers, virtual school teachers and face-to-face classroom teachers, regarding their perceptions of online learning environments. The major constructs identified for this

study were teachers' perceptions of instructional elements, course structure, student support, administrative support, and class load in an online class. The results of the analysis of statistics yielded only one statistically significant finding. Online teachers and face-to-face teachers differ in their perceptions regarding class load. In all other areas, there was no significant difference or relationship.

Discussion of Findings

Discussion of Descriptive Results

There are more than twice as many female teachers in this study than males. The teachers range in age from 21 to over 51 with the majority of both groups of teachers (33%) over the age of 51. A majority of both groups of teachers (73.5%) have taken an online course with almost 95% the online teachers having taken one. The years of experience for both groups of teachers ranges from 0-2 years to over 30 with the majority of teachers for both groups (55%) within 3 to 10 years of experience.

In analyzing the descriptive information along with the results from the research questions there appear to be no barriers identified to the use and implementation of online learning environments within these two groups of teachers. The age of one-third of the teachers places them out of college and teaching before online learning started becoming popular over the last decade. The level personal use among the group of an online learning environment indicates they are comfortable with this type of lesson delivery. With the majority of the teacher's level of experience being between the years of 3 to 10 the teachers have not yet become conditioned to a specific way of teaching and are open to new ideas for lesson delivery.

Discussion of Results Related to the Research Questions

As was previously indicated, this study found no statistically significant differences between the two groups of teachers regarding instructional elements, course composition elements, elements of student support, and administrative support in online learning environments. To the contrary, the information derived from the analysis of this study indicates that, with the exception of perceptions regarding class load, both groups' responses were similar. The information indicates that both groups' perceptions agreed at a rather high level with the components located within each of the independent variables. Before exploring other potential explanations for this lack of variability in perspectives between the two groups of teachers, the researcher acknowledges the possibility that the elements of instrument design may have been a factor. Some study participants may not have had a clear understanding that the items in the various sub-sections of the instrument addressed implementation of online learning environments. There is also the possibility that the teachers answered the items concerning many of the instructional elements and course structure descriptions with generic reflections on elements that are desirable in any learning environment. In other words, they may not have distinguished between the desirability of these elements in an online instructional setting and a more typical face-to-face setting.

There are also multiple reasons drawn from the literature that would help to explain this level of agreement. The assumption could be made that the high level of agreement in this study could be the result of the infusion of face-to-face effective practices into online learning environments. DiPietro, Ferdig, Black & Preston (2008) found that much of the existing research on effective practices in online learning is

embedded in face-to-face content. The blending of the two forms of lesson delivery have created unique issues for educators such as; obtaining an appropriate balance between the two, the development of methods for optimizing the links between the two, and the implications for the role of the teacher and the student (Condie & Livingston, 2007). In making the transition from the face-to-face classroom to an online learning environment teachers need to change from there traditional roles as “teacher expert” (Boston, 2002, p. 130).

Duffy and Cunningham (1996) identified the infusion of constructivist beliefs into development of the first online learning environments. Constructivists believe that the learner should be the focus of learning and the teacher should be a facilitator of learning (Pallof and Pratt, 2001). Students should be encouraged to take a more active role in their learning, whereas teachers should function as guides or mentors. Condie and Livingston (2007) make the point that traditional teachers have known about these role changes for some time now. This study seems to be consistent with those findings. The teacher’s knowledge of the role changes could be a factor in the level of agreement between the two groups. However, Condie and Livingston (2007) have identified several threats to the teacher’s ability to blend online instruction with traditional practices. Examples of those threats include teachers feeling threatened by changing their traditional roles and fearing a loss of identity and control of the classroom.

Another explanation for the level of agreement between the two groups could be related to the constructivist’s beliefs that the learner should be an active participant in the learning process. For constructivists, obtaining knowledge is not to be given or received but is rather an active process by which the learner interprets and processes information

to create knowledge (Duffy and Cunningham, 1996). Face-to-face teachers over the past decade have been introduced to these concepts in their traditional classrooms. It is thought that using these principles of teaching would lead to the learner developing higher order thinking skills that precipitate a deeper, more meaningful learning and understanding.

Face-to-face teachers have continually been introduced to the concept of differentiated instruction for the traditional classroom: differentiation of instruction is typical of approaches that online environments are attempting to accomplish. Well-developed and implemented online instruction allows learners to move through the curriculum at a speed and pace with which they are comfortable. This is unlike many traditional classrooms, which are designed for the learners to learn at the same pace (Condie and Livingston, 2007). The face-to-face teachers in this study indicated by the level of agreement, with their answers, that they may feel comfortable with differentiating instruction in an online learning environment.

Both sets of participants in this study appear to have an understanding of today's student and the role technology plays in their lives. This was indicated by the level of agreement both groups had regarding the construct of student support. Prensky (2001) coined the term "digital native" referring to this generation of students, because they fully embrace and use modern technology. Students today are multi-taskers. Tapscott (1998) uses the term "Net Generation" to identify the original online generation. He has described them as diverse, curious, and self-reliant.

From the results associated with the initial goal of this study, administrators may also be able to identify problematic areas of online environments in order to develop

policy and procedure to address them, prior to implementation and use. Most building level administrators have not been introduced to this type of learning environment. As noted in related literature, administrators are more familiar and comfortable with the two-way interactive video type distance learning environments (Setzer and Lewis, 2005). With many of the current online learning environments being administered from the state level, building administrators have not been exposed to the problems that online environments may present in developing policies and procedures for their use. The results of the analysis yielded no statistically significant differences in the teachers' perceptions of the major constructs that were measured.

Hypothesis 4 sought to identify a statistically significant difference in the perceptions of online teachers and face-to-face teachers regarding class load. A Chi Square test was performed to test the hypothesis and a statistically significant difference was found between the two groups of teachers. The findings from this test were therefore puzzling. The majority of the online teachers did not agree with limiting the size of the class to 15 and under. On the other hand, the face-to-face teachers were overwhelmingly in favor of keeping the teacher/pupil ration to 1/15 and below. The literature neither directly nor indirectly addressed the size of a teacher's class. The reason MVPS teaches may have felt class load was not important is because they are compensated by the number of students finishing their courses. This logically indicates that they are more willing to accept more students than the face-to-face teachers.

Hypothesis 6 sought to identify statistically significant relationships among demographic characteristics (e.g. experience, age, gender) of online teachers and face-to-face teachers and their perceptions of online learning environments. A multiple

regression analysis was run using instructional elements, course structure, student support, and administrative support as the dependent variables. The independent variables were gender, years of experience, age range, and have you taken an online course. There were no significant relationships identified from the analysis. A possibility for having no significant relationship may be the each group of teachers was so close statistically in the percentage of teachers in the group except on one of the variables. The demographic variable of taking an online class was heavily weighted yes (95%) they had taken an online class whereas the face-to-face teachers answered 60% had taken one.

Limitations

The following limitations to this study are acknowledged:

1. The study was limited to traditional high school teachers from 8, 4A high schools in Mississippi. Any generalization of findings beyond schools that correspond to the profile of those included in the study would need to be approached with great caution.
2. Lack of clarity on the part of the respondents regarding the fact that the items in the various sub-sections of the instrument addressed implementation of online learning programs may have limited variability between the responses of teachers in the two groups.
3. The study was potentially limited by the possibility that the face-to-face teachers answered the items concerning many of the instructional elements and course structure descriptions with generic reflections on elements that are desirable in learning environment.

4. The study was limited to the questions asked and no other method of data collection was employed to collect information.

Recommendations for Research

The researcher offers the following recommendations for future research within this topic:

1. Similar research can be done across the state and should incorporate all public high school teachers' perceptions regarding online learning environments. This study was limited to the use of just 8, 4A high schools from different geographic locations within the state. With online learning becoming more popular, more States are implementing Virtual schools. The current study could be easily modified to examine teachers' perceptions in other state or regions of the United States.
2. The study should be replicated after edits are made to those elements of the instrument noted in the limitations section that may have reduced variability between the responses from the two groups of teachers. These edits should include refinement of the directions, repetition of the directions at the beginning of each subscale, and explicit use of the term "online learning" in individual items as appropriate.
3. Similar research could be done utilizing teachers' perceptions regarding online learning environments used for students to recover credit for previous courses they have failed. In light of contemporary concerns about the dropout rate and the state of the economy, this may be a cost effective way to offer students the opportunity to not have to stay in school longer and for teachers

to not have classes that are overcrowded because of the presence of students who have previously failed their classes.

4. Research could be conducted using the 51 teacher's competencies identified by Smith (2005). Through a rating scale, this research would use those competencies to identify classroom teachers who were more prepared to teach in an online environment than others are.
5. This current study could be modified to identify and measure the significance of the components embedded within the variable to determine the relative importance of these variables. Identification of the importance of these components could lead to establishing a better implementation and training process for teachers.
6. Similar research could be done to include the administrator's perspectives regarding online learning environments along with those of the teachers.

Recommendations for Practice

The following are recommendations for practice for online learning environments:

1. Institutions looking to incorporate online learning environments into their curriculum should first evaluate the scope and sequence for involvement. The results of this study suggest that regular high school teachers view online learning environments in much the same way that they are viewed by the virtual school teachers. However, the face-to-face teachers had very little, to no experience with the use of them.

2. A commitment of time and financial resources would be critical to the success of online learning environments. With technology changing regularly, the commitment to use modern technology will come at a price. Both groups of participants in this study indicated that strong administrative support, including adequate resources, was essential in the successful implementation and use of this environment.
3. Institutions interested in pursuing online environments will need to analyze their intent for using this curriculum tool. If it is their intent to merely have course or curriculum content online, there are better, more cost efficient ways of accomplishing that. If it is their intent to establish an online learning environment in which students and teachers interact with each other and learning is fostered through multiple ways of instruction, then they will want to continue to pursue an online environment. Based on their high level of agreement on selected instructional elements and student support, it appears that both groups in this study indicated a strong belief in a student centered learning environment. Both of these areas are associated with the constructivist approach to education.
4. Institutions looking to institute online learning environments should develop clear and concise guidelines for teachers and students. Embedded in this study were questions dealing with establishing and using clear and concise guidelines, whether they associated with the use of the program itself, or the submission of lessons and the return of lessons to the student. The responses to the questionnaire indicate that both groups felt very strongly about the

establishment of these guidelines. Once these guidelines are established, they should be monitored and adjusted as need to keep them effective.

5. Institutions looking to institute online learning environments may want to determine different class size limits for those teachers teaching online classes only and those teachers teaching both face-to-face and online courses. The regular teachers participating in this study indicated at a high level that class size should be restricted to a 1/15 teacher pupil ratio.

While the study yielded very few statistically significant findings in the original research, the review of literature yielded information that can be synthesized into some pertinent conclusions regarding contemporary online P-12 learning environments. Given the emergent nature of online learning in the P-12 environments, these gleanings from the research literature are instructive to those wishing to implement such instructional media. The following are recommendations for policy and procedure for online environments that are based on the examination of extant literature:

1. A comprehensive, well-designed technology plan should be in place prior to adoption and implementation of an online learning environment. This plan should include electronic security measures to ensure quality standards and the integrity and validity of information in the environment. Participants should be given a copy of the plan prior to working or enrolling in the program. This would enable both the teacher and student to understand the guidelines and constraints of the online learning environment before deciding to teach or enroll in the environment.

2. When an institution is considering the implementation of an online learning environment there should be a specific period for review and revising of instructional materials to ensure they meet program standards. This review should be done as a collaborative effort involving teachers, administrators and course designers to ensure integrity in any revisions.
3. Institutions wanting to implement online learning environments should develop a process prior to implementation through which the program's educational effectiveness and teaching/learning process is assessed using several recognized methods and specific standards. Because this is such a different form of lesson delivery for most, the accepted evaluation methods for a face-to-face classroom may not be an effective way to evaluate. This process and the tools used to evaluate should be assessed periodically to make sure they remain effective elements of evaluation.

Summary

The goal of this research project was to examine the perceptions of two groups of high school teachers (virtual school and face-to-face) regarding online learning environment and determine if significant differences existed between them. The study found only one statistically significant difference in the perceptions between the two groups; this finding addressed perceptions regarding class load. This may easily be explained by the fact that online teachers are compensated according to how many students actually finish their course.

Rather than revealing strong differences in the perceptions of the two groups of teachers, the study disclosed that both groups of teachers agreed at a rather high level

with the components needed to successfully implement and use an online learning environment. This leads the researcher to believe that teachers see effective teaching as not being limited to one type of environment. This further indicated to the researcher that the face-to-face teachers participating in this study might possess the basic skills needed to successfully implement and use an online learning environment at the building level. However, the study did not address variables needed outside the scope of teacher skills needed for successful implementation. These variables would include such things as the level of support given for the online environment from a financial, administrative, and technical standpoint.

APPENDIX A

SUPERINTENDENTS PERMISSION LETTER

Daryl J Scoggin
1043 FE Sellers Hwy
Monticello, MS 39654

October 6, 2009

Dear Superintendent,

I am currently in the process of completing my Doctoral degree in Educational Administration at The University of Southern Mississippi. I need to obtain permission from you to conduct research within your school district. Once permission is granted I will submit it to the Human Subjects Review Board of the University of Southern Mississippi. This letter is to request permission to conduct my research within your district using a 4A high school.

The objective of my research project is to obtain data about the high school teacher's perceptions of online learning environments. Online learning environments are becoming more popular by the year. They may eventually make their way to the school or district level for implementation and use. Teacher's perceptions of this form of lesson delivery may be critical to the success for implementation and use.

Once IRB approval is obtained, I will contact the high school principal to upload faculty emails. An email will then be sent to the entire high school faculty with the link attached. The survey instrument will be online and take approximately 15 minutes to complete. I thank you for the opportunity your permission offers and appreciate your contribution to the success of our schools. If you have questions, you may contact me at any time.

Sincerely,



Daryl J Scoggin
(601-455-0539)
dscoggin@lawrence.k12.ms.us

I have read and understand the information about this research project. I give my consent to allow _____ High School to participate in this study. I understand that this consent is voluntary and can be withdrawn without penalty at any time.



Superintendent's Signature - _____

I have read and understand the information about this research project. I do not wish to have my school district participate in this study.

Superintendent's Signature - _____

APPENDIX B

IRB APPROVAL

	THE UNIVERSITY OF SOUTHERN MISSISSIPPI
Institutional Review Board	118 College Drive #5147 Hattiesburg, MS 39406-0001 Tel: 601.266.6820 Fax: 601.266.5509 www.usm.edu/irb
<p align="center">HUMAN SUBJECTS PROTECTION REVIEW COMMITTEE NOTICE OF COMMITTEE ACTION</p>	
<p>The project has been reviewed by The University of Southern Mississippi Human Subjects Protection Review Committee in accordance with Federal Drug Administration regulations (21 CFR 26, 111), Department of Health and Human Services (45 CFR Part 46), and university guidelines to ensure adherence to the following criteria:</p>	
<ul style="list-style-type: none"> • The risks to subjects are minimized. • The risks to subjects are reasonable in relation to the anticipated benefits. • The selection of subjects is equitable. • Informed consent is adequate and appropriately documented. • Where appropriate, the research plan makes adequate provisions for monitoring the data collected to ensure the safety of the subjects. • Where appropriate, there are adequate provisions to protect the privacy of subjects and to maintain the confidentiality of all data. • Appropriate additional safeguards have been included to protect vulnerable subjects. • Any unanticipated, serious, or continuing problems encountered regarding risks to subjects must be reported immediately, but not later than 10 days following the event. This should be reported to the IRB Office via the "Adverse Effect Report Form". • If approved, the maximum period of approval is limited to twelve months. Projects that exceed this period must submit an application for renewal or continuation. 	
<p> PROTOCOL NUMBER: 29111901 PROJECT TITLE: The Relative Value of Online Learning Environments as Perceived by High School Teachers PROPOSED PROJECT DATES: 12/01/09 to 05/31/11 PROJECT TYPE: Dissertation or Thesis PRINCIPAL INVESTIGATORS: Daryl J. Scoggin COLLEGE/DIVISION: College of Education & Psychology DEPARTMENT: Educational Leadership & Research FUNDING AGENCY: N/A HSPRC COMMITTEE ACTION: Expedited Review Approval PERIOD OF APPROVAL: 11/30/09 to 11/29/10 </p>	
<p>  _____ Lawrence A. Hosman, Ph.D. HSPRC Chair </p>	<p> 12-4-09 _____ Date </p>

APPENDIX C

PRINCIPAL'S INFORMATION LETTER



1/21/2010

Dear Principal/Director,

Before the Christmas break I wrote to your District Superintendent to gain permission for your teachers to participate in my Doctoral research project. I gained written approval from them at that time. Since then I have received approval from the Institutional Review Board of The University of Southern Mississippi to conduct my research.

I am contacting you at this time to inform you that my research will be conducted through an online survey. I will be attaching the website in an email to your teachers, grades 9 - 12, in order for them to access the survey. The survey will be live starting 1/21/2010 and be available for approximately three weeks through this website. I appreciate your help and cooperation.

Sincerely,

Daryl J Scoggin

This project has been reviewed by the Human Subjects Protection Review Committee, which ensures that research projects involving human subjects follow federal regulations. Any questions or concerns about rights as a research subject should be directed to the chair of the Institutional Review Board, The University of Southern Mississippi, 118 College Drive, #5147, Hattiesburg, MS 39406-0001.

APPENDIX D

PARTICIPANTS SURVEY LETTER



1/22/2010

Dear Teacher,

The research project you are being asked to participate in is part of a Doctoral dissertation on the perceptions of high school teachers to online learning environments. The questionnaire has been approved by the Institutional Review Board of The University of Southern Mississippi and permission for you school to participate has been granted by your director or superintendent.

The information you provide with your perceptions to online learning environments, may be valuable in the implementation and use of an online learning environment being used at a given site. Participation in the survey is voluntary. Your answers to the survey questions are completely anonymous and confidential. Once you get the e-mail containing the web address you may log in at any time. The questionnaire will remain live for approximately three weeks starting January 21, 2010. When the project is complete, the survey website will be closed and all information in the surveys will be discarded.

Thank you in advance for your participation!

Daryl J Scoggin

This project has been reviewed by the Human Subjects Protection Review Committee, which ensures that research projects involving human subjects follow federal regulations. Any questions or concerns about rights as a research subject should be directed to the chair of the Institutional Review Board, The University of Southern Mississippi, 118 College Drive, #5147, Hattiesburg, MS 39406-0001.

10. Do you feel you have the technology skills to offer online or Internet based activities?

Yes No

This purpose of the next section of this survey instrument is to determine your perspective on implementing a site-based or regionally based online learning program within your school, district, or geographic region.

Using the following scale, place an X in the box that best indicates your level of agreement.

1 **2** **3** **4** **5**
Strongly disagree **disagree** **undecided** **agree** **strongly agree**

Instructional Elements:	1	2	3	4	5
1. Students should be able to interact with the teacher in a variety of ways.					
2. Students should be able to interact with other students in a variety of ways.					
3. Teacher should provide feedback to students via the Internet in a timely manner. (two to three days)					
4. The teacher should separate the courses into modules (segments) in order to assess mastery before moving on in the course.					
5. Modules should be of varying lengths to be determined by learning outcomes for the modules.					
6. As a part of the course assignments, students should engage in analysis, synthesis, and evaluation of each module through a written assignment.					
7. Students should be encouraged to participate in voice mail and email to work with each other and the instructor.					
8. Some work in the courses should be designed for students to work together in groups utilizing problem-solving activities in order to develop understanding of material.					
9. Courses should be developed to promote collaboration among students.					
10. Teaching an online class should be on a volunteer basis by the faculty.					
11. There should be no more than a 1/15 teacher pupil ratio for online classes.					
12. Teachers teaching online classes along with maintaining a regular face-to-face class load should be compensated more monetarily.					

Course Structure:	1	2	3	4	5
13. Students should be provided with supplemental course information that outlines course objectives, concepts, and ideas.					
14. Teachers should be required to grade and return all assignments within a required period of time.					
15. Library resources should be made available sufficient for the					

students to use in the course.					
16. Before starting the class, students should be advised about the program and the requirements of the course to determine if self-motivation to complete the course may be a factor.					
17. Learning outcomes for the course should be clearly written and presented before students are enrolled in the course.					
18. Student assignment submission for the modules should be strictly online.					
19. Online course should be set up for students to access them on computers away from school.					
20. Submission of assignments by students should be expected to follow publish guidelines and dates.					
21. Online course should involve several formats such as; chat sessions, audio lectures, or posted discussions.					
22. Advanced Placement course should be taught using an online format.					
23. Academic core courses (English, Math, Science, Social Studies) should not be offered in the online format.					

Students:

	1	2	3	4	5
24. Students should be provided hands on training to help them use the technology adequately.					
25. Students should be provided assistance in accessing and using electronic databases to help in the assignments.					
26. Students should have a structured system in place to address any concerns they may have about the program.					
27. Students should be provided access to a computer lab until 6:00 pm for those who do not have a home computer.					
28. Students should not be allowed to take more than 2 online classes within a school year.					
29. Online courses should not be open enrollment for all students.					

Administrative Support:

	1	2	3	4	5
30. Teachers should have technical assistance in course development provided for them.					
31. Teachers should be provided assistance during the transition period to learn how to teach using online instruction methods. (the teacher will also be assessed during this period)					
32. Technical training should be provided throughout the process of implementation of online classes and periodically through the year.					
33. A handbook on online learning should be developed prior to implementation, to deal with issues arising from the program and should be continually updated as problems arise.					
34. Teachers teaching online classes should have a proficient					

knowledge of technology and how to use it.					
--	--	--	--	--	--

Design and Development

	1	2	3	4	5
35. Courses/curriculum can be developed in house by teachers from the school or district.					
36. Online courses should be developed with the same development criteria as face-to-face courses.					
37. Online courses should be developed to include more collaboration between students.					
38. Learners and learning should be the focus of online course development.					
39. Navigation within the course should be simple and easy to understand.					
40. Online courses should be developed with as many visuals as there is text.					
41. Content of online courses should be developed for the average or below average student but include enrichment activities for the above average student.					

APPENDIX F

MVPS ONLINE LEARNING QUESTIONNAIRE

Online learning and online classes have been around for several years. This type of lesson delivery, via the Internet, is being used at the University level. In recent years, many State Departments of Education have turned to using this type of lesson delivery in order to offer classes over the Internet to schools that may not have licensed teachers in some subject areas or to allow students to recover credits that they may have failed during the regular school year.

The purpose of this study is to determine high school teacher's perceptions to the implementation and use of online learning environments. It should take approximately fifteen minutes to complete this questionnaire. Your participation in the study is greatly appreciated.

Demographics: Please place an X in the appropriate answer.

1. Gender: male - _____ female - _____
2. Years of teaching experience:
0-2 _____ 3-10 _____ 11-20 _____ 21-30 _____ Over 30 _____
3. If you are currently teaching in a face-to-face setting along with Virtual School, what grade level are you currently teaching in the face-to-face setting?
9th _____ 10th _____ 11th _____ 12th _____ Currently Retired _____
(If you teach more than one grade level please indicate the predominate grade level.)
4. Subject Area You Teach (if more than one subject please select the major area):
Eng _____ Math _____ Soc. St. _____ Sci. _____ Tech. _____ Other _____
5. My age range is: 21-30 _____ 31-40 _____ 41-50 _____ 51 + _____
6. Have you ever taken an online course? Yes _____ No _____

This purpose of the next section of this survey instrument is to determine your perspective on implementing a site-based or regionally-based online learning program within your school, district, or geographic region.

Using the following scale, place an X in the box that best indicates your level of agreement.

1	2	3	4	5
Strongly disagree	disagree	undecided	agree	strongly agree

Instructional Elements:

	1	2	3	4	5
1. Students should be able to interact with the teacher in a variety of ways.					
2. Students should be able to interact with other students in a variety of ways.					
3. Teacher should provide feedback to students via the Internet in a timely manner. (two to three days)					
4. The teacher should separate the courses into modules (segments) in order to assess mastery before moving on in the course.					
5. Modules should be of varying lengths to be determined by learning outcomes for the modules.					
6. As a part of the course assignments, students should engage in analysis, synthesis, and evaluation of each module through a written assignment.					
7. Students should be encouraged to participate in voice mail and email to work with each other and the instructor.					
8. Some work in the courses should be designed for students to work together in groups utilizing problem-solving activities in order to develop understanding of material.					
9. Courses should be developed to promote collaboration among students.					
10. Teaching an online class should be on a volunteer basis by the faculty.					
11. There should be no more than a 1/15 teacher pupil ratio for online classes.					
12. Teachers teaching online classes along with maintaining a regular face-to-face class load should be compensated more monetarily.					

Course Structure:

	1	2	3	4	5
13. Students should be provided with supplemental course information that outlines course objectives, concepts, and ideas.					
14. Teachers should be required to grade and return all assignments within a required period of time.					
15. Library resources should be made available sufficient for the students to use in the course.					
16. Before starting the class, students should be advised about the program and the requirements of the course to determine if self-motivation to complete the course may be a factor.					
17. Learning outcomes for the course should be clearly written and presented before students are enrolled in the course.					
18. Student assignment submission for the modules should be strictly online.					
19. Online course should be set up for students to access them on computers away from school.					

20. Submission of assignments by students should be expected to follow publish guidelines and dates.					
21. Online course should involve several formats such as; chat sessions, audio lectures, or posted discussions.					
22. Advanced Placement course should be taught using an online format.					
23. Academic core courses (English, Math, Science, Social Studies) should not be offered in the online format.					

Students:

	1	2	3	4	5
24. Students should be provided hands on training to help them use the technology adequately.					
25. Students should be provided assistance in accessing and using electronic databases to help in the assignments.					
26. Students should have a structured system in place to address any concerns they may have about the program.					
27. Students should be provided access to a computer lab until 6:00 pm for those who do not have a home computer.					
28. Students should not be allowed to take more than 2 online classes within a school year.					
29. Online courses should not be open enrollment for all students.					

Administrative Support:

	1	2	3	4	5
30. Teachers should have technical assistance in course development provided for them.					
31. Teachers should be provided assistance during the transition period to learn how to teach using online instruction methods. (the teacher will also be assessed during this period)					
32. Technical training should be provided throughout the process of implementation of online classes and periodically through the year.					
33. A handbook on online learning should be developed prior to implementation, to deal with issues arising from the program and should be continually updated as problems arise.					
34. Teachers teaching online classes should have a proficient knowledge of technology and how to use it.					

Design and Development

	1	2	3	4	5
35. Courses/curriculum can be developed in house by teachers from the school or district.					
36. Online courses should be developed with the same development criteria as face-to-face courses.					
37. Online courses should be developed to include more collaboration between students.					

38. Learners and learning should be the focus of online course development.					
39. Navigation within the course should be simple and easy to understand.					
40. Online courses should be developed with as many visuals as there is text.					
41. Content of online courses should be developed for the average or below average student but include enrichment activities for the above average student.					

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