AN EVALUATION OF A SCHOOL SYSTEM'S EXCURSION
INTO ONLINE INSTRUCTION FOR MIDDLE SCHOOL STUDENTS

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ABSTRACT

AN EVALUATION OF A SCHOOL SYSTEM'S EXCURSION

INTO ONLINE INSTRUCTION FOR MIDDLE SCHOOL STUDENTS

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Online learning continues to grow at a rapid pace at all levels of education. However, K-12 school systems have struggled with placing online courses into traditional schedules, traditional thinking, and traditional instruction.

The purpose of this study was to evaluate the implementation of online courses into one school system's five traditional middle schools using these key questions: What steps were needed to implement an online program in middle school? What implementation differences (scheduling, extra time available, DLA appointment and support, number of facilitated courses, administrator perceptions and support, and faculty/staff support) existed among the schools? Were there student characteristics (demographic, classifications, reading achievement levels—EOG scores, prior academic achievement) that can be associated with success in online learning? What were the student outcomes (course participation, EOG scores, time management, technological skills,

preparation for future coursework, high school credits earned)? Which online courses were most effective in fostering academic success? What changes should be implemented for this online program in the future?

Data collection included individual interviews with administrators and distance learning advisors to determine processes and procedures. Student data included test data, course grades, student characteristics, and student perceptions from a survey developed by the school system. This study indicated that the presence of a strong distance learning advisor and a prerequisite online course play a major role in the success of online middle school students.

DEDICATION

My dissertation is dedicated to my granddaughter who I lost during

this journey and who reminded me of the importance of family.

Caitlyn Ann Brown

May 24, 2011-May 24, 2011

"I can do all things through Christ, who strengthens me."
Philippians 4:13

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I would like to thank several people who have encouraged, guided, and even prodded me to complete this dissertation. Without their persistence, I do not think this would be a finished product.

First and foremost, I wish to thank my parents, who reminded me, on numerous occasions, the importance of an education. Although my father was unable to continue his education, he always reminded me to strive for knowledge and reach educational goals. My parents' dedication to hard work and perseverance continues to be an example for me to reach in every part of my life.

I wish to thank my children, Kristin and Cody, and my grandchild, Caden, for special patience during this journey. These last few years have been eventful with many life challenges and I will be glad to be back in the everyday happenings of their lives. I will always be grateful for the sacrifices they made during this time in my life.

I am grateful for the memories and experiences that I shared with my Cohort, "lucky" Cohort 13. We became family, supporting and encouraging one another, and celebrating successes along the way. I am thankful for the numerous discussions, opinions, and beliefs that challenged me to view ideas from a different perspective.

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LIST OF ABBREVIATIONS

Term	Description
ADM	Average Daily Membership
BCPS	Burke County Public Schools
CCS	Cherokee County Schools
DLA	Distance Learning Advisor
DPI	Also known as NCDPI; North Carolina Department of Public Instruction
EOC	End-of-Course
EOG	End-of-Grade
HQ	Highly Qualified
iNACOL	International Association for K-12 Online Learning
NCLB	No Child Left Behind
NC SBE	North Carolina State Board of Education
NCVPS	North Carolina Virtual Public School
OPPI	Online Program Perceiver Instrument
SREB	Southern Regional Education Board

CHAPTER 1: INTRODUCTION

Legislators, policymakers, school administrators, and teachers are having difficulty making online learning, still considered a new model of instructional delivery, fit into the K-12 school environment. Few studies have identified successful models of using online learning as a way to earn course credits for secondary students. And, even fewer studies have identified characteristics of successful online programs for middle school students. iNACOL (International Association for K-12 Online Learning), along with Evergreen Consulting Associates published *Promising Practices in Online Learning* in April 2009, but deliberately avoided the term "Best Practices" because there were so many types of programs and so many different approaches to teaching, student support, and professional development in online learning (Watson & Gemin, 2009). This was the first report which hinted at "Best Practices" in online learning at the K-12 level but only from a state-level program perspective. Administrators from the school level still need a "best practices" or "promising practices" document from which to draw assistance in implementing an online learning program.

The purpose of this chapter is to identify the background information that surrounds the offering of online courses to younger

students, in particular middle school students. Guiding questions for this study have been provided in addition to the significance of this study.

Background

The Sloan Consortium estimated that, in 2007-2008, over one million K-12 students were engaged in online courses, an increase of 47% from the 2005-2006 school year (Picciano & Seaman, 2009). This number is most likely a low estimate given the small percentage of districts that responded to the Sloan survey. Estimates indicate that K-12 online enrollments are growing at a steady 30 percent per year (Picciano & Seaman, 2009).

Secondary schools have been much slower than community colleges and universities in accepting and promoting online learning as a way to meet the needs of students. Most secondary administrators felt that online learning would not become pervasive at the secondary level, therefore data are unavailable for a large sector of its history. As John Watson, (founder of the Evergreen Education Group) stated in his evaluation of state policies on online learning, many states "have moved much more slowly" in the creation of any specific guidelines or data collection processes for high school students (Watson, 2005).

At the K-12 level, online learning continues to face challenges and controversy. The issues largely center around fitting online courses into existing "traditional" schedules, alleviating fears that teaching positions will be lost, addressing concerns that this type of learning is "less than"

that of the face-to-face classroom, and eliminating apprehensions that students will graduate early and school systems will lose much needed ADM (Average Daily Membership) in very tight budget years (Data & Reports – Student Accounting, n.d.). Even though schools should be preparing students for twenty-first century skills, adult fear seems to outweigh digital learners (those who take in the world via computing devices—cell phones, handheld gaming devices, laptops, iPODs) from being taught with twenty-first century tools (blogs, Wikis, podcasts, Twitter, TeacherTube) in twenty-first century schools (collaborative, research-driven, active learning, global, student-centered, and interdisciplinary) (21st Century Schools, 2010).

Since there is little procedural direction in research literature, school systems have been left to implement online programs on a trial and error basis. This study investigated one school system's attempt at implementing an online learning program in its middle schools and attempted to identify those processes and procedures that appeared to be effective.

Program Evaluation Guiding Questions

The purpose of my study was to conduct a program evaluation of Burke County Public Schools' first delivery of online courses to middle school students. The evaluation included the collection of data from a county survey, interviews with stakeholders, student test scores, and an analysis of high school credits earned. The guiding questions for this

study focused on four major areas: program implementation steps and differences among the middle school implementations, student characteristics, and student outcomes. All courses were offered through North Carolina Virtual Public School (NCVPS)—a state supported supplemental online course provider (NCVPS, n.d.). Middle school students in the study enrolled in both elective (no high-school credit) and "for-credit" high school courses.

Students in North Carolina have been taking Algebra I and foreign language courses as face-to-face courses in middle school for high school credit since 2007-2008 (NC SBE, 2009). The North Carolina State Board of Education approved middle school students taking science courses in 2008-2009, social studies courses in 2009-2010, and English I in 2010-2011 for high school credit (NC SBE, 2009). This opened the door for many students to accelerate their learning at the middle school level. However, scheduling these classes and ensuring that current middle school teachers have proper credentials and licensing to offer these high school courses face-to-face has proven difficult. Offering these courses online allows scheduling flexibility and eliminates the licensing issue for individual schools since NCVPS ensures that their teachers are highly qualified (HQ) as required by the No Child Left Behind (NCLB) federal legislation (No Child Left Behind: Words and Terms to Know, n.d.). Burke County Public Schools viewed the online courses as a way for middle school students to prepare for additional online offerings when

transitioning to high school, to earn high school credits with minimal disruption to the middle school schedule, and to improve students' technological skills. This opportunity also provided another avenue for academically-gifted students to advance into rigorous high school courses while still in middle school.

Program Implementation and Process

Burke County faced many challenges as it began to implement the online courses in its middle schools. BCPS had to determine what steps to use to implement the online program. Involving all of the stakeholders in the preliminary meetings was crucial to the success of the program. Evaluation of the differences in implementation among the five middle schools also proved advantageous as this affected student outcomes. The following questions guided the implementation of the online program.

- Who should be involved in the preliminary meetings?
- Which middle schools would pilot the program?
- Would the schools have the equipment needed to support the students in the online courses (software and hardware)?
- What amount of time was provided for the online class at each school, including scheduled time and extra time available?
- What differences can be noted among the five middle schools and their implementation of this program?

Course Selection

Getting the right students into the right courses was another problem that had to be solved. Although the North Carolina State Board of Education gave approval for middle school students to take math, foreign languages, science, social studies, and English I courses for high school credit, BCPS was not sure that all of these courses were appropriate. BCPS identified the following questions pertinent to the choice of courses for its students.

- Who determined the online courses that would be available to the middle school students?
- Which courses would middle school students in BCPS have the opportunity to take?
- Were the courses chosen best suited for middle school students?

Student Selection

One of the main goals of this program was to recruit and/or choose students who would most benefit from online courses. Identifying students who will be successful in online courses is difficult. BCPS wanted to be able to define a set of student characteristics that would assist with this issue. I used these questions to guide the research into commonalities of these first online students in middle school.

- What was the procedure for admittance into the online program for middle school students?
- What student characteristics were evaluated for the participants?

- What were the demographics of these first middle school online students?

Student Support

One of the most important considerations was the selection of the DLAs (Distance Learning Advisors) and their training. Support of young online students was essential to their success. These questions assisted me in determining the training that DLAs were provided. Evaluation of the type of support provided to students in this first year of online offerings was also significant.

- Once in the online course, how were students monitored for success?

- Who determined the Distance Learning Advisor (DLA) for each of the middle schools? The DLA works within the school with the online students assisting with technological issues as well as serving as a liaison between students and instructors. What were the deciding factors for this position (DLA Spa, n.d.)?

- What type of training was provided to the DLAs?

Student Outcomes

Upon completion of the first year of implementation, student outcomes were evaluated to determine if students were successful in this program. Outcomes not only included course grades and high school credits earned, but also the incidental learning that occurred. The questions that follow guided my research in this area.

- Were the middle school students successful in elective courses and in for-credit high school courses?

- How many high school credits did the students earn?

- How many students who took an online course in the fall took an online course in the spring? If the student did not continue, what were the reasons that these students did not continue in online learning?

- What incidental learning occurred? (technology, reading, writing)

- What was the level of student satisfaction in the courses as evidenced by results on a county initiated online survey?

As educators, we must determine the characteristics of a successful online program model to meet K-12 student demand. Some students succeed in the online environment, but some fail, just as they do in the face-to-face classroom. We need to understand the critical components that promote and encourage student success (Clark, 1994). Robert Blomeyer (2002) suggests:

> In final analysis, online learning or e-learning isn't about digital technologies any more than classroom teaching is about blackboards. E-learning should be about creating and deploying technology systems that enable constructive human interaction and support the improvement of *all* teaching and learning (p. 19).

Significance of the Study

This study provided Burke County with an examination of differences among its middle schools' implementation of an online program and its effect on student outcomes, including online course grades, technological skills, end-of-grade test scores, reading achievement levels compared to online course grades, and high school credits earned. School administrators will be able to determine which courses are most beneficial for their specific student populations.

Using interviews from distance learning advisors and student characteristics from this pilot group, BCPS may be able to determine the type of student who will most benefit from participation in online courses. Administrators in this school system may be able to identify the predictors of online success for middle school students. Administrators will also be able to decide if online learning should be continued or expanded. Other school systems may be able to determine if they should offer online courses for their students.

Middle school students who are successful in earning high school credits will be able to take more advanced courses when they enter high school. As they complete their high school career, there will be greater opportunity for dual enrollment courses, Advanced Placement courses, internships and/or apprenticeships.

The results of this study will be shared with North Carolina Virtual Public School so that improvements can be made to the online courses

offered to middle school students. Improvements to these courses would benefit middle school students in counties across North Carolina.

A set of criteria can be developed to identify characteristics of a successful online program at the middle school level. Although very limited in scope, this would provide a beginning baseline for Burke County Public Schools to continue a longitudinal study as more of their middle school students participate in online courses.

Finally, this study addresses a gap in the research of online implementations at the middle school level. This implementation may serve as a starting point for other school systems who wish to implement online learning with middle school students.

Summary

Implementation of online learning at the middle school level must be methodical and orderly, with student support being paramount. Initially, stakeholders expressed concerns about implementing online learning at this educational level. With very little research available, BCPS had to rely on their own experience in program delivery to direct them through this implementation.

In this study, this implementation was evaluated to determine which processes seemed to be effective, which courses were most suited for BCPS students, and which middle schools were most successful. Student characteristics were identified, and student outcomes were

analyzed in terms of course grades, high school credits earned, and other student skills affected.

CHAPTER 2: LITERATURE REVIEW

To fully understand the significance of this study, one must review the history of online courses and their impact on education. The paradigm shifts that education has experienced have been influenced by the introduction of various components of online learning. This second section focuses on reviewing the literature regarding online learning and how we came to be where we are today.

History

Since the 19th century, the dominant mode of teaching in the United States has been " . . . the purposeful manipulation of students toward predetermined ends . . ." using the delivery mode of lecture (Hopkins, 1994, p. 12). Of course, this educational delivery method assumes that students will always be in the physical presence of the instructor. This presumption also does not anticipate the tremendous effect of the Internet on education or the birth of "digital natives"—native speakers of the digital language of computers, video games, and the Internet (Prensky, 2001).

Although many scholars have tried (Keegan (1995), Rumble (1989), Bruder (1989), Moore (2003), and others) to define "distance education," there seems to be only one common thread in their definitions—the teacher and learners are not in the same place. The creator of the

international journal *Distance Education,* Desmond Keegan (1995),

included student support, two-way communication, and use of technical

media in his definition. Greville Rumble (1989), a planning officer at the

Open University in the United Kingdom, stated that the teacher must

assess, give guidance, and prepare students for examinations by means

of two-way communication. Isabelle Bruder (1989), a senior associate at

the National Center for Education and Economy, included "the

application of telecommunications and electronic devices" in her

definition. M. G. Moore (2003), an editor for the *American Journal of*

Distance Education, emphasized the use of special techniques in course

design, special instructional techniques, and special methods of

electronic communication (Stover, 2002).

    Not only have there been inconsistencies in the definition of

distance education, there have also been a variety of additional phrases

introduced, such as "distance learning," "online learning," "virtual

learning environments," "blended/hybrid learning," "asynchronous

learning," "Web-enhanced learning," and "distributed learning," each with

its own set of definitions. It seems that we know that distance education

exists in multiple formats, but we have difficulty clearly defining them.

The Sloan Consortium, in one of the most recent studies of K-12 Online

Learning, adopted the following definitions for three types of online

courses:

Online learning—Courses where most or all of the content is
delivered online; defined as at least 80% of seat time being
replaced by online activity.

Blended/Hybrid learning—Courses that blend online and face-to-
face delivery where a substantial proportion (30 to 79%) of the
content is delivered online.

Web-Facilitated learning—Courses that use web-based technology
(1 to 29% of the content is delivered online) to facilitate what is
essentially a face-to-face course (Picciano & Seaman, 2007).

Chris Dede, a professor of Learning Technologies at Harvard,
predicted that "distributed learning" will become the dominant paradigm
for higher education. With this learning environment, educational
experiences are "distributed" across geographic settings, time, and
interactive media (Neal, 2006). However, according to the Center for
Instructional Technology and Distributed Education Department (CITDE)
at Tarleton State University in Texas, distance education and distributed
education are often misunderstood and misused.

The principal goal of distributed education is to customize
learning environments to better-fit *(sic)* different learning
styles, whether students are on or off campus. In this new
pedagogical model, students are encouraged to learn in an
interactive and collaborative environment (Seals, 2003, p. 1).

Based on this definition, distance education is a subset of distributed learning.

Distance education has experienced many paradigm shifts. Even though this study focuses on distance education at the middle school level, it would be remiss not to review historical obstacles and challenges that have been associated with each paradigm shift. Common threads have emerged and these same concerns still plague online learning today.

According to George Totkov at the University of Plovdiv, six stages of development in distance education might be distinguished:

- Initial stage—Correspondence Courses—Print (1840-1900)
- First stage—Correspondence Courses and Radio—Audio (1901-1940)
- Second stage—Telecourses—Television (1941-1980)
- Third stage—Videoconferencing/Teleconferencing—Video (1981-1990)
- Fourth stage—The Internet (1991-2000)
- Contemporary stage—2001 + (Totkov, 2003)

Initial Stage—Correspondence Courses—Print (1840-1900)

In 1840, the "Penny Post," the world's first organized mailing service, was established in England. Sir Isaac Pitman, the creator of shorthand, recognized its communication potential and began delivering instruction to what was a potentially limitless audience of office workers (Wheeler, n.d.). Pitman's concept of using the mail service for delivering

educational content was so popular that within a few years, he was communicating with a legion of correspondence learners. In 1843, the Phonographic Correspondence Society, which later became known as the Sir Isaac Pitman Correspondence College, was formed to continue Pitman's work (Wheeler, n.d.).

In 1873, Anna Eliot Ticknor founded the Boston-based Society to Encourage Study at Home. The society provided housebound women with a course of study that they could complete at their own pace. Over twenty courses were offered in various subject areas. Students were guided through the curriculum with the assistance of educated women "correspondents," including Cary Agassiz, founder of Radcliffe College, and Elizabeth Cleveland, who helped found the Boston Museum of Fine Arts. The society's personalized instruction included regular correspondence along with guided readings and frequent examinations to assess the effectiveness of instruction (Bower and Hardy, 2004).

In the 1880s, while at the Baptist Union Theological Seminary at Morgan Park, Illinois, William Rainey Harper developed correspondence courses in Hebrew. Well-known as the father of the American junior college, Harper is also considered by some to be the father of American distance education. Thus, the connection between distance education and community/junior colleges dates back over one hundred years (Bower and Hardy, 2004).

In 1890, Richard Moulton, a Cambridge scholar, presented his idea to deliver an entire degree program using Pitman's correspondence paradigm. His ideas were rejected by Cambridge. Soon after, Moulton joined the faculty of the University of Chicago. Due to Moulton's efforts and the support of president William Rainey Harper, in 1892, the University of Chicago created the first university distance education program (Wheeler, n.d.).

Also in the late nineteenth century, Thomas J. Foster, a newspaperman, realized that working adults needed a convenient way to learn advanced skills. He developed correspondence courses to help coal miners gain engineering knowledge so they could earn promotions to positions such as mine superintendents and foremen. Foster's efforts marked the beginning of the International Correspondence School (ICS) in Scranton, Pennsylvania. "The school became a stunning success virtually overnight, enrolling more than a quarter of a million students in its first decade" (Penn Foster, n.d., para. 3). By 1894, ICS was offering courses to students in Mexico, the United States, and Australia. Known today as Penn Foster Career School in the United States, the school claims that it is the "largest accredited school of independent study" (Penn Foster, n.d., p. 1).

Correspondence courses allowed those students who did not have access to regular educational opportunities, for various reasons, to take courses "from a distance." Most of these courses were certification based

or vocationally driven so learners could develop a particular skill. Correspondence courses allowed continuous admission—students could begin and end class when it was convenient for them. The students also progressed at their own pace. The teacher sent work assignments via the mail service. The student completed the assignments and mailed these back to the teacher. The teacher graded the assignments and mailed the graded work back to the student (Axelsson, 2004). Opponents of correspondence courses complained about the slow written communication (slow feedback) between teacher and student. Opponents also extensively criticized the lack of verbal communication. These courses were essentially independent study courses and therefore, there was no verbal interaction with the teacher or with other students. The present day argument that traditional education is superior to distance education began with correspondence courses and continues with current online learning.

First Stage—Correspondence Courses and Radio (1901-1940)

In 1895, the young genius Guglielmo Marchese Marconi, using a Hertz oscillator with an antenna and receiver, transmitted and received a wireless message at his father's villa in Bologna, Italy. Marconi patented his system, the radio, in 1896 (Cossons, n.d.). In 1912, the United States government passed the Radio Act which required radio operators to have licenses to broadcast. The first educational radio licenses were granted to the University of Salt Lake City, the University of Wisconsin and the

University of Minnesota. These institutions began to broadcast courses over the radio immediately. In fact, the federal government granted over 202 radio broadcasting licenses between 1918 and 1946 to educational institutions (Nasseh, 1997).

In 1916, the University of Wisconsin was the first college in the United States to offer correspondence courses using the radio (Buckland & Dye, 1991). It was predicted that educational stations would dominate open-broadcast radio. However, the popularity of correspondence courses offered via radio soon faded, in part due to lack of investment but primarily to the failure of university faculties to recognize the opportunity, losing control of the airwaves to commercial interests. By 1940 nationwide enrollment in for-credit courses by radio was exactly zero. Perhaps instructional radio's greatest contribution to correspondence education was its natural evolvement to educational television in the mid-20th century (Nasseh, 1997).

Correspondence courses using radio broadcasts provided participants with one-way verbal communication—from teacher to student. The teacher provided a lecture to the student participants; students listened from their homes or from anywhere they had radio access. These students "at a distance" still did not have a way to communicate with their instructors or with other students during lecture delivery; therefore, the instructor did not receive any feedback from his students to determine if the lecture needed to be modified to

accommodate learning difficulties. As a result of these concerns, the general public began to postulate new distance education questions such as successful students' characteristics, students' needs, and the effectiveness of this one-way communication. Again, the same question arose—How does distance education compare to traditional education?

Second Stage—Telecourses (1941-1980)

With the availability of the television to the general public, distance education began to change quite substantially.

> Most agree the first true educational television program was
> Sunrise Semester, based in Chicago. From 1959 into the early
> sixties, Sunrise Semester featured a single broadcaster, a teacher,
> standing before a class with a camera shooting over the heads of
> the students (Freed, 1999, p. 1).

Television broadcasting achieved much greater success than radio, largely as a result of funding provided by the Ford Foundation. Henry Ford advocated for a "University without Walls" (Kersey, n.d.).

Charles Wedemeyer began the Articulated Instructional Media (AIM) project in 1964 at the University of Wisconsin. The project was funded by the Carnegie Foundation. The purpose of his project was to apply the principles of the modern manufacturing industry to the teaching of adult learners at a distance. Wedemeyer deconstructed the teaching process into its component processes--content, technology, learning styles, and teaching methods. His goal was to deliver high quality courses at a lower

cost than traditional education could. Although the AIM project soon ended, due to lack of funding, Wedemeyer laid the groundwork for future work (Moore, 2003).

In 1969, the British Open University began offering distance education courses using a multimedia approach (Matthews, 1999). Using a combination of textbooks, audio and video materials, radio and television broadcasts, and supplemental tapes and filmstrips, the British Open University brought a new vision of independence and respect for delivering distance education courses. For the first time students with different learning styles could choose a particular combination of resources most suited to their needs. The idea of the course design team was invented. The design team composed of instructional designers and technology specialists concentrated on creating superior courses. Tutors and learner support personnel also began assisting learners by interacting via telephone, mail, and at local tutorial sites. Many of Wedemeyer's ideas were used in the British Open University's approach to course delivery (Matthews, 1999).

In 1970, using the British Open University's course delivery methods as a guide, California formed a task force to design distance education courses that would be delivered using television (Freed, 1999). All California community colleges and the University of California were involved in this project. This task force coined the term "telecourse," where the instructor teaches in front of a camera and the students

receive the lectures. Quickly, technological issues surfaced concerning the quality of the transmissions. The VCR (Video Cassette Recorder) was invented in 1972, with widespread use by 1977. Colleges soon began producing prepackaged video cassettes for distribution to students so that they could view the instructional material anywhere a video cassette player was available (Freed, 1999).

In 1972, California created Coastline Community College, the first "virtual college," to coordinate the development, distribution, and licensing of telecourses. Coastline was to be a "college without a campus" to meet the needs of "non-traditional" students. Coastline offered a comprehensive program of transfer, vocational, and general interest courses in times, places, and formats to serve the needs of students with employment and family responsibilities. In just four short years, by 1976, Coastline Community College was serving 18,500 students within a 150-square mile area of Southern California (Freed, 1999).

Telecourses became highly produced video documentaries that presented information related to the learning objectives and were broadcast by local college cable channels or well-known channels. Students attended class in their own homes and with VCR's taped the lecture/demonstration and viewed the class at a convenient time. Because telecourses were usually designed for a national audience of learners, telecourse developers used national advisory committees to determine content and generally relied on a major textbook in the field. Faculty who

taught telecourses modified the course syllabi and requirements to fit the standards of their college and their own teaching preferences (Davis, 2001).

Just like the correspondence courses, a major disadvantage of the telecourse was limited interaction between the student and the instructor, as well as very limited communication among students. Many critics claimed that telecourses were little more than a teacher delivering a lecture.

One of the first major distance education research studies was conducted by Gayle Childs with funding from a Ford Foundation grant. In this study, Childs questioned the application of television instruction with correspondence study. From this study, Childs concluded "television instruction is not a method. Television is an instrument by means of which instruction can be transmitted from one place to another" (Nasseh, 1997, para. 10). Childs found no appreciable achievement differences in classrooms that used television with correspondence courses and those who did not use television with correspondence courses.

Third Stage—Videoconferencing/Teleconferencing (1981-1990)

Using multiple technologies simultaneously, teachers and students were finally able to communicate synchronously (two-way communication) in teleconferencing course delivery. Two-way video allowed teachers and students to see each other from multiple locations. Audio capabilities allowed both teachers and students to communicate so

that all participants could hear and be heard. Community colleges and universities hailed this type of course delivery, since they could use one instructor to teach many students from multiple campuses. Administrators sold faculty on this new wave of teaching methodology by explaining that the instructors did not need to do anything they were not already doing in the classroom--standing up and teaching (Davis, 2001).

North Carolina became the first state to offer a statewide digital network, which linked K-12 public schools, community colleges, and universities to provide videoconferencing sessions. The first 33 NCIH (North Carolina Information Highway) sites were operational by August 1994. By March 1996, 125 sites were operational, with an additional 15 sites pending installation. Of the 125 operational sites, 80 were video only, four were data only (transmission of text only), and 41 were using both video and data services (NC DPI, n.d.).

Using the North Carolina Information Highway, high school students were now able to participate in "distance" courses. Most of the courses offered were from local community colleges, which enabled high school students to earn college credits while still in high school ("dual enrollment"). Many school systems also offered high-level courses such as Advanced Placement Statistics, Calculus, Advanced Placement Physics, etc., from one site to students at all high schools in their systems. Advanced Placement courses are continually plagued with teacher shortages and low enrollment. Many of these expert teachers were now

able to be shared among several schools, allowing numerous students to take advantage of these high-level courses. School systems were able to use these resources to their most economic advantage. In 2002-2003, 49% of the K-12 school districts in the United States reported two-way interactive video was used to deliver the greatest number of distance education courses to their high school students (Picciano & Seaman, 2007).

Even with these new technologies distance education course designers were still trying to emulate traditional, face-to-face, learning environments for their courses. As students became more sophisticated participants, their evaluations revealed the need for extensive changes (Davis, 2001). Teachers continued to use a lecture format for content delivery. Students wanted more interactivity in the course. Graphics distributed to the multiple sites were not legible and needed to be revised. Students also wanted tapes of the lessons that could be used for viewing at a later time, for review of important concepts. Students complained about the delay in receiving grading assessments. Assessments would have to be sent from the site facilitator to the teacher, the teacher would grade it, and then send the work back to the facilitator to distribute to the students. This mode of distance education emphasized the necessity for faculty to make conscious decisions about pedagogical changes (Davis, 2001).

As a business education teacher during this time period, I was privileged to work next door to an Information Highway classroom and observe teachers, students, and site facilitators use this technology. Instructors were unhappy about the large number of students in their classes. Having students from multiple locations increased the amount of grading time extensively. Instructors also had to prepare lesson plans sooner so that handout material could reach students at the appropriate time. There was little flexibility. If a lesson did not take as long as expected, the class materials had probably not reached the students in order to continue on a particular day. Additionally, public school teachers complained about inappropriate behavior of students in locations where a facilitator was unavailable. Many of these sites are now being used for meeting rooms rather than classrooms.

Fourth Stage—The Internet (1991-2000)

The development of the Internet created a new digital economy which allowed "virtual schools," community colleges, and universities to deliver web-based programs and courses directly to student workstations, homes, and work places. "Virtual schools" are educational organizations that deliver K-12 courses through the Internet or via web-based methods (Clark, 2001). Community colleges became the visionary leaders in offering online courses to their students. Ninety percent of public two-year institutions offered distance education courses by 2000-2001. These two-year institutions accounted for 48 percent of all online

enrollments that year, four-year institutions accounted for 31 percent, leaving 21 percent for public school online offerings. These courses used asynchronous Internet technologies as the primary mode of delivery (Bower and Hardy, 2004). Asynchronous communication and learning refers to communication between the student and the instructor that does not take place during real time. For example, an instructor may post a question on a discussion board, and students may post their responses at various times. However, the postings are available for the instructor and other students to view and respond to at any time.

The first "virtual school" was launched in the summer of 1995 with the CyberSchool Project in Eugene, Oregon. Nine teachers from the Eugene School District 4J started this project with the purpose of offering classes to students from Eugene and from around the world. The CyberSchool offered 19 courses in English, World Languages, Mathematics, Science, and Social Studies (Greenway and Vanourek, 2006).

By 1996 several additional virtual schools began. An experimental WebSchool in Orange County, Florida offered online courses to local students. This later became known as the Florida Virtual School. The Federal Way School District in Washington State founded the CyberSchool Academy with nearly 50 students (both elementary and secondary). They offered courses to students in their local school system. The Concord Virtual High School (later to be called Virtual High School), located in Concord, Massachusetts, was in the planning stages. "The growth of

large, multi-state programs such as Florida Virtual School and Virtual

High School was especially important in putting K–12 virtual schools on

the map" (Greenway and Vanourek, 2006, p. 36).

In 1996, the US Department of Education awarded a five-year

Technology Innovation Challenge Grant (in the amount of $7.8 million) to

Hudson Public Schools and Concord Consortium, Concord,

Massachusetts, to develop Virtual High School (VHS)—a public high

school offering online courses to secondary students nationwide (Pape,

2006). This grant was awarded as part of the Technology Literacy

Challenge Fund program established by the US Department of Education

in 1996. This was a $2 billion program with four major goals:

- ✓ Make modern computers accessible to all children

- ✓ Connect classrooms to the Internet

- ✓ Integrate educational software into educational curricula

- ✓ Prepare teachers to teach with technology (PCAST, 1997).

Unlike community colleges and universities which developed

distance learning courses independently, Virtual High School pooled the

resources of a consortium of high schools. Each high school was required

to contribute at least one teacher to develop an online course. These first

teachers had to commit to a year of training in online pedagogy, course

development, and online instructional strategies. Once the "NetCourse"

was developed, using the Lotus Notes course management system, and

approved, the course became the property of VHS and was offered to all

students of consortium member schools. The teachers normally taught a VHS course as one of their required teaching sections at their home schools. For teaching this course, the teacher's school could enroll twenty students into VHS NetCourses (VHS, 2004).

VHS became immensely popular with secondary schools. In 1997-1998, VHS offered 30 NetCourses to 710 students at 35 high schools in 25 states for the first time. Only one year later, there were 94 NetCourses offered to 2,516 students in 87 schools in 19 states (VHS, 2004). In 2009-2010, VHS boasts of 399 NetCourses offered to 12,893 students in 676 schools in 35 states with 42 international school participants (VHS Member Profile, 2010). Even with the exponential growth in their program, VHS has focused on maintaining quality in their course design, instructional strategies, and online collaboration. The VHS Advanced Placement (AP) exam passing rate is 62% compared to the national AP exam passing rate of 60%. VHS also maintains that over 80% of all VHS students complete their NetCourses successfully (Virtual High School Statistics, 2010).

The Florida Virtual School (FLVS), founded in 1997, was the first statewide Internet-based public high school. The Florida Legislature initially funded the FLVS as a pilot project at $1.3 million to begin course development with a limited student enrollment—77 students. In the year 2000, the Florida Legislature recognized FLVS as an independent education entity. Its funding is tied directly to student course completions.

Today, FLVS serves students in grades 6-12 and adults seeking General

Education Diplomas. In 2005-2006, FLVS served 31,000 students in 90

courses in all 67 districts of Florida. FLVS also serves students from

Wisconsin, New Jersey, West Virginia, Alabama, and Ohio (Florida Virtual

School, 2006). FLVS is now the largest virtual school serving with over

213,000 course enrollments (Florida Virtual School, 2010).

Contemporary Stage—What does the future hold? (2001+)

"The explosive growth of the Internet changed the essential

character of delivering educational content to remote students" (Freed,

1999, p. 3). With each improvement in technology, Internet course

delivery allowed facets of face-to-face course delivery to be infused into

the online setting. The use of video, audio, text, more complex graphics,

online access to vast libraries, and real-time interaction among teachers

and students continue to be added to online courses. Online learning is

not a substitute for face-to-face course delivery; it employs different

pedagogical standards and orientations and is another instructional

delivery method. As we have seen in the previous stages of distance

learning, the same question continues to surface—Is distance learning as

good as traditional (face-to-face) learning?

Current Studies and Research

One of the first studies concerning middle school students in a

hybrid learning environment was that conducted in Alberta, Canada in

1998 (Litke). Cyber Junior Secondary was a virtual school program

designed for middle-grades students who elected to receive their schooling partially at home because of a physical or mental condition that prevented them from attending school on a consistent basis. Computers were provided by the school. Students were enrolled in five core courses and three complementary (elective) courses. Students returned to the school every six weeks to engage in face-to-face instruction and to take tests, complete labs for science, and for the teaching of difficult concepts. There were several strengths and weaknesses noted by teachers, students, and parents. Teachers identified the following as strengths of the program: flexibility which afforded each student with a way to meet their educational goals, a low pupil-teacher ratio, few discipline programs, and personal professional growth for the teachers. Teachers indicated weaknesses including students missing deadlines or not completing assignments, issues of authority and responsibility, an absence of personal relationships, the loss of discussion and "teachable moments," a lack of time, occasional inappropriate use of e-mail, and difficulty dealing with students whose major problems were already academic. Students explained that freedom, time flexibility, few distractions, more individual attention, and fewer hassles from teachers and other students were strengths. Students saw the isolation at home, lack of personal contact, and distractions on the computer (games, e-mail, etc.) as weaknesses. Students also acknowledged that motivation, organization, and independence were

important factors in achieving success in this program. Although the school deemed this program successful, the administration suspended it the next year due to the extra time required to operate the program (Litke, 1998).

Numerous studies have compared the learning results of post-secondary online students with post-secondary seated students. The majority of these studies conclude that there is "no significant difference" in student achievement. The No Significant Difference Phenomenon, a compilation of studies by Thomas L. Russell, provides a review of 355 research reports, summaries, and papers from the last twenty-five years which found no significant differences in student outcomes based on delivery method (McDonald, 2002). Dr. Steven C. Mills at the University of Kansas conducted a study of Virtual Greenbush School (a secondary school) and found that "student achievement in online courses is equal to, if not better, than student achievement in regular school courses" (Mills, 2002, p.12). Two aspects of student achievement were considered in this evaluative study: course completion time and course grades.

The rationale for online learning in secondary schools has been quite different from that of higher education. Most often, online learning in high schools has focused on expanded course offerings for enrichment, acceleration, credit recovery, scheduling conflicts, or course offerings to students who are at risk, homebound, or home-schooled. For

schools faced with a shortage of qualified teachers or too few students interested in taking a particular course, online learning is a cost-effective option. Advanced Placement online courses have been extremely popular at the secondary level for this very reason (Picciano and Seaman, 2007).

Louisiana is experiencing a shortage of qualified, certified mathematics teachers (O'Dwyer, Carey, & Kleiman, 2007). To combat this problem, Louisiana created the Algebra I Online Initiative serving students in grades 8 and 9 who were taking Algebra I for the first time. A certified math teacher served as the online teacher and the teacher of record in the course. The facilitator was a certified teacher in another area or one who was working on math certification. Students were placed into a technology-equipped classroom and met for the standard class time each school day. Students could also access the course if they had Internet access from an alternate location outside of the school day. Students were pretested at the beginning of the course. A student survey was used to find the students' perspectives on several aspects of the class. Students (72%) indicated that they enjoyed using technology to learn math. They also (69%) enjoyed working with other students. Students also indicated (70%) that getting the assignments done on time and (50%) getting used to a new class structure were the most difficult aspects of the online course. By far, students asked their in-class teacher more questions than they asked their online teacher. Interestingly, students said that they were more confident in technology skills (80%)

than in Algebra skills (50%). Unfortunately, this study did not provide student outcomes in terms of grades in Algebra I. Grade results would have been helpful in this study (O'Dwyer, Carey, & Kleiman, 2007).

Another finding demonstrates that online learning could be a motivator for learner autonomy. Researchers Tunison and Noonan (2001) evaluated 126 high school students in their first online course which was offered in an alternative school setting. The researchers indicated:

> The most common student response to the question of benefits of a virtual school course was their appreciation of the autonomy and freedom. Although most students identified the teacher as the ultimate source of information, many students enjoyed the opportunity to work on their own and to figure out things for themselves without having to wait for their teacher to tell them what to do (p. 503).

Predicting Online Success

Predicting online success for students continues to be an elusive issue. Saskatchewan Learning (2005) (who developed a successful seamless online course delivery system from high school through university level in the early 1990s) described successful secondary online students as having these characteristics. Online students must remain actively engaged in their courses and be responsible for their own learning. The successful online student has the ability to work independently and complete assignments in a timely manner. He/she is

highly self-disciplined and self-motivated and avoids procrastination. Most online instructors require a minimum number of login sessions for their students. The ability to follow directions completely and correctly is essential for the online learner. The successful online student communicates clearly in writing, maintains regular contact with the instructor, is well organized and possesses good time management skills. He/she sets aside a specific time on a routine basis for studying and completing online course work and is able to work cooperatively with other online students in teams and groups (Saskatchewan Learning, 2005).

Cornelia Weiner (2001) of Walden University states that the key to success for adolescents, for both online and off line learning, appears to be motivation. Other authors (Chen, Toh, & Ismail, 2005) have indicated that a student's learning style plays a major role in his/her online success. George Garman (2010), a professor of Computer Information System at Metropolitan State College in Denver, indicates that reading scores are a predictor of a college student's ability to succeed in an online course.

One promising online student success predictive instrument is the Educational Success Prediction Instrument (ESPRI) developed by M. D. Roblyer from the University of Tennessee. This instrument includes student characteristics and course environment features that may determine potential success or failure of a student's participation in an

online course (Roblyer & Davis, 2008). Using a reliable prediction instrument would allow secondary schools to provide students with targeted remediation before participation in the online course increasing the likelihood of online success.

Quality in Online Learning

Quality assurance is still relatively new in the secondary environment. Most states have left online quality issues to the person in charge of online learning in each state. Most of these programs have addressed quality using student surveys, parent surveys, teacher surveys, completion rates, pass rates, AP exam results for AP courses, and end-of-course exams for particular courses. There are no concrete measures for quantifying online success. Evaluation by external sources may be a possible answer, including, but not limited to, some type of accreditation (Watson, 2005). This issue is compounded by the distributed nature of online course delivery in high schools. Students may use a variety of online course providers such as universities, charter schools, international providers, or local providers to earn course credit (Smith, Clark, and Blomeyer, 2005).

In the future, accreditation will become more important. Teachers will be able to earn online teaching credentials and/or licensure. Currently, in North Carolina, teachers can earn a COLT (Carolina Online Teacher) certificate through LEARN NC. LEARN NC is a supplemental online provider of professional development for teachers provided by the

University of North Carolina at Chapel Hill. Teachers must successfully complete a total of seven online courses to earn this certificate (LEARN NC, n.d,). North Carolina Virtual Public School (NCVPS) requires certain COLT courses before a teacher is considered for an online teaching position (NCVPS-Teaching Requirements, n.d.). Wisconsin requires their online teachers to have thirty hours of professional development in online teaching; Hawaii is in the process of establishing a mentoring and training program for online teachers (Watson, J., Murin, A., Vashaw, L., Gemin, B., & Rapp, C., 2010). Teachers who can effectively teach online at the secondary level will find multiple teaching opportunities. When looking at the current virtual schools, job openings continue to grow with the swelling numbers of online secondary students.

Online course standards will validate course quality. Currently, supplemental online programs, such as North Carolina Virtual Public School, report course grades to the local schools, which actually grants the course credit. This scenario makes the local school responsible for validating the course quality. The Southern Regional Education Board published *Standards for Quality Online Courses* in November of 2006. This document provides states with eleven standards that should be used to guide "academic preparation, content knowledge, online skills and delivery, and other elements of quality online teaching" (SREB, 2006).

One of the most important issues affecting quality in online courses is the constant of collaboration—interactivity between teacher

and student and interactivity among students. "Interactivity in courses is an indicator of the quality of the experience for students, and courses range from highly interactive, with a teacher leading a cohort of students going through the course at the same pace, to highly individualized courses in which students start, progress, and finish at their own pace" (Watson, 2005, p. 11). Feedback to student assignments and questions must be provided timely and in a constructive manner. Most research indicates that with secondary students, questions should be answered within 24 hours (Mills, 2002). One goal of the interactivity is to build a learning community. Students must feel that they have a connection in the online class. Interactivity builds "a 'sense of personalization and customization of learning' and helps students overcome feelings of remoteness—perhaps the greatest obstacle to distance learning" (Woods and Baker, 2004, p. 5).

Kathleen Vail (2001), a senior editor with the American School Board Journal, predicted that online education would rise and fall according to the abilities of the online teachers. Not all teachers will be successful in online teaching. According to Liz Pape, Chief Executive Officer of Virtual High School, the best teachers in an online environment are organized and structured. Online teachers must also be willing to put in the time. Pape estimates that it takes up to two-and-a-half times longer to teach an online class than a seated class (Vail, 2001). Additionally, to become an online teacher, extensive web-based delivery training is a

necessity. Another concern is the number of students enrolled in an online class. With too many students, usually more than twenty, the daily dialogue between teacher and students becomes unmanageable, again contributing to the time commitment. Online teachers must also take appropriate professional development courses to remain current with web-delivery systems as they become available (VHS, 2004). Based on the Project Tomorrow-Speak Up survey, 30 percent of all teachers are not comfortable teaching online. Twenty-six percent of all teachers are not comfortable with online tools and over 20 percent of all teachers are reluctant to teach online classes (Blackboard K-12, 2010).

The State of Virtual Schools

In February of 2004, the US Department of Education determined that virtual schools are a legally acceptable way to create additional opportunities for students to gain course credit. Furthermore, the Department deemed that "virtual schools may be a way for states to increase their capacity to meet the choice requirements of the No Child Left Behind Act" (Hassel and Terrell, 2004 p. 2). This was a huge victory for virtual schools.

In April of 2006, Michigan passed a law that requires high-school students to take an online course or have an online learning experience before they graduate as part of their Merit Core Curriculum. Michigan's Governor, Jennifer Granholm explained the rationale of this requirement:

Our online learning requirement makes Michigan a leader among all the states in using the power of the Internet to create learning opportunities in the classroom, the home and the workplace. In a world that demands life long learning, we are giving our students and our state a competitive advantage when it comes to landing the good-paying jobs of the 21st Century economy (Fisher, 2006, para. 3).

Alabama became the second state to create an online learning requirement for its students.

" . . . beginning with the ninth-grade class of 2009-2010 . . . students shall be required to take and receive a passing grade in one online/technology-enhanced course in either a core course (mathematics, science, social studies, or English) or an elective, with waivers being possible for students with a justifiable reason" (Devaney, 2008, para. 17).

State-level virtual schools are created, administered and funded mostly by state governments and are intended to provide online learning statewide. Although the North Carolina General Assembly enacted a general statute to create BETA—the Business Education Technology Alliance in 2002, whose primary goal was to create a state online school known as the North Carolina Virtual Public School (NCVPS), the virtual school did not become operational until the summer of 2007 (North Carolina Virtual Public School--History).

Twenty-seven states had virtual schools in 2009. The state virtual schools provided approximately 320,000 course enrollments in for-credit courses in school year 2008-2009. Forty-five states (plus Washington, D.C.) have some type of online initiative (Watson, Gemin, Ryan, & Wicks, 2009). This represents a tremendous increase from the last report of *Keeping Pace*, which was conducted in 2005, and indicated that only 24 states had online learning initiatives or virtual schools. The top ten state virtual schools, based on course enrollments, are displayed in Table 1.

Table 1

Top Ten Virtual Schools

Ranking	State	Course Enrollments 2008-2009	Percentage Increase from previous year
1	Florida	154,125	25-50%
2	Alabama	28,014	25-50%
3	Michigan	16,000	25-50%
4	Missouri	15,810	25-50%
5	North Carolina	15,721	>50%
6	Louisiana	11,058	25-50%
7	South Carolina	10,298	25-50%
8	Georgia	9,793	No Change
9	Idaho	9,646	25-50%
10	Utah	7,530	No Change

Source: Keeping Pace with K-12 Online Learning: An Annual Review of State-Level Policy and Practice (Watson, Gemin, Ryan, & Wicks, 2009)

With the number of secondary online students increasing more than tenfold in the last ten years, from 50,000 students in 2001 to 700,000 in 2006, and to more than an estimated one million in 2008, states have had to develop online guidelines and strategic plans quickly. The US Department of Education estimates that "About 25 percent of all K-12 schools now offer some form of e-learning or virtual school instruction. Within the next decade every state and most schools will be doing so" (Picciano and Seaman, 2007, p. 42).

Administrator Resistance to Online Learning

Project Tomorrow is a national education nonprofit organization and tracks growing student demand for online learning. In their Project Tomorrow--Speak Up survey in 2009, they found that 27 percent of high school students and 21 percent of middle school students reported taking an online class for either school or personal reasons. Additionally, 38 percent of high school students and 33 percent of middle school students who have not taken an online class previously would be interested in doing so. "Middle school students (in grades 6th-8th) represent the largest gains in demand for online classes in their ultimate school representing a three-fold increase from Speak Up 2008" (Blackboard K-12, 2010, p. 2). Based on this survey, there is still some reluctance from administrators to offer online learning opportunities to students. Administrators reported that their primary focus for online learning opportunities is for teachers (55 percent), then students (43

percent), and then administrators (32 percent). Students indicated that the most significant advantages to online learning are that they can work at their own pace and be in control of their learning. Of the students who are not taking online classes, the obstacles appear to be related to administration—the school does not offer online classes or the students do not know what classes are offered. Students indicated that they would also not know who to ask if they need assistance with the class (Blackboard K-12, 2010).

Blended or hybrid learning (courses that combine face-to-face classroom instruction with online learning) should play a huge role in the future of secondary online learning. According to Julie Young, founder and president of Florida Virtual High School,

Within five years, there will be lots of blended models such as students going to school two days a week, and working at home three days a week. Another blended model . . . is where a student takes five [face-to-face] courses at school and two virtual courses . . . . (Picciano and Seaman, 2007, p. 19).

Some secondary schools are currently providing professional development for face-to-face teachers to learn online course management systems and online teaching strategies. Face-to-face teachers are then able to deliver part of their courses in a hybrid environment to current students. Darren Reed, Vice President of K12, Inc. says:

I believe the blended model is the future of education. With a traditional school, you label kids with terms 'above grade level,' 'on grade level,' and 'below grade level.' But that can be misleading. A kid can know a certain skill within a subject really well, and not know another skill within that same subject at all. With a hybrid model, we can tailor their learning, using technology and face-to-face learning, in a way that we might not be able to in a pure traditional model. That's not to say that traditional brick-and-mortar schools and online-only schools cannot be successful, but hybrid models capture the best of both worlds" (Nastu, 2010, p. 1).

Importance of a Site Facilitator

Another important consideration in online delivery for secondary courses is the usage of a facilitator, site coordinator, or distance learning advisor (DLA). VHS requires a site coordinator who participates in a short online training course. This coordinator registers the online VHS students, checks with them concerning assignments, and delivers the needed materials (VHS, 2004). Tim Snyder, Executive Director of IDEAL-NM (Innovative Digital Education And Learning—a new online program in New Mexico) explains "A good site coordinator is like gold to our program. They *(sic)* become our knowledgeable and passionate ambassadors and set the tone for how well the school implements the online program" (Watson & Gemin, 2009, p. 15). This facilitator/site

coordinator/DLA can make a difference in whether the online secondary student completes the online course successfully or not.

Summary

Maintaining and improving quality in all areas of an online program is difficult. Mickey Revenaugh, Vice President of Connections Academy (an online course provider) explains "Ensuring quality in a fast-growing enterprise like online learning is like upgrading the engine on a jetliner while it is in flight. It is an enormous challenge--but one that virtual program managers must embrace wholeheartedly. If we as online educators don't do all we can voluntarily to ensure that we have every possible quality system in place, we can be certain that policy-makers and regulators will attempt to do the job for us" (Watson, Gremin, Ryan, & Wicks, 2009). It is apparent that research in K-12 online learning is still quite limited, with many of the research studies providing only limited insight into the many complex areas in the field (successful student characteristics, student support, teacher training, student outcomes, student persistence, retention, student satisfaction, etc.).

The days of lecture are long gone. With an online course, the world is the class. Student engagement and instructor communication are critical to success in this class. It is imperative that virtual schools incorporate 21st century skills into their course design, delivery, and implementation for the purpose of providing educational excellence for all students. It is essential that secondary schools provide students with

quality online experiences and opportunities to enhance their learning, with appropriate student support. Online learning is here to stay. Secondary students are demanding that courses be available anytime, anywhere, and any place.

Due to the lack of research in K-12 online implementations, this study may provide assistance to other school systems who wish to offer online courses to middle school students. The implementation timeline provided in this study, along with the challenges and issues described by administrators and distance learning advisors during this implementation, may assist others in avoiding missteps for a smooth implementation. Also, the data gathered in this study provides Burke County Public Schools with suggestions for improvement of their middle school online program.

CHAPTER 3: RESEARCH METHODOLOGY

Using online courses to deliver instruction to secondary school students continues to present challenges in the traditional school environment. This chapter defines the terminology, methods, and tools used in this evaluation process.

Evaluation, in its simplest terms, is "judging the worth or merit of something" (Fitzpatrick, Sanders, & Worthen, 2004, p. 10). The primary purpose of an evaluative study is to assist stakeholders in making a judgment about a project, process, or program. In other words:

> . . . we may say that evaluation attempts to answer certain *types of questions* about certain *entities.* The entities are the various . . . instruments (processes, personnel, procedures, programs, etc.). The types of questions include questions of the form: *How well* does this instrument perform (with respect to such-and-such criteria)? Does it perform *better* than this other instrument? What *merits*, or drawbacks does this instrument have . . . ? Is the use of this instrument *worth* what it's costing? (Fitzpatrick, Sanders, & Worthen, 2004, p. 10)

The purpose of this study was to conduct a program evaluation of Burke County Public Schools' online implementation into its five middle schools. "Program evaluation," for the purpose of this study, was defined

as the collection, analysis, and reporting of information that can be used to examine the operation of the online middle school program in Burke County Public Schools and make appropriate recommendations. Using semi-structured interviews of key stakeholders in the program, students' projected and actual end-of-grade test scores, the results of a survey of Burke County students, and high school credits earned, I focused on the following general questions:

1. What steps were needed to implement an online program in middle school?

2. What implementation differences (scheduling, extra time available, DLA appointment and support, number of facilitated courses, administrator perceptions and support, and faculty/staff support) existed among the schools?

3. Were there student characteristics (demographic, classifications, reading achievement levels—EOG scores, prior academic achievement) that can be associated with success in online learning?

4. What were the student outcomes (course participation, EOG scores, time management, technological skills, preparation for future coursework, high school credits earned)?

5. Which online courses were most effective in fostering academic success?

6. What changes should be implemented for this online program in
   the future?

Implementation Framework

Implementing online courses at the secondary level continues to be
problematic for administrators. Many evaluation studies exist for the
implementation of "distributed education" (educational experiences
distributed across geographic settings, time, and interactive media) at the
post-secondary level (Neal, 2006). But as indicated in the literature review
for this study, John Watson, founder of the Evergreen Education Group,
pointed out that most administrators at the secondary level felt that this
learning mode would not become pervasive; therefore data are
unavailable for a large sector of its history. Many states "have moved
much more slowly" in the creation of any specific guidelines, state
policies, or data collection processes for high school or middle school
students in online courses (Watson, 2005, p. 10).

Ellen B. Mandinach, a leading expert in data-driven decision making
in education settings, has suggested that since this delivery method is
still relatively young, it would be premature to look only at its outcomes.
Much valuable information can be obtained from the analysis of the
implementation and how it is delivered (Mandinach, 2005). She suggests
further that examining key elements of a program can lead to a greater
understanding of the variables affecting a program's implementation.

With little research available, online program evaluators have been left to develop their own frameworks, tools, surveys, and rubrics to collect data and assess program quality. However, one particular program evaluation provided the instrument, and the framework, used in my study; "Key Components of Appleton eSchool's Online Program Perceiver Instrument (OPPI)" (WestEd, 2008). (See a copy of this instrument in Appendix A.)

Appleton eSchool is an online charter high school which allows any student in Wisconsin's Appleton Area School District to take an online course. This online school offers core courses, electives, and AP courses. The school requires that teachers communicate with a contact at the student's home school and with each student's mentor (which is usually the student's parent). In 2007-2008, Appleton eSchool served 275 students who were enrolled in over 500 courses (WestEd, 2008).

School leaders at Appleton, Ben Vogel, principal, and Connie Radtke, program leader, determined that they needed an overall evaluation system to determine the program's strengths and weaknesses. However, they could not find a tool that would fit their needs and created their own evaluation instrument. Their goal was to design an instrument that identified the core components necessary for high school students to be successful in an online program. In addition, they wanted this evaluation process to encourage dialogue among leaders, staff, and administration to direct future growth and enhancement of the online

program. This research resulted in the Online Program Perceiver Instrument (OPPI), which has eight key program components. Rating a user's entire experience in the program, from first learning about this online opportunity to completing it, was important to determining program success at Appleton eSchool (WestEd, 2008).

There were several reasons that this tool provided the framework for this study. The eight components identified in this instrument were similar to the guiding questions used in my study. The importance of student support with high school students was emphasized. Even though the instrument was created for high school students and a high school program, it was applicable to middle school.

Online Learning Standards

Additional guidance for my study was derived from the following K-12 online learning standards:

- *Standards for Quality Online Courses,* developed by the Educational Technology Cooperative of the Southern Regional Education Board (SREB), published in 2006 (Course content, Instructional design, Student assessment, Technology, and Course evaluation and management) (SREB, 2006)

- *National Standards for Quality Online Teaching*, developed by iNACOL, published in 2008 (Credentials, Regular feedback, Data-driven instructional methods, Collaboration among students and colleagues) (iNACOL, 2008)

- *National Standards for Quality Online Programs*, developed by iNACOL, published in 2009 (Institutional Standards, Teaching and Learning Standards, Support Standards, and Evaluation Standards) (Pape & Wicks, 2009)

Student Support Framework

Student support is an important component of success in online courses. According to Torstein Rekkedal, Director of Research and Development at NKI Internet College in Norway,

> Most institutions . . . have understood that student support is necessary to secure quality of learning, student satisfaction, and to reduce attrition rates. Student support applies both to counseling and advice on all aspects of distance study as well as to teaching and guidance within the specific course (2003, p. 24).

Online programs must provide support to respond to questions/issues from students, parents, and district schools in a timely manner. Technical support, also, is essential for a successful online program. Students become frustrated if this support is not available when needed. Rekkedal further identified five phases in student support necessary for student success in online learning which are used at NKI:

- Prospective phase—information about courses, guidance about courses.

- Start-up phase—Registration/information/user identity; passwords; introduction to online learning; technical support.

- Learning phase—Teaching/tutoring; academic support, organization of learning, social support, assessment, follow-up, technical support, local administrative support.

- Graduation—Grades and course credit.

- After graduation—Counseling for further study (Rekkedal, et. al., 2003).

(See the NKI Student Support Framework in Appendix B.)

In middle school, the Distance Learning Advisor (DLA) role was vital. The DLAs provided technology support, content support, and encouragement to students. Relating these responsibilities to Rekkedal's phases, BCPS DLAs completed all phases with the online students. The DLAs collaborated with guidance counselors on occasion for support on the prospective phase and the after-graduation phase. Program implementers believed that without a strong DLA, students would not be successful in online learning.

My Role in this Study

For much of this implementation process, I acted as an administrator, an evaluator, and an observer, a participant observer (Popham, 1991). As BCPS' District Distance Learning Advisor, I have extensive experience as an online course instructor and developer and took the lead role in this online program development and deployment. In 1998, my online course proposal (Building in the New Millennium using Access) was chosen by Virtual High School (VHS) from Concord,

Massachusetts for development, one of only eight in the state of North

Carolina. I wrote this course in 1999 and taught this course for VHS from

1999 until 2005. In 2003, I developed the first online course (e-Commerce

I) in the Career-Technical education area for the state of North Carolina

via LEARN NC. Since then, I have written online courses for middle

school, high school, and community college students and professional

development courses for staff and faculty. I have provided numerous

workshops to assist teachers in becoming online instructors. Currently, I

work as an online instructor for numerous educational entities, including

NCVPS.

Interview Questions

Key stakeholders (administrators and distance learning advisors)

were interviewed to document the implementation process at each of the

five middle schools. Administrators included the school principal at each

of the five schools and assistant principals at three of the schools. Each

middle school principal appointed two distance learning advisors (DLAs)

to work with students.

The interview questions were designed to cover several content

areas: (a) general demographic information of the interviewee; (b)

administrative and DLA perceptions about using online courses at the

middle school level; (c) challenges that had to be addressed; (d) parent

participation; and (e) recommended changes for the future. I recorded

and transcribed (verbatim) these interviews and analyzed them to

identify common trends and concerns. Please see a copy of the interview questions for both administrators and DLAs in Appendices C and D. The Institutional Review Board of Appalachian State University approved the usage of these questions in my study.

Denzin (1986) suggested that interpretive research begins and ends with the biography of the researcher. Because of my background as a teacher and educator and because of my work in online learning, I have a strong bias toward offering online opportunities to students. This was a strong bias that I had to control in my research. Another area of bias is my knowledge of my interview subjects. I am a member of the administrative cabinet of my district and know these administrators and teachers quite well. I have taught workshops in which many of these administrators and teachers have been participants. Again, I had to remain aware of this bias and control it in my research study.

In addition to recording and transcribing the interviews, I followed the list of questions exactly in each interview, not allowing myself to interject additional commentary. I sent each interviewee a copy of the transcription for review and requested that any errors be corrected. I also informed my participants initially of my potential bias in this study.

Student Data

Student data were collected in an attempt to identify characteristics of successful online students in middle school. These data included gender, ethnicity, and achievement data in the form of EOG

scores from the eighth grade in both reading and math. In the event that common characteristics of successful online middle school students could be identified, this could help BCPS select students who would most likely benefit from the online courses.

ABC Tools (a program provided by the North Carolina Department of Public Instruction) was used to compute projected end-of-course test scores for each eighth grader. These projected scores were later compared to students' actual scores from the eighth grade.

Student Survey

At the end of the first year of implementation, BCPS administered a survey to students who participated in the program. As an administrator involved in structuring the online program, I helped design the survey. The purpose of the survey was to gain insight into the online experience from a student's perspective. Burke County gave me permission to use the results of that survey for this investigation. Specific topics in the survey addressed why students took the course, their learning styles, their reading and writing abilities, and what the students' liked most and least about online learning. (See Appendix E for a copy of the survey.)

Student Participants

In fall 2009, seventy-three BCPS middle school students participated in online courses delivered by teachers of North Carolina Virtual Public School. Sixty-one of those students participated in the elective (no high school credit) online course, *Success 101*. Twelve other

students participated in "for-credit" high school courses. In spring

semester, 65 students took "for-credit" online courses by choosing from

the following list of courses:

- African-American Studies (n=1)

- Earth/Environmental Science (n=41)

- French I (n=6)

- Latin I (n=15)

- Medieval Studies (n=7)

- Spanish I (n=1)

In the spring, 23 of these students were new to online learning. The other

42 were repeat students, those who had taken an online course first

semester. Therefore, a total of 96 BCPS middle school students

(unduplicated) took online courses in the 2009-2010 school year.

A Note of Caution

Since this study was actually an evaluation of a particular online

program in Burke County Public Schools, the reader is advised to exercise

caution before generalizing the findings to other settings. The challenges,

issues, barriers, and recommendations may be particular to BCPS.

The administrator/teacher interviews were semi-structured and

somewhat subjective. I had to determine what was fundamental to the

people being interviewed, to capture their views. The information could

be distorted, based upon inaccurate perceptions.

Hopefully, what can be gained from this study is a greater understanding of the complexities encountered when implementing an online program at the middle school level. Also, results of this study will add to the current knowledge concerning student characteristics that may lead to online success.

CHAPTER 4: RESEARCH FINDINGS

In this chapter, data were analyzed with respect to the initial guiding questions for this study. For clarification purposes, some data are divided by semesters.

Clayton Christensen and Michael Horn, co-authors of *Disrupting Class: How Disruptive Innovation Will Change the Way the World Learns,* have suggested that we use our $4.35 billion "Race to the Top" funds to "truly transform our factory-era schools into a truly student-centric system fit for the 21st century" (2009, para. 3). They suggest that online learning can "innovate disruptively" with its ability to personalize education for all types of students, regardless of their geographic location, special needs, or socioeconomic background.

Because of my interest in online learning and the success of these programs at both high school and middle school levels, I felt it was important to understand which students were being served successfully with what type of online learning initiatives. By taking online courses in middle school, students develop the online skills necessary for additional online opportunities in high school. By evaluating the processes, procedures, and outcomes of an online implementation, success factors can be identified to help ensure positive student achievement in the future.

Program Implementation and Process

A leading question in this study was to identify the steps needed to implement an online program at the middle school level. Universities, community colleges, and high schools have been using online learning for many years, but online learning is still new for middle schools.

A couple of years ago, Cherokee County Schools (CCS), located in the southwestern corner of North Carolina, with a student population of approximately 3,400, (a small school system by North Carolina Department of Instruction guidelines) (NCDPI, 2010), was the first public school system in the state to offer online courses to middle school students. CCS worked with North Carolina Virtual Public School (NCVPS) to develop an online course, *Success 101*, designed to prepare eighth grade students for the rigor of online instruction (K. Creech, personal communication, April 18, 2009). CCS enrolled the majority of their eighth graders (approximately 230 students) in *Success 101*, to give their students a jump start in online learning (Oliver, 2010).

Burke County Public Schools (BCPS), located in the foothills of the Appalachian Mountains, in western North Carolina, with a student population of approximately 13,400, chose to follow Cherokee County's lead in offering online learning opportunities to middle school students. However, with almost 1,000 eighth grade students, BCPS decided to use a more conservative approach than that used in CCS.

Implementing online learning in their five traditional middle schools required support from all BCPS stakeholders involved (students, parents, teachers, assistant principals, principals, and system administrators). BCPS's administration asked their Secondary Education Director and the Associate Superintendent of Curriculum and Instruction to take leadership roles in supporting this effort. As BCPS' District Distance Learning Advisor, and because of my previous online experience, I took the lead role in program development and deployment.

The Instructional Technology team participated in training throughout this development and program implementation and provided both hardware and software support. The Chief Technology Officer supported the implementation and provided additional technical assistance where needed.

All the middle schools were equipped properly with hardware and Internet connectivity needed for online courses. *Audacity* software (a free software used to record and edit sounds) was provided in all labs for foreign language courses; *Pronto* (an instant messaging tool) access was provided for the messaging requirement in all online classes. Headphones with microphones were purchased for all online students. Digital cameras were provided as course requirements dictated.

Preliminary meetings were held with principals, assistant principals, the Secondary Education Director, and the Assistant Superintendent of Curriculum and Instruction. My role at these meetings

was to present information concerning online learning in general, the steps to a successful online program, procedures for recruiting students, ways to encourage parental involvement, and the importance of monitoring student participation. While not completed during the beginning stages of the implementation, this group, with my help, eventually developed applications, policies, and procedures.

The online learning initiative required that each principal appoint a Distance Learning Advisor (DLA). The responsibilities of the DLAs included assisting online students with technical issues, ensuring that students had required textbooks, materials, and Internet connectivity, reviewing grades, contacting parents as needed, and acting as a liaison between students and instructors (DLA Spa, n.d.). Three of the middle school principals assigned assistant principals to act as DLAs for their schools (Schools #1, #3, and #4). The other two middle schools gave this assignment to an Information Technology ("computer") teacher (Schools #2 and #5). Although the assistant principals learned a great deal about online learning and were instrumental in getting online learning scheduled in their schools, it quickly became evident that the schools needed DLAs in the classroom with students. This eventually led to each school appointing two DLAs; one who was currently in the classroom with students and one to serve as a backup DLA. Each school had two information technology (computer) teachers who eventually became DLAs. The DLAs' experience with technology, teaching background, and

experience with online learning would, eventually, prove critical to the success of the program.

I provided training to DLAs via after-school workshops. DLAs and principals were provided a copy of School and DLA Responsibilities provided by the North Carolina Virtual Public School (DLA Spa, n.d.). DLAs were instructed how to navigate the NCVPS registration system, to register and drop students, and to access student grades. The NCVPS Student Checklist for Fall 2009 and then Spring 2010 was provided so that DLAs could emphasize essential dates. DLAs and Instructional Technologists were given an introduction to Blackboard, the learning management system currently employed by NCVPS. Experienced high school DLAs were recruited to act as consultants to discuss successful monitoring techniques so that the middle school DLAs would know how to assist online students appropriately. The middle school DLAs visited high school campuses and observed experienced DLAs coaching and instructing their own online students. The new middle school DLAs were shown where to find instructors' contact information and given guidance as to when they would need to contact the students' instructors. Through collaboration with experienced DLAs and participation in the workshops, the newly appointed DLAs learned how to use their time appropriately for day-to-day interaction.

Originally, School #2 was the only middle school slated to participate in the online pilot program first semester. School #2

advertised "for-credit" high school courses, recruited the students, and had already registered these students into the courses.

However, North Carolina Virtual Public School (NCVPS) offered BCPS seats in their *Success 101* course, an elective course that awarded no high school credit, but was available to middle school students. School #1 and School #4 decided to participate. The time to register was extremely short. These two schools had little time to adequately inform students or parents about this online opportunity. Due to the short time frame, Information Technology ("computer") teachers as well as teachers of core subjects were asked to recommend students who they thought would be successful in this pilot program. So, based on teacher recommendations, students were actually "asked" to participate in the *Success 101* course the fall semester.

After the first semester, due to budget constraints, the North Carolina State Board of Education ruled that no middle school student could take *Success 101* (K. Creech, personal communication, October 14, 2009). In response to this ruling, I met with the Secondary Education Director, the Associate Superintendent, the middle school principals, high school principals and assistant principals, and several DLAs in October of 2009 to discuss the online program and decide on the courses middle school students would be able to take spring semester. This meeting allowed numerous stakeholders to offer multiple views about middle school online course offerings. After open discussion, consensus was

reached that BCPS middle-school students could take African-American Studies, Earth/Environmental Science, French I, Latin I, Medieval Studies, and Spanish I. Rationale for these decisions is summarized in the following paraphrased statements:

- African-American Studies and Medieval Studies are beneficial for those students who are interested in pursuing additional studies in the social studies area. Neither of these courses requires an End-of-Course exam.

- Earth/Environmental Science is a core requirement for high school graduation in North Carolina. It does not require an End-of-Course exam.

- French I, Latin I, and Spanish I are appropriate foreign language courses for students to take to satisfy one of the two foreign language course requirements for high school graduation and four-year college/university entrance requirements. Offering these courses would level the playing field in that all middle schools would now have the same languages offered, either seated or online. None of these courses require an End-of-Course exam.

- Administrators also decided that if a course was a seated course at the particular middle school, the student must take the course seated unless there was a scheduling conflict that could not be resolved, thus allowing the student to take the course

online. Therefore, enrollment in a seated course would not be adversely affected by online offerings. Teachers were concerned about elimination of their positions by online offerings.

- Middle school students could take one online course each semester.

High school principals were adamant about not offering courses with EOC exams to middle school students. In North Carolina, when an EOC exam is taken for a high school course, it counts in the high schools' end of year results, even if the student takes it while in middle school. High school principals did not want these scores in their end-of-year results when they would have no input on the education of the student in that EOC course. BCPS middle school principals conceded and left these courses off the approved list for middle school students.

Following this discussion, the DLAs and I met to devise an online learning application for middle school students. The application included three teacher recommendation forms and a student/parent contract (See Appendix F). One advantage of having an application was that, now, *any* student could apply to participate in the online courses. Since the online learning application was completed in October, this gave schools ample time to advertise the online courses before the late January start date. Principals, assistant principals, and DLAs immediately began advertising the online courses to students and parents (via school newsletters, parent meetings, telephone calls, and letters). Since many staff members were

still unknowledgeable about online offerings for middle school students, principals discussed the online program with counselors and other staff members.

The new student online application provided a way for administrators to evaluate students concerning personal qualifications such as self-motivation, self-discipline, dependability, organizational skills, and technical skills. The teacher recommendation forms were a key component in deciding which students should be accepted for second semester. However, the middle schools varied in their approach to student selection. Two of the middle schools created an online learning administrative team, consisting of the DLA, a counselor, an assistant principal, and a core teacher. The members of this team, many of whom knew the students personally, evaluated applications and teacher recommendations, and decided on which students to approve. In one school, the principal evaluated the applications and chose participants. In the two other middle schools, the DLAs completed this task. Although the schools used the same application materials, I think the varied selection processes affected outcomes. Many types of learners can perform well in online courses if it is a subject that they really like. At least two of the schools received complaints from parents whose students were not approved. In some of these cases, the original decisions were reversed and students were then allowed to participate in the online courses.

In November of 2009, the Secondary Education Director, the Associate Superintendent, and I developed the Burke County Public Schools' Board Policy (Appendix G) and Administrative Procedure (Appendix H) for online learning for both middle and high school students. All of these steps led to more consistency in the online program initiative.

Each school had an Open House at the beginning of second semester during which the online program was explained and the importance of earning high school credit emphasized. Parents were informed that this credit would display on the student's high school transcript. In North Carolina, currently, high school credits earned in middle school display on the high school transcript, but the grade does not count in grade point average (GPA) or class rank.

Throughout second semester, I met with school DLAs once a month (See sample agenda from February of 2010 in Appendix I). At these meetings, we discussed student monitoring, the importance of recruiting the "right" students into the "right" courses, appropriate courses for middle school students, and other items pertinent to creating a successful online program at the middle school level. I also met with principals and assistant principals for the purpose of continuous evaluation of the online program. During these meetings, both DLAs and principals requested that we develop a prerequisite online course for BCPS middle school students, similar to *Success 101*, to offer in the fall of

2010. A committee was formed to begin work on this course in the summer of 2010. (See Appendix J for a copy of the implementation timeline.)

Differences in Progam Implementation Among Schools

Another question in my study was aimed at identifying the different practices used among the middle schools (scheduling, extra time available, DLA appointment and support, facilitated courses, administrator support, and faculty/staff support) to implement the online learning program. The differences noted in these areas affected outcomes of this online program.

Scheduling. Both administrators and DLAs commented frequently about the scheduling problems created by online classes. Even though middle school research often refers to flexible scheduling, this, apparently, is not the case with middle schools in Burke County. All of the middle schools use the A-Day, B-Day scheduling with students following these schedules for elective classes (art, music, computers, foreign language, etc.). For example, a student would participate in art on A-Days, then participate in music on B-Days.

Each student meets daily in an advisory group (a type of homeroom with structured activities) and then must spend adequate time every day in core classes (language arts, math, science, and social studies) and physical education, all resulting from state mandates. This leaves little flexibility in scheduling. During the first semester of 2009-2010 school

year, three of the five middle schools had eighth grade students

participating in online courses; with the schedules shown in Table 2.

Table 2

Middle School Scheduling for Online Courses—First Semester

School	Online Courses	Time Scheduled for online course	Extra Time Available*
Middle School #1	Success 101	50 minutes every other day (A Day)	Review Days—45 minutes (only periodically)
Middle School #2	Earth/Environ-mental Science	90 minutes every day	During lunch Before and after school
	French I	45 minutes every day (year-long course)	
	Latin I	45 minutes every day (year-long course)	
Middle School #4	Success 101	40 minutes every day plus 45 minutes every other day	No extra school time available

*All students could work outside of class from anywhere they had Internet access.

DLAs consistently expressed concern about the A/B Day schedule

for these online courses. NCVPS requires students to login to their online

courses every day. The time allotted to the online courses varied widely

among the schools. Students and parents complained of too little time in

online courses at school, except in School #2 which allowed their online

students to meet every day. A few students did not have Internet access

away from school which compounded the access issue. One DLA

remarked that " . . . the scheduling may not give them enough time in the classroom. We found out it was demanding and they need time and that was one of the hardest things in the beginning." Another DLA explained, "We've only got 30 minutes seat time every day–they barely get started and the bell has rung."

   Extra Time Available. During first semester, middle school #2 was the only school which provided students additional time to work outside their class period at school. However, during second semester, DLAs became resourceful in providing students with additional access opportunities, as indicated on Table 3. All schools but school #5 provided additional time at school for their online students.

Table 3

Middle School Scheduling for Online Courses—Second Semester

School	Online Course	Time Scheduled for online course	Extra Time Available*
MS #1	Earth/Environmental Science Medieval Studies	50 minutes every other day (A Day)	Review Days—45 minutes (only periodically)
MS #2	French I	45 minutes every day (year-long course)	During lunch Before and after school
	Latin I	45 minutes every day (year-long course)	
MS #3	African-American Studies Earth/Environmental Science French I Latin I Medieval Studies	45 minutes every other day (B Day)	Before and after school
MS #4	Earth/ Environmental Science Medieval Studies Spanish I	45 minutes every other day (B Day)	Some students had an extra 35 minute period most days (called Discovery)
MS #5	Latin I	35 minutes every day (semester course)	None documented

*All students could work outside of class from anywhere they had Internet access.

DLA Appointment and Support. In the fall semester, two of the three DLAs (Schools #1 and #2) were experienced computer teachers. The third DLA (in School #4) was a band teacher who was appointed to this responsibility due to an open period in his schedule.

In School #1, the DLA was a computer teacher who had experience in taking online courses. He was well versed in the requirements of online courses and knew how to assist struggling online learners.

In School #2, the DLA was a computer teacher with experience in both taking and teaching online courses. She was an active supporter of the online learning program in her middle school. She explained how she made sure that her students were successful online:

> I ran off the lessons ahead of time for them, made copies, and kept them on hand in case Blackboard was down and the students were unable to access the site. If a student misunderstood a concept, I looked for additional resources to assist the student with the content to ensure understanding. If a student fell below a grade of 85 (the threshold for a B in BCPS), I contacted parents to elicit additional help so that the student would spend additional time online at home to get caught up in the course.

In School #4, the DLA was a band teacher who had never taken an online course and was appointed as the DLA in the classroom due to an open period in his schedule. Furthermore, the DLA in School #4 attended none of the DLA workshops; the DLAs from Schools #1 and #2 attended all professional development opportunities concerning DLAs and their responsibilities. Additionally, the DLAs from Schools #1 and #2 had an advantage as each had taught the computer curriculum for several years and knew how to manage a computer lab and troubleshoot hardware and

software issues. The band teacher from School #4 was placed in the media center with twenty computers and had never taught in a computer lab previously. He struggled with answering questions for the students, getting the software to work, and had to wait for an instructional technologist to troubleshoot hardware issues.

In the spring semester, Schools #1 and #2 kept the same DLAs; School #4 changed the DLA from the band teacher to a computer teacher. This new DLA received individualized training from the DLA at school #2. She spent several hours observing the other DLAs (from schools #1 and #2) which enabled her to assist her students second semester. Schools #3 and #5 appointed computer teachers as the DLAs for their schools. At School #3, the assistant principal had been involved in the DLA workshops; no one from School #5 attended these workshops until second semester. Therefore, as second semester began, DLAs at Schools #3, #4, and #5 were inexperienced in assisting online learners.

DLAs realized that they had to be proactive in assisting students in their online courses. At first, the DLAs expressed concerns about contacting instructors on behalf of the students. They were unfamiliar with contacting AIG parents to inform them that their student was struggling. They did not realize that they had to guide some students through their assignments by reading the directions with them; they had to encourage some students to message the instructor if there were still questions; or even that they may need to find an additional resource for

students who did not understand the one link that an instructor provided for the content. DLAs eventually developed their own set of best practices to use with students, parents, and instructors.

Since they were in the process of learning to use Blackboard, many DLAs found themselves in an unfamiliar learning environment; where, they, in effect, had to learn "from" their students. These DLAs did not know the content, did not know the Learning Management System (LMS), and they were learning new ways to help online students. Although the high school DLAs offered assistance, the middle school DLAs had a much younger audience with different issues, such as new work requirements (many of the online students were not used to completing homework or thought completing missed assignments was unimportant), and immaturity. They also found themselves in classes with much older classmates. Furthermore, many of the new DLAs had not worked with the different software and tools (Wikis, blogs, Glogster, Bubbl.us, Audacity, Pronto, or Wimba classroom) before. Since these DLAs were experienced classroom teachers, however, they quickly added structure to the environment and eventually learned the software and tools they needed to assist online students.

Number of Facilitated Courses. Another challenge DLAs faced was the number of courses they had to facilitate. With the additional courses, DLAs found it difficult to provide all students with the support and

resources they needed. The number of courses DLAs facilitated varied by school and semester as shown in Tables 4 and 5.

Table 4

Online Course Participation by School—Fall Semester

School/Courses	Courses Offered	Number of Students
Middle School #1	Success 101	41
Middle School #2	Earth/Environmental Science	6
	French I (Year-long course)	5
	Latin I (Year-long course)	1
Middle School #3	No participation first semester	
Middle School #4	Success 101	20
Middle School #5	No participation first semester	
Total		**73**

Table 5

Online Course Participation by School—Spring Semester

School	Courses	Number of Students
Middle School #1	Earth/Environmental Science	17
	Medieval Studies	3
Middle School #2	French I (Year-long course)	5
	Latin I (Year-long course)	1
Middle School #3	African-American Studies	1
	Earth/Environmental Science	4
	French I	1
	Latin I	5
	Medieval Studies	1
Middle School #4	Earth/Environmental Science	14
	Medieval Studies	3
	Spanish I	1
Middle School #5	Latin I	9
Total		**65**

Administrator Perceptions and Support. Half of the principals/ assistant principals involved in the online implementation had themselves taken an online class and indicated that they had positive experiences with this type of course delivery. Based on their experience with online learning, however, they voiced several concerns about middle school students taking high school courses. These concerns included time management, rigor of course content, and the motivational level of students. A couple of principals indicated that they were afraid that these students would not succeed in any type of online learning environment due to the immaturity of most middle school students.

Although there was concern, the principals were supportive of the online program at each of the five middle schools. The assistant principals at Schools #1, #3, and #4 worked diligently to bring the implementation to fruition. They counseled with students, talked with parents, scheduled the students, ensured the appropriate technology was available in the classrooms being used, and worked with the DLAs during the implementation. They provided valuable suggestions throughout the implementation. School #5 was the least involved and had the least participation in the program.

Teacher Support. Some teachers opposed the implementation believing that face-to-face classes were superior to online courses. Other staff thought that students should not be pushed so early into rigorous

high school courses. Some of the DLAs indicated that other teachers were resentful of the time required by students in online courses.

Many teachers expressed concern about losing positions due to online offerings. For example, since foreign language was included in the online opportunities, foreign language teachers were quite concerned about their enrollments. Foreign language tends to be a low enrollment course at the middle school level in BCPS. To eliminate this concern, BCPS' online policy included a regulation that if a course was offered in a seated version, the student had to take this at their home school unless there was an unavoidable scheduling conflict. This eliminated this concern for the teachers.

Student Characteristics

Another question in my study was to determine whether there were student characteristics that could be associated with success in online courses. The Educational Success Prediction Instrument (ESPRI), developed by M. D. Roblyer from the University of Tennessee, has shown some promise with predicting online success with high school students based on student characteristics and course environment features (Roblyer & Davis, 2008). However, the ESPRI has not been used with middle school students. BCPS evaluated some of the same student characteristics used in the ESPRI (previous academic performance, EOG reading scores, and teacher recommendations) in their application for acceptance into online courses.

However, some students are successful online who do not fit into the characteristics that may be found to be the most promising. One principal shared a success story about a student who had originally been rejected for admittance into the online program. The student's previous academic performance was poor. However, as the second semester progressed, the student outperformed his peers in his online course and his performance in face-to-face courses improved. Online learning was the perfect solution for him. The principal admitted that she would have never admitted this student had he not been persistent in his attempt to enroll in this program.

During first semester, 73 students from three of the middle schools (Middle Schools #1, #2, and #4) took online courses. Sixty-five students, representing all five middle schools, took online courses second semester. As a whole, the students participated in 132 online course offerings. However, there were a total of 96 (unduplicated) students involved in the program.

Sex and Ethnicity. The majority of the middle school online students were white (83.3%), which is representative of BCPS schools. Minority participation was representative of enrollment in BCPS.

However, the majority of the participants were female (71.9%); which was not a fair representation of the eighth graders in BCPS. Specifically, 69 females enrolled in online courses compared to 27 males; almost three to one. Peg Tyre, a nationally renowned education writer,

indicates that boys across the nation and in every demographic are falling behind on almost every benchmark. Boys are more likely to be diagnosed with learning disabilities or to be placed in special education classes. She attributes this challenge with boys to several underlying factors; brain development, "boy" behavior, lack of male role models, and misguided feminism coming from the Title IX movement, which started in 1972 (Tyre, 2006). BCPS must do more to entice males to participate in rigorous educational opportunities.

Table 6

Online Students' Sex and Ethnicity

Ethnicity	Females	Males	Totals	Percentage
African-American	2	2	4	4.18%
Asian	5	3	8	8.33%
Hispanic	1	1	2	2.08%
Multi-Racial	1	1	2	2.08%
White	60	20	80	83.33%
Total	**69**	**27**	**96**	**100.00%**
Percentages	**71.88%**	**28.12%**	**100.00%**	

AIG Student Classification. Middle school principals often get complaints from academically or intellectually gifted parents that their students are not being challenged by the traditional middle school curriculum. BCPS administration thought that offering middle school students "for-credit" high school courses would address this complaint. Of the 96 students enrolled in online courses during the year, 77% were considered academically or intellectually gifted (students who show the potential to perform at high levels of accomplishment when compared

with other students of their own age, experiences, or environment, NC

DPI, n.d.).

Table 7

Online Student Classifications

Student Classification	# of Students	Percentage of Students
AIG Reading	17	17.81%
AIG Math	22	22.92%
AIG Reading & Math	35	36.46%
Autistic	1	1.04%
Other Health Impaired	1	1.04%
Speech-Language Impaired	1	1.04%
No Classification	19	19.79%
Total	**96**	**100.00%**

End-of-Grade Achievement Levels. North Carolina requires that

middle school eighth grade students take end-of-grade (EOG) tests in

reading, math, and science at the end of each school year. Achievement

levels are determined based on performance and are identified by

performance levels of I, II, III, or IV, with Level IV being the highest,

indicating that the student is performing consistently in a superior

manner beyond that required for proficiency (NC Public Schools, 2010).

As BCPS raced to enroll students in *Success* 101 fall semester,

assistant principals indicated that they used seventh grade EOG scores in

reading to invite students to participate in the online program. The

assistant principals explained that they believed that these reading scores

would equate to success in the online course.

During second semester, 23 new students were admitted into the online program. Although it was not a stated requirement in the application materials used with students second semester, it appears that proficiency level, as indicated by the EOG, was also considered in the selection process for second semester as well. However, it is uncertain whether this selection bias was self-imposed or deliberately imposed by the selection teams. Table 8 indicates the number of students participating and their corresponding reading achievement levels per semester and then the total number of students with unduplicated numbers.

Table 8

Reading Achievement Levels and Participation in Online Courses

Categories	Fall Semester # Students Participating	Spring Semester # Students Participating	Total Both Semesters (Unduplicated) # Students Participating
Level IV	48	46	62
Level III	23	16	31
Level II	2	2	2
Level I	0	1	1

Student Outcomes

Another guiding question in my research was to evaluate student outcomes in the online courses; course grades, EOG scores, and high school credits earned. From the student survey and from principal/assistant principal and DLA interviews, I have also provided

some observations concerning student changes in time management, use of technology, and preparation for future coursework.

Since BCPS changed the student application process from fall semester to spring semester, it is advantageous to separate the outcomes between these two semesters. Also, the majority of students participated in an elective course first semester and a "for credit" high school course second semester. Students, principals/assistant principals, and DLAs emphasized major differences in these two types of courses.

Fall Semester. During fall semester, 73 students participated in online courses, sixty-one of which took *Success 101*. The remaining twelve students took "for-credit" high school courses (Earth/Environmental Science, French I, and Latin I). No student earned a final grade below a C; 39 students earned As, 21 earned Bs, and 13 earned Cs.

Although there were many factors of influence, including the DLA, times allotted to the class by each school, support from other school personnel, Internet access away from school, etc., grades can be compared between the two schools where all students were enrolled in *Success 101* during first semester. In School #1, as depicted in Table 8, over half (25 of 41) of the students earned As, whereas, in School #4, only a third (7 of 20) earned As. Furthermore, while only 15% (6 of 41) of the students in School #1 earned Cs, a third (7 of 20) of them in School #4 made Cs. It seems likely that the qualifications of the respective DLAs in

the two schools played a role in the difference in grades earned by students in schools.

In School #2, twelve students participated in online courses (six students in Earth/Environmental Science, five in French I, and one in Latin I) for high-school credit. The DLA was a computer teacher with experience in both taking and teaching online courses. All students earned grades of B or better first semester.

Table 9

Fall Semester—Student Final Grades in Online Courses

	Fall Semester Grades			
Final Grade	School #1	School #2	School #4	Totals
A	25	7	7	39
B	10	5	6	21
C	6		7	13
D				
F				
Total	41	12	20	73

Spring Semester. In spring semester, a total of 65 students took "for-credit" high school courses online. This included 23 "new" students who were taking online courses for the first time. Therefore, BCPS had a total of 96 students (unduplicated) take online courses that first year (or 10.1% of their total eighth grade population). Forty-two students (out of the 73 students) were "repeat" students; those who had taken online courses first semester; which means that 57.5% of the first semester students continued to the second semester. For those who did not

continue in the online program, DLAs stated that students either felt that online learning was not for them or that their schedules did not allow participation due to other time commitments spring semester. All five middle schools participated in the online learning program during the second semester.

Grades decreased second semester as every student was participating in a high school "for-credit" course, as displayed in Table 10.

Table 10

Spring Semester—Student Final Grades in Online Courses

	Spring Semester Grades					
Final Grade	School #1	School #2	School #3	School #4	School #5	Totals
A	9	3	2	3		17
B	6	3	6	8	2	25
C	4			7	4	15
D	1		1		3	5
F			3			3
Total	20	6	12	18	9	65

All five of the middle schools used the new application process for second semester, except School #2 which did not accept any new online students second semester. The online application included a student section, a student/parent online learning contract, and two teacher recommendations. DLAs commented that the student/parent contract and the teacher recommendations proved beneficial in the application process.

As detailed in Table 11 (and from the grades indicated in Table 10), it appeared that the students in schools with the more experienced DLAs fared better than students in schools with less experienced DLAs. Also, the school with the most courses to facilitate (school #3) had the lowest student grade performance. These results support the opinion of administrators and DLAs that it is crucial for students to take some type of an introduction to online learning course as a prerequisite before the high school online courses.

Table 11

Online Course Participation by School—Spring Semester

School	Courses	Number of Students Participating	Number of Students who had Success 101	Experienced DLA
Middle School #1	Earth/Environmental Science Medieval Studies	17 3	17 3	Yes
Middle School #2	French I (Year-long course) Latin I (Year-long course)	5 1	5* 1*	Yes
Middle School #3	African-American Studies Earth/Environmental Science French I Latin I Medieval Studies	1 4 1 5 1	0 0 0 0 0	No
Middle School #4	Earth/Environmental Science Medieval Studies Spanish I	14 3 1	13 3 0	No
Middle School #5	Latin I	9	0	No
Total		65		

*Students had one online course year-long, they did not take Success 101 during first semester.

EOG Scores. According to Donald J. Leu, director of the New

Literacies Research Lab at the University of Connecticut, there is a new

literacy of online reading comprehension which is "defined by a process

of self-directed text construction" (2008, p.6). He further specifies that

students use five processing practices when reading on the Internet: identification of important questions, locating information, synthesizing information, evaluating information critically, and reading and writing to communicate. By participating in blogs and wikis, by utilizing numerous software tools to create assignments, and by continuously writing online, students are supporting these online reading comprehension practices. All of the principals, assistant principals, and DLAs interviewed for this study mentioned reading as one of the benefits associated with online learning. One administrator commented: "Ever since I have been in education we preach read, read, read . . . And the way to improve reading scores is by reading. And, in the online class, it's all reading. And, it's reading for information. And, it's reading for purpose . . ."

*A*ll online middle school students (96 students) were given a survey at the end of the year. Sixty-three of the online students participated in the survey (65.6%). The purpose of the survey was to get the middle school student's perspective about online learning, how taking this course had changed the student, what the student had learned, and if the student saw online learning as a viable option in high school. The majority of these students, based on this student survey, evaluated themselves as being average or above average in reading and writing abilities. The students thought (61.3%) that taking an online course would have no effect on their reading end-of-grade test.

When comparing reading EOG scores of the 96 students taking online courses to the eighth grade students not taking online courses, the online students were already outperforming the rest of the BCPS eighth graders on the reading EOG test. The students taking online courses only raised their average reading score by .37 of a point; while the other eighth grade students raised their average scores by .97 of a point as displayed in Table 12. These comparisons were not statistically significant and it is difficult to determine any real growth in reading for the online students.

The math end-of-grade test indicated similar results; with the non-online students showing more growth than the online students. The online students were also outperforming the the rest of the BCPS eighth graders in math. Therefore, results from the student survey, with no effect on EOG scores, appear accurate for this study.

Table 12

Reading, Math, and Science EOG Scores—BCPS Eighth Graders

	End of Grade Scores BCPS Eighth Graders 2009-2010		
	Projected Scores 8th Grade	Actual Scores 8th Grade	Difference
Students Taking Online Courses			
Reading	366.61	366.98	0.37
Math	367.21	371.60	4.39
Science		162.09	
Students NOT Taking Online Courses			
Reading	359.85	360.82	0.97
Math	360.75	365.18	4.43
Science		156.51	

Course Grade Results and Reading/Math Achievement Levels. There appears to be an association between EOG achievement levels and course grades in "for-credit" high school courses; although not statistically significant. Math and reading results were similar as displayed in Tables 13 and 14. This would need additional research for generalization of these results.

Table 13

Reading Achievement Levels and Grades in "For Credit" High School Online Courses

Categories	# of Students Participating	Grade of A	Grade of B	Grade of C	Grade of D	Grade of F
Level IV	51	18	21	8	4	0
Level III	17	3	5	7	1	1
Level II	2	0	1	0	0	1
Level I	1	0	0	0	0	1

Table 14

Math Achievement Levels and Grades in "For Credit" High School Online Courses

Categories	# of Students Participating	Grade of A	Grade of B	Grade of C	Grade of D	Grade of F
Level IV	53	20	21	8	4	0
Level III	17	1	6	7	1	2
Level II	1	0	0	0	0	1
Level I	0	0	0	0	0	0

Time Management. From the interviews, DLAs indicated that several students were not ready for the rigor or the time commitment for

online "for credit" high school courses. These eighth graders, even though most were academically or intellectually gifted students, had no experience with the requirements of high school courses. The majority of these students had taken the *Success 101* course, which was an online course designed for the purpose of exposing students to online learning. Students found that the rigor of the "for credit" courses exceeded that of the *Success 101* course. As one DLA remarked,

> For some of our AG kids, this is really the first time that
> some of them have been challenged to the extent that some
> of them could get things and some couldn't. They were not
> used to doing homework every day, but here they were
> required.

With the limited amount of time in school for these classes (as most schools used the A Day/B Day schedule), students had to learn to manage their time effectively. This, according to the DLAs and administrators, was a challenge for the majority of the students. As one principal explained,

> . . . these kids will tell you that it took them two weeks,
> maybe three, to get used to fact that they have to sit down
> and not check email and not check MySpace and Facebook
> and that stuff---but check the assignments and make sure
> that I've got what I need to get done this week . . .

Students seemed to agree with these administrator statements. Based on the student survey, 70.0% said that they could have managed their time more effectively.

Technological Skills. Even though Blackboard may not be the Learning Management System (LMS) the students are likely to use in future online courses, the technology skills they acquire while using Blackboard will be transferrable to other LMS platforms. Learning to use 21st century tools is becoming ordinary to most millennial students, who have grown up with technology.

From the survey, only 46.8% of the students indicated that the online course assisted them in improving their technology skills. Bob Wise, president of the Alliance for Excellent Education and former governor of West Virginia, explained that education has been slow to evolve and adapt to the new global economy. He says that American classrooms are not significantly different from what they were early in the last century (Wise, 2010). Even though adults see the use of these new tools as 21st century, students see these as commonplace and as an expectation.

Over 95% of the students indicated that they used Blackboard for the first time within the online course. Pronto, a messaging system, was chosen by 67.2% of the students; while 61% of the students indicated they used SAS (SAS provides online curriculum resources, particularly in the Earth/Environmental Science course) for the first time. Under an "Other

Replies" section of this survey question, students indicated that they had used Google documents (allows students to store and share documents online), Bubbl.us (allows students to brainstorm using mind maps), Glogster (allows students to create online posters), and Gizmo (provides students with interactive math and science simulations) for the first time while participating in their online courses.

Preparation for Future Coursework. With additional high school courses being offered online, gaining valuable online skills is a benefit for these students. Once they enter high school and eventually post-secondary education, these students will know what is required for online courses in terms of time management, commitment, and rigor. One DLA explained,

> . . .they are tackling their own education with the independence they are learning. They are able to set their own schedule, plan, commit for themselves without having somebody else telling them; they are learning all the necessary things for taking online courses that they are going to see in high school and college. These students will have a head start toward that that other students won't have.

Students were asked if they thought the online activities in the course helped them prepare for high school course work. Students indicated that they used the message center within Blackboard (70.5%), discussion boards (69.3%), Blackboard (68.9%), Microsoft PowerPoint

(61.3%), and Microsoft Word for writing assignments (58.1%), the most. Only 61.3% of Burke County responding students thought that Microsoft PowerPoint would help them, and only 58.1% of the Burke County students thought Microsoft Word would help them. According to North Carolina Department of Public Instruction, in 2009-2010, BCPS had a student to computer ratio in their middle schools of 1:1.8 (Public Schools of North Carolina, 2009). With Microsoft Office applications installed on all BCPS computers, BCPS students may feel that they have already mastered these applications and that this is not new software.

Over 80% (80.3%) of the BCPS students said that they could work more independently after taking an online course and 60.6% said that they were now a more confident learner. However, students complained most frequently about not having a face-to-face teacher. So, although they felt more confident, they still felt the need for an adult supervisor to support them in online learning.

Over 65% of the BCPS students said that they would recommend online learning to other middle school students. Interestingly, though, these same students (59%) said that they did not plan to take online courses in high school. Almost 79% indicated that the school system should continue offering online courses to middle school students. According to their comments, students found the "for-credit" online courses difficult. They mentioned that managing their time was difficult with their other middle school activities. Several students mentioned that

an introductory class was important to allow them to make a more informed decision about taking the high school courses. Also, students mentioned that online learning is for mature students who are willing to work hard. For those students who opposed online learning in middle school, comments reflected increased stress from the online class, trying to manage too many activities at once, and not being prepared for the rigor of high school classes.

Best Courses for Middle School Students

With a limited participation of 71 students in the online high school courses, it is difficult to determine with certainty the best courses for middle school students. BCPS had the most student online enrollment in the high school class Earth/Environmental Science (41 students), as shown in Table 15.

Table 15

Online "For-Credit" Course Participation by Subject—Both Semesters

School	Number of Students	Percentage
African-American Studies	1	1.41%
Earth/Environmental Science	41	57.74%
French I	6	8.45%
Latin I	15	21.13%
Medieval Studies	7	9.86%
Spanish I	1	1.41%
Total	**71**	**100.00%**

Most of the students performed well in this high school course; fourteen earned As, twenty earned Bs, six earned Cs, and one student earned a D.

This course seems to be at an appropriate academic level for middle school students. It is a required course for high school graduation and allows students to get this science credit completed early. Also, students taking Earth Science must take the required End-of-Grade test in Science at the end of their eighth grade year. DLAs/administrators suppoted offering this course. As one DLA stated:

> Earth Science has . . . about 15% of their curriculum in their EOG as an eighth grader. The Earth Science is helping prepare them to get ready for science in high school. I think these kids are going to really excel next year. It's going to really help them with the transition with the ninth grade and make it a little smoother.

An assistant principal added that "The Earth/Environmental Science course, students have said that it was much easier for them because they already have that science background." However, without another course of similar enrollment, it is really difficult to interpret these results definitively.

Latin I was the second most subscribed course by the middle school students (15 students). Performance in this course was mixed. Students (from the survey) and administrators (from interviews) expressed concerns about learning a foreign language online. Interestingly, though, the French I and Spanish I students, although there was limited enrollment, seemed to do well. One Assistant Principal commented: "I thought the foreign languages were going to be more

difficult but they seem to have done okay with the whole speaking piece. . . It was not the issue that I thought it was going to be."

Medieval Studies, with only seven students, was the third most subscribed course. The DLAs seemed to think that this course was a little too difficult for middle school students. For instance, one DLA stated, "I don't know that Medieval Studies . . .is a great choice for middle school. Those high levels of thinking skills may be . . . above eighth grade."

For this particular school year, 61 Burke County Public School students completed the *Success 101* preparatory course with a grade of C or higher and a 100% passing rate. Students earned 68 high school credits; with a 95.8% passing rate. Forty-one of those credits were earned in Earth/Environmental Science.

Table 16 shows the percentage of middle school students from Burke County enrolled in NCVPS for the spring semester. Compared to other eighth grade students enrolled in NCVPS courses, BCPS students performed well.

Table 16

NCVPS Middle School Online Spring Enrollment—2009-2010

Grade Level	Total Enrolled	Total Passed	Total Completions	Total Pass Rate	Total Completion Rate
Grade 6	34	26	33	83.87%	97.06%
Grade 7	169	136	166	85.53%	98.22%
Grade 8	1258	1055	1239	90.48%	98.49%
Burke County—Spring					
Grade 8	71	68	71	**95.77%**	**100.00%**
Percentage of NCVPS	**5.64%**	**6.45%**	**5.73%**		

Summary

This study has attempted to evaluate the processes, procedures, and outcomes of a middle school online program. Providing online learning opportunities for middle school students presents both challenges and rewards. Although there are few evaluation instruments for an online implementation, in Chapter Five, I will use the Appleton eSchool evaluation tool to determine which components were achieved successfully and what improvements should be recommended.

Unlike other levels of education, the DLA role is paramount to the success of an online middle school program. Also, in Chapter Five, I will review Rekkedal's (2003) phases of student support to see how BCPS met the needs of their online students. Rekkedal's phases may need to be revised or expanded to ensure that middle school students get the appropriate support.

The preliminary online course, *Success 101*, proved to be important to students' success in online learning. Students were able to determine if online learning was an appropriate opportunity for them before proceeding into a high school course. Since the State Board of Education ruled that middle school students could no longer take this course, I will discuss possible solutions for this issue.

Another important outcome of this study was to gain an understanding of middle school student characteristics that will most likely lead to online success. This has been an elusive target in all levels of online learning. In the following chapter, I will discuss these possible predictors along with the findings presented in this chapter, while recommending areas for further research.

CHAPTER 5: DISCUSSION

The purpose of this study was to evaluate one North Carolina school system's implementation of online learning into its five middle schools. In particular, the processes, procedures, and outcomes were examined to determine effectiveness of this online learning program based on the evaluation tool utilized by Appleton's eSchool. The challenges and rewards have been examined through interviews, student data collection, and a student survey. These additional questions were used to guide the research.

1. What steps are needed to implement an online program in middle school?

2. What implementation differences (scheduling, extra time available, DLA appointment and support, number of facilitated courses, administrator perceptions and support, and faculty/staff support) can be noted among the schools?

3. Were there student characteristics (demographic, classifications, reading achievement levels—EOG scores, prior academic achievement) that can be associated with success in online learning?

4. What were the student outcomes (course participation, EOG scores, time management, technological skills, preparation for future coursework, high school credits earned)?

5. Which online courses were most instrumental in fostering academic success?

6. What changes should be implemented for this online program in the future?

Revisiting the Implementation and Student Support Frameworks

By applying the Appleton eSchool evaluation tool, I identified strengths and weaknesses of this implementation and determined areas that need additional research for possible generalization to other programs. Also, by using Rekkedal's (2003) NKI Student Support framework as a model, I developed a middle school student support framework that can be used with BCPS students.

Program Information

Initially, Burke County provided little information to the majority of the prospective audience of this program, particularly students and parents. The first semester that this initiative was introduced was quite unorganized due to the fact that NCVPS offered BCPS additional online seats in the *Success 101* course near the registration due date and after school had started. BCPS had to advertise, enroll, and register students within a matter of days. Schools actually chose potential student candidates based on test scores and previous academic performance and then asked students to participate in the courses. Students had little time to react; parents had little knowledge of the program.

This communication issue improved second semester. Schools held Open Houses with the sole purpose of introducing the online program, including topics such as course selection, rigor, time commitment, high school credit and what it means, important dates, homework requirements, and contact information. Students and parents were able to view a sample online course during the Open House. Also, BCPS had prepared student application materials which included teacher recommendations and a student/parent contract. Throughout the semester, DLAs were required to send grade reports to parents and make contact with parents of struggling students. Several schools sent telephone messages to parents with important date reminders for the online students. Also, a few of the schools included information about the online courses in their weekly newsletters. Together, these methods of communication assisted parents and students with understanding more about online learning.

However, there were still parent complaints concerning insufficient information about the courses spring semester. BCPS needs to continue to find additional avenues of communication to inform parents about online course requirements, especially the "for-credit" online courses. Students indicated that the requirements for these "for-credit" courses surpassed those of the prerequisite course *Success 101*. Students felt inadequately prepared for the time commitment, rigor, and homework requirements for these courses.

As stated in the literature review, the Speak Up 2008 survey (from Blackboard) indicated that administrators are still reluctant to offer online opportunities to middle and high school students (Blackboard K-12, 2010). BCPS experienced this same reluctance from administrators and other school personnel. BCPS must continue to solicit administrative and faculty support for the online program at the middle school level by advertising benefits as well as positive student outcomes. Teachers must be convinced that teaching positions will not be lost due to offering these opportunities.

Program Orientation

Although NCVPS requires that students complete an orientation prior to participating in an online course, this was not enough for middle school students. Burke County needs to develop its own structured online orientation for students and parents to ensure that all understand the requirements of this type of content delivery system. In particular, the rigor of the high school online courses needs to be emphasized, including time commitment as well as homework requirements. BCPS has its own Moodle (a free Learning Management System, similar to Blackboard) server which could house this orientation. This orientation could be developed as a mini-course for all students, middle and high, and eventually elementary as hybrid units, hybrid courses, and/or online courses become available to elementary students.

Parent trainings could be provided by the DLAs at the beginning of each semester. Topics of discussion could include: navigating the LMS, reviewing the syllabi for the courses, locating extra resources for assistance, finding contact information for the instructor, viewing the student's gradebook, reviewing how to submit assignments, reviewing organizational tools needed in online learning, and emphasizing the importance of logging in consistently (attendance in an online course).

Also, an orientation mini-course needs to be developed for parents of online students emphasizing the time commitment, rigor, and support needed for students to be successful in online courses. This could be used by parents who are unable to attend parent training.

Program Technology

Burke County provided the necessary technology for students to be successful in these online courses. Each school was equipped with the appropriate software and hardware to support students in these courses. Internet access was consistent and the speed adequate. A tremendous advantage in the technology area at the middle schools in BCPS was that each school has a full-time on-site technology facilitator to address technology issues as they arise.

There were a few students who did not have Internet access away from school. This proved to be a disadvantage for these students. Since time was limited at school, having Internet access outside of school would have

been helpful. Also, most NCVPS teachers were available to chat (using Pronto) in the evenings. If BCPS could provide those few students with Internet access, this would provide equal access to course material.

Creating videos which guide the students through the most used Web 2.0 tools (Glogster, Mixbook, ToonDoo, Wikis, blogs, Wimba classroom, etc.) in online courses would eliminate much class time spent by DLAs. When many students encounter an assignment requiring the use of Web 2.0 tools, many of them do not know where to begin. They need additional support. Having videos available would save both the student and the DLA valuable class time.

Program Curriculum/Teaching

Burke County chose NCVPS as the provider for online courses. Once the provider was chosen, Burke County relinquished control over both content of the online courses and the teachers delivering the courses. However, NCVPS courses are required to follow the North Carolina Standard Course of Study guidelines.

Several administrators and DLAs voiced concerns about the foreign language courses. Students had to use additional software (Audacity) which provided another obstacle. Also, in a few of the schools there was no resident expert in the language (such as Latin and French)—an additional disadvantage. In the survey, students mentioned that having a face-to-face resource to answer additional questions would have been very helpful to

them. Students also suggested that the foreign language teacher videotape his/her lessons showing correct formation and pronunciation of the words, so that students could both see and hear the teacher speak the language. This request needs to be communicated to NCVPS as a recommendation for change in these courses. The three failures in for-credit courses came from foreign language courses—two in Latin I and one in French I.

Many students mentioned that not having a face-to-face teacher was a major concern. They indicated that learning course content "on their own," was difficult. As stated in the literature review, teachers of online courses should answer students' questions (in writing) within 24 hours. Without consistent dialogue, students do not feel engaged in the courses. In his study of both Korean and American university students, Jung-Wan Lee found that students want personalized and timely feedback. His results indicated that instructors must invest additional time and effort in providing timely feedback on assignments, evaluations, and other activities (Lee, 2010).

NCVPS requires that teachers have synchronous contact with students every two weeks, but this was not enough for many of the students. Continuous synchronous contact from the teacher with this age group is essential for student success.

Some students struggled with following directions in the courses. They indicated that the course directions should have been more clearly written. Course providers need to be aware that directions need to be

written in the simplest of form, and preferably supplemented with audio and video for younger students.

The number of courses that the students could choose from was quite limited (one science class, two social studies classes, and three foreign language classes). BCPS should revisit this issue. Limiting course selection because of the EOC score counting at the high school level is penalizing students who could succeed in these courses and move into more advanced educational opportunities upon entering high school.

Characteristics and Skills Displayed by Successful Online Students

Predicting student success in online courses continues to be difficult. As indicated in the literature review, the Educational Success Prediction Instrument (ESPRI) developed by M. D. Roblyer from the University of Tennessee is the only online student success predictive instrument found to date that has proven to be reliable with high school students. This instrument uses student characteristics and course/learning environmental features that determine potential success or failure of a student's participation in an online course (Roblyer & Davis, 2008). BCPS used several of the same predictors that Roblyer included in her instrument— achievement (reading and math EOG scores), responsibility (from teacher recommendations), technology skills (from the students' previous computer teachers), and organization (again from teacher recommendations). In

addition, for second semester, BCPS reviewed the student's previous performance in the prerequisite course, *Success 101*.

Course grades for students who took the preparatory *Success 101* course (the exploratory online course) were higher in their "for-credit" high school course second semester than their classmates who did not take the first course with 97.3% of those students making As, Bs, or Cs. Only one student in that group made a D the second semester. This percentage dropped to 78.8 for those students who did not take the preparatory course with four students earning Ds and three students earning Fs for their high school courses.

All DLAs and administrators emphasized that the introductory course, *Success 101*, was essential to the success of these young online students. Without this introductory course, students struggled with the rigor of the "for-credit" courses. Even though both students and DLAs claimed that the rigor was much more advanced in the "for-credit" course, learning the navigation, LMS tools, and the Web 2.0 tools in the *Success 101* course, eased the transition for students in the "for-credit" course. Since the state would no longer offer this prerequisite course for middle school students, BCPS decided that it would be necessary to develop its own prerequisite course for middle school students as an introduction to online learning. Every middle school student would have to take this course before taking a "for-credit" high school course to ensure student success. This would prevent a

student from having a lower and/or failing grade on their high school transcript. This also allowed any student to be eligible for online courses, not just AIG students.

All students in North Carolina must demonstrate computer competency as a requirement for high school graduation. BCPS administration decided that this prerequisite course would include these computer competencies as well as other topics which would support middle school core courses (math, science, language arts, and social studies). BCPS also decided that the prerequisite course would be created and available to students by the fall of the 2010-2011 school year.

Based on BCPS students, reading scores provided by the North Carolina End- of-Grade tests in the seventh grade were an accurate predictor of success in the online courses. BCPS students who made Levels III and IV on the end-of-grade tests were successful in the online courses, based on the outcome of course grades. However, additional research needs to be conducted to substantiate this finding. I would caution, however, that this is one predictor of student success in online courses and additional criteria should be evaluated along with reading scores.

According to the administrators and DLAs, teacher recommendations provided much needed information in the application process. Teachers knew the students' work habits, organizational skills, technological skills, and levels of motivation. These proved helpful in the determination of

success in the online courses for the BCPS students. This may or may not be generalizable to other students and/or programs.

BCPS must do more to encourage males to take advantage of advanced educational opportunities. More female students are classified as AIG in BCPS; and more females participate in Honors, Advanced Placement, and college courses. BCPS would have to acknowledge this as a system issue and set strategic goals to address it beginning in elementary school to make a difference. Additional research needs to be conducted in this area to determine causes.

Program Support

The DLA support in the five middle schools had the most influence on the students' online success. As early as 2001, Frid studied a small group of students (n=28, ages 7-12) participating in an online class for the first time. He found that the adult supervisor influenced the amount and quality of participation by students. He further noted that those without an adult supervisor did not finish the course or exhibited a marked decrease in the amount or quality of participation (Frid, 2001). In 2009, Tim Snyder, Executive Director of IDEAL-NM (a new online program) explained "A good site coordinator is like gold to our program. They *(sic)* become our knowledgeable and passionate ambassadors and set the tone for how well the school implements the online program" (Watson & Gemin, 2009, p. 15). This was true for the online students in BCPS as well. With middle school

students, DLAs must provide multiple avenues of support, which includes assisting the student with basic computer operations, contacting the instructor for the student, providing guided practice with new software, finding helpful resources to enhance the understanding of content, or finding a content expert. The DLA position presented challenges for regular face-to-face classroom teachers.

Training continued monthly for the DLAs throughout the year. Also, as the District DLA, I was available via telephone, text, and e-mail to answer questions and solve problems. However, the DLAs in Schools #3 and #5 still struggled to determine exactly what their students needed to be successful. Many issues seemed to affect performance at these two schools. The DLA at school #3 had five courses to facilitate, which proved to be too many if one uses student grades to evaluate outcomes. The DLA at school #5 mentioned that she did not contact parents or send progress reports/grades until late into the semester. Neither of these DLAs had ever taken an online class. Since these two schools did not participate in the online program first semester, none of their students participated in the *Success 101* course. Therefore, students had difficulty navigating and learning the LMS while learning rigorous course content simultaneously. School #5 also struggled with the shortest class time of all the schools.

Based on the struggles of the DLAs at these two schools, additional support needs to be offered to DLAs with little or no prior experience. One-

on-one training would be preferable as well as observing experienced DLAs assisting online students. Implementing specific monitoring guidelines would be helpful to first-time DLAs such as:

1. Call parents when a student's grade falls below an 85.

2. Call the instructor for guidance/remediation opportunities when a grade falls below an 85.

3. Develop a list of intervention strategies to use with students who are low performing (guided practice with students, content research, reviewing assignment requirements with the students, navigation of the LMS, etc.).

4. Create a list of in-house experts for assistance with specific content knowledge; i.e. world language teachers, advanced math teachers, etc.

5. Create a discussion board in Moodle for DLAs to discuss pertinent topics online. Current themes could be examined and researched for the purpose of determining BCPS best practices for specific student challenges and issues.

BCPS needs to develop a job description with these particular expectations for DLA positions. Although the majority of the students (78.5%; 51 out of 65) identified themselves as self-motivated via the student survey, this age group needs constant monitoring and encouragement to stay focused in online courses. Therefore, DLAs must be able to work closely with this age group using motivational methods that guide online students

toward success. It is also preferable that the DLA have extensive computer experience. Referring to the five phases in student support necessary for student success in online learning as proposed by Rekkedal, I propose that these phases be expanded and an additional phase included (Monitoring Students) for middle school as shown in the figure below.

Figure 1

Student Support Phases—Online Learning in Middle School

Phase One—Prospective

- Elicit buy-in from colleagues and administration
- Inform and train counselors about courses
- Advertise courses
- Counsel with prospective students
- Accept applications
- Identify students for participation in the program
  o Check requirements/scores
  o Prerequisite course
  o Competency in Web 2.0 skills
  o Contact students who are accepted into the program
- Begin ordering materials, textbooks, software (install required software)

Phase Two—Start-up Phase

- Register students with course provider
- Assist with scheduling students at the home school with adequate time for the online course
- Provide usernames/passwords; ensure student has access to course
- Provide student materials (textbook, Internet, additional software/hardware/peripherals)
- Provide Help Desk information
- Review syllabus/calendar with students (break down weekly due dates into daily due dates)
- Provide additional lab time for Orientation and Startup

Phase Three—Learning

- Assist with organizational skills
- Work with students on time managements skills
- Support students learning the:
  o LMS (Learning Management System)
  o Web 2.0 tools (technical skills)
  o Course specific content
- Provide additional resources as needed
- Provide additional lab time for students who may not have Internet access outside of class or for students who need extra help

Distance Learning Advisor

Student Support Phases—Online Learning in Middle School (Continued)

Distance Learning Advisor

Phase Four—Monitoring

- Check with students daily about their progress (check assignment completion and quality of work)
- Email/call/text instructors when student questions arise or technical issues occur (resetting tests, scheduling lab time for mid-term exams and finals)
- Act as liaison between instructor and student
- Provide students with alternative solutions for technical issues (downloading or e-mailing the teacher for assignments, finding alternative sites for broken links)
- Post progress reports every two weeks
- Contact parents frequently
- Use intervention strategies with low-performing students
- Update online instructors concerning school schedule changes if this affects lab time for students

Phase Five—End-of-Course

- Post final grades
- Collect data for evaluation purposes
  - Student demographics
  - Success/comparison to student application requirements
  - # of high school credits earned
  - Course grades
- Survey students to get student perspective of course and online learning in middle school

Phase Six—Post-Course

- Provide counseling to all students
  - Credits earned and how this affects scheduling in high school
  - Credits earned and how this affects graduation requirements
  - Online opportunities available at high school level
- Self-evaluation for improvement of DLA responsibilities

Program Data Collection

Data collected from this first year of implementation included course grades, high school credits earned, EOG projected and actual reading scores, course grades, student survey data, and interview results of administrators and DLAs. This same data needs to be collected for several years as the program moves forward to determine if the results, perceptions, and outcomes remain consistent. However, there are many opportunities with this program to collect additional data.

Recommendations for Further Study

As part of this study, I explored specific characteristics of online middle school students and their learning environments. This research needs to be expanded and repeated to determine if these findings prove reliable. A reliable instrument should be created and used to evaluate student characteristics such as gender, race, technological skill, reading skill, previous academic performance, motivational skill, organizational skill, outside commitments, Internet access away from school, parental support, and time management. Although the ESPRI instrument has proved reliable with some high school students, it has not been used with middle school students. The application process in BCPS used many of these same measures. Retesting this instrument with larger populations of middle school students would be advantageous.

The amount of time that a student spends in the course contributes to his/her success in an online course. Most of the students

in this study indicated that they spent little time in the course outside of school. Scheduled time in class, as well as extra time available outside of class, varied greatly among the schools. Determining actual student time in the course and comparing it to final course grades may provide potential students with guidelines for time requirements in online courses for academic success.

Valuable information might also be gained by gathering data about why students enroll in online courses and how those reasons are related to course performance. Additional research may focus on students who dropout/disenroll (drop out of a course through proper dropout procedures) or stopout (students who just quit participating in an online course without dropping the course through proper procedures), from an online course and the reasons for this.

Comparing the types of courses, elective versus non-elective, to student completion grades, would be valuable. In this study, students indicated that the elective course was much easier than the "for-credit" course. It would be advantageous to determine if this was consistent in other studies.

Another important area of future research would be student support, as measured by common characteristics of the DLA. Data areas could include certified/not certified, number of years in education, online learning background (taking a class, teaching a class), technology background, certifications, professional development related to DLA

responsibilities, and ages and types of students with whom the DLAs have previously worked. A study of the day-to-day activities of DLAs may provide data to support reasons why some DLAs are more successful with students than others.

The evaluation of online instructors provides many avenues for future research. In this study, students continuously commented about the need for additional contact with their instructor. Investigating the number of instructor contacts for each student and comparing this to student grades would provide valuable documentation as to the influence of instructor communication.

Finally, studying effective online learning programs would provide a way to share best practices across programs. Applying Appleton's eSchool evaluation tool is a starting point for this research, but the tool may need to be updated or revised as online learning moves from infancy to adolescence.

Conclusion

In conclusion, this study reviewed processes, procedures, and results of the implementation of online learning in one North Carolina school system's five middle schools. There were many challenges with this implementation. Although BCPS high school students had been using online learning opportunities for a few years, much of the personnel in middle school had concerns about offering online courses to these younger students. This was one of the most difficult obstacles in the

beginning. Although this improved by the end of the first year, this resistance still exists for BCPS.

Identifying student characteristics that lead to online learning success is still an elusive target. Although this study provided much data on these particular students, it is still difficult to precisely identify which students will be successful in online courses. Seventh grade EOG scores were fairly reliable in terms of predicting success for these eighth graders, although I feel this should not be used alone to identify students to accept into an online program. Teacher recommendations in this study also proved to be reliable predictors of success. Even when using all available student data, obstacles may still arise that prevent a student from succeeding in online courses.

This research has led me to the realization that the DLA has the most influence on student outcomes at the middle school level. The successful DLA uses multiple methods to provide student support. The DLA serves as cheerleader, researcher, technology expert, guide on the side, and disciplinarian. She/he keeps the student on task, assists with time management issues, teaches material organization, and contacts instructors and parents when necessary. The DLA needs appropriate and consistent professional development to meet deadlines, facilitate multiple courses, and manage multiple students with different learning styles and challenges. Having more than three courses to facilitate proved to be problematic for DLAs in these middle schools. This research also

indicated that some "for-credit" high school courses were more appropriate for middle school students than others.

The number of influences on student outcomes in online learning continues to make research in this area complicated. However, we continue to see the demand for online learning increase each school year. As Mickey Revenaugh, Vice President of Connections Academy (an online course provider) explains "Ensuring quality in a fast-growing enterprise like online learning is like upgrading the engine on a jetliner while it is in flight. It is an enormous challenge--but one that virtual program managers must embrace wholeheartedly" (Watson & Gemin, 2009, p. 23). We must continue to provide quality online experiences for our students by determining exactly what "quality" looks like in every area of the enterprise.

My Future Vision

As educators, we must change our current traditional school structures into fluid, flexible entities that engage and prepare students for the future. The home school population continues to expand and our dropout rates are alarming. Without a paradigm shift, public education will continue to falter. Historically, education has been slow to change and adjust to new technologies. Resistance, mostly adult resistance, normally overshadows the requests from students or from visionaries that see a different way of delivering education. This is the point at which education finds itself today.

As a previous high school principal, I have been privileged to see several school characteristics that I feel traditional schools should consider. I see the following characteristics necessary for survival of our secondary schools:

- Relationships—Developing relationships among students and instructors is one of the most important parts of a school setting. Students feel most comfortable in a school setting when there is an adult who shows concern for their well being. These adults serve as advisors, mentors, and guides and are a necessary component for each student to be successful school community members. Even in online courses, teachers must stay in continuous contact with their

students, both synchronously and asynchronously. Using

technology to stay in touch is critical to millennial students today

as they are continuously online and connected.

- PEP—Along with relationships is the development of the Personal

    Education Plan (PEP) for each student. The PEP should be based on

    a student's educational goals, and developed by the student, the

    student's mentor, the student's parent/guardian, and a group of

    instructors dedicated to this student's success. Ensuring that each

    student has a "village" is critical to address needs as they arise. The

    PEP will be updated each year and more frequently if needed. The

    Big Picture Schools (2011) use a similar student plan which they

    require teams to update quarterly.

- School Structure

    o Time—Seat time for courses should be eliminated. The school

        structure should be organized much like the workplace.

    o Scheduling (Students)—Teachers need to be able to alter

        schedules immediately to organize student groups based on

        weaknesses in certain topic areas. For example, students at the

        Carpe Diem Collegiate High School may work on all subjects

        each day or focus on math for the week; all instruction is based

        on current student progress—what the student actually needs

        for improvement in skill areas at a particular time. (Schorr &

        McGriff, 2011).

- o Scheduling (Teachers)—Teachers will also have flexible schedules, based on student needs. Online courses have already mastered this concept with teachers working from anywhere, anytime, and any place.

- o Layout—Schools should be designed so that there are several areas for group/project collaboration. Communication centers should be the norm with technological tools always available in optimal condition.

- o Technology—Technology should be available to every student all the time. Students should be taught how to responsibly use technological tools with constant access, including access to global partners. Engineers, facilitators, and software experts should always be available to assist students with instructional tools and ensure that these tools are operational with Internet access. Safety and security concerns should be addressed and controlled.

- Curricula
  - o Education should be built around projects (project-based learning—PBL) simulating workplace requirements. Teachers should develop projects to include all subject areas requiring collaboration, higher-order thinking skills with global colleagues/students as partners. Projects would be presented to teams of experts. Core teachers and Career-Technical Education

(CTE) teachers should collaborate to provide projects that use skills needed for a student's success.

o All students should become fluent in a foreign language.

o Courses should be taught using the blended (hybrid) learning approach (or totally online) with students attending class to secure guidance/advice on projects, to acquire knowledge on particular subject matter (meeting with subject experts), and to present project updates. Collaboration with team members will be through technological means.

o Online courses should be available anywhere, anytime, from any place. Online courses will provide subject matter experts for specialized training in areas unavailable otherwise.

o College courses will be available for those students who wish to accelerate learning in a particular area and earn college credit while in secondary school.

o Career-technical courses will be enhanced and updated continuously to include skill development to meet industry demands.

o All students will be involved in internships associated with their particular career choice. The Big Picture Schools require that their students complete a project while serving as an intern (2011).

- Support

  - Facilitators—Support personnel will become the norm in schools. These individuals do not have to be certified teachers, but will be able to provide multiple avenues of support; technology, mentors for projects, site coordinators for online courses, tutoring in specific subject areas, internship coordinators, etc.

  - Data—Current/continuous student progress data must be provided to teachers/facilitators to assist students who are struggling in specific areas (math, science, social studies, etc.) in a timely manner. For example, in School of One, located in New York, teachers are provided with daily reports, which are reviewed both individually and in a collaborative planning period where students are discussed and the formula for assisting them developed. Remediation is then provided the very next day. (Schorr & McGriff, 2011).

Student engagement is key to improving student achievement, dropout rates, graduation rates, and all other student growth models. Infusing technology, online courses, and hybrid models into future schools will improve student engagement. Schools also need data systems that provide educators with timely student assessment data, enabling teachers to provide one-on-one instruction in weak areas immediately. Schools of the future must operate very differently from

our current factory-era public schools of today. It is imperative that public schools move to a student-centered, technology-infused focus without delay.

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APPENDIX A

Key Components of Appleton eSchool's

Online Program Perceiver Instrument (OPPI)

Practitioners and program administrators use the OPPI to evaluate program performance in eight different areas:

1. Program Information: System provides and updates information necessary for prospective users to understand the program being offered and determine whether it may be a good fit for students.

2. Program Orientation: System provides an introduction or orientation that prepares students to be successful in the online course.

3. Program Technology: System provides and supports program users' hardware and software needs in the online environment.

4. Program Curriculum: System provides and supports an interactive curriculum for the online course.

5. Program Teaching: System provides and supports teaching personnel dedicated to online learning and their online students.

6. Characteristics and Skills Displayed by Successful Online Students: System identifies and provides opportunities for students to practice characteristics necessary for success in an online environment.

7. Program Support: System provides and supports a system of support for all online students and mentors (e.g., parents) and coaches.

8. Program Data Collection: System collects data and uses that data to inform program decision-makers and share information with other programs.

APPENDIX B

Student support in the NKI Online Distance Education System

Time	Support needs	Component responsible	Tools/applications
Prospective phase	Information about courses	Administration	Print, WWW, print/ broadcast media etc.
	Guidance concerning choice of courses and programmes	Administration	Phone, e-mail
	Financial questions, loans, grants	Administration	Print, phone, e-mail
	Guidance on practical matters	Administration	Print, phone, e-mail
Start-up phase	Dispatch of printed and other physical learning materials	Administration	Surface mail
	Registration/information/ user identity, passwords etc.	Administration	e-mail
	Introduction to online learning techniques	Administration Faculty	Phone, e-mail Phone, e-mail
	Initial follow-up	Administration Faculty	Phone, e-mail Phone, e-mail
	Technical support	Administration	Phone, e-mail

Time	Support needs	Component responsible	Tools/applications
Learning phase	Teaching/tutoring	Faculty	Phone, e-mail, Forum, WWW media
	Academic support	Faculty	Phone, e-mail, Forum
	Organisation of learning	Faculty	Phone, e-mail, Forum
	Social support	Faculty	Phone, e-mail, Forum
	Assessment	Faculty	Phone, e-mail, Forum
	Practical support, economy etc.	Administration	Phone, e-mail, Forum
	Follow-up	Administration	Phone, e-mail, surface mail
	Technical support	Administration	Phone, e-mail, Forum
	Resources/library	Administration	Print, WWW
	Learning group support	Fellow online students	Phone, e-mail, Forum
	Local learning support	Local faculty Classmates	Face-to-face
	Local administrative support	Local administration	Face-to-face, phone, print
	Local technical support	Local faculty Local administration	Face-to-face
	Local social/practical support	Employer Family	Face-to-face
Graduation	Diploma/accreditation	Administration	Print, face-to-face

Time	Support needs	Component responsible	Tools/applications
After graduation	Counselling on further study	Administration	Print, e-mail, WWW
	Counselling on job opportunities	Administration	WWW, Forum
	Alumni services	Administration	e-mail, WWW, Forum

Framework of student support services for NKI online distance students

APPENDIX C

Interview Questions
School Administrators

Demographic/Biographic Information

The information in this section will be used to categorize and speak to personnel used in the implementation of Burke County's online learning program for middle school students. No identifying information such as your name or your school name will be used in any part/report in this study. Anonymity and confidentiality will be maintained during and after this project is completed.

Name: _____

Role: _____

Years in Education: _____

Years in Present Role: _____

Number of Years of Teaching Experience: _____

Gender: Male   Female

School Name: _____

School Size: _____

How many students participated in the online learning program at your school this year?

Fall _____   Spring _____

In what courses? (Please check all that apply.)

_____   African-American Studies
_____   Earth/Environmental Science
_____   French I
_____   Latin I
_____   Medieval Studies
_____   Spanish I
_____   Success 101 (Middle school)

Have you ever taken an online course? _____ Yes _____ No

Have you ever taught an online course? _____ Yes _____ No

Signature _____

<u>Interview Questions</u>

1. What were your initial thoughts concerning online learning at the middle school level?
2. What do you feel has been the most difficult part of this program implementation with your middle school students?
3. How would you describe or define a successful/effective online program implementation at the middle school level?
4. Do you feel that online learning has been implemented successfully in your school? Why or why not? Explain.
5. Describe the attitudes and perceptions of other teachers and staff members at your school concerning online learning. In general, do you feel that they understand what it is, how students learn online, what tools are available to the students, etc.?
6. What barriers/roadblocks did you encounter when implementing this online initiative at your school?
7. How did you inform parents about online learning? (Letters, meetings, website?)
8. Were parents supportive of this program?
9. What do you think a student would say was the most difficult part of the online experience?
10. What do you think a student would say was the best part of the online experience?
11. What kinds of strategies did you use to ensure your students success in this program?
12. Did you have any students that were not successful?
13. What contributed to their not being successful?
14. Do you feel that there was any effect on the students' end-of-grade test scores by taking an online course? (If so, how?)
15. Did you find that some courses were better suited to your middle schools students than others?
16. In this system, only eighth graders were allowed to take online courses. Do you feel that the program should be expanded to offer online courses to sixth and seventh graders?
17. Will you change anything about the application process?
18. What will you do to ensure that you get the "right" students into the "right" courses?

19. Do you feel like you had the support that you needed to help your students?
    a. From Burke County?
    b. From NCVPS?
    c. From Blackboard?
    d. From the online teacher?
20. What would you do differently if you had the opportunity to undertake this implementation again?
21. Describe the overall vision for your school for online learning. Will it expand at your school? Why or why not?

APPENDIX D

Interview Questions
Distance Learning Advisors (DLAs)

<u>Demographic/Biographic Information</u>

The information in this section will be used to categorize and speak to personnel used in the implementation of Burke County's online learning program for middle school students. No identifying information such as your name or your school name will be used in any part/report in this study. Anonymity and confidentiality will be maintained during and after this project is completed.

Name: _____

Role: _____

Years in Education: _____

Years in Present Role: _____

Number of Years of Teaching Experience: _____

Gender: Male   Female

School Name: _____

School Size: _____

How many students participated in the online learning program at your

school this year?

Fall _____   Spring _____

In what courses? (Please check all that apply.)

_____   African-American Studies
_____   Earth/Environmental Science
_____   French I
_____   Latin I
_____   Medieval Studies
_____   Spanish I
_____   Success 101 (Middle school)

Have you ever taken an online course? _____ Yes _____ No

Have you ever taught an online course? _____ Yes _____ No

Signature _____

Interview Questions

1. What were your initial thoughts concerning online learning at the middle school level?
2. What do you feel has been the most difficult part of this program implementation with your middle school students?
3. How would you describe or define a successful/effective online program implementation at the middle school level?
4. Do you feel that online learning has been implemented successfully in your school? Why or why not? Explain.
5. Describe the attitudes and perceptions of other teachers and staff members at your school concerning online learning. In general, do you feel that they understand what it is, how students learn online, what tools are available to the students, etc.?
6. What barriers/roadblocks did you encounter when implementing this online initiative at your school?
7. How did you inform parents about online learning? (Letters, meetings, website?)
8. Were parents supportive of this program?
9. What contact did you have with parents throughout the semester?
10. What do you think a student would say was the most difficult part of the online experience?
11. What do you think a student would say was the best part of the online experience?
12. What kinds of strategies did you use to ensure your students success in this program?
13. Did you have any students that were not successful?
14. What contributed to their not being successful?
15. Do you feel that there was any effect on the students' end-of-grade test scores by taking an online course? (If yes, how?)
16. What technological problems were most prevalent for your students?
17. Explain your day-to-day experience with your students. In other words, how did you serve as facilitator—what did you do?
18. Other than specific course content, what do you think your students are learning by taking an online course?
19. Did you find that some courses were better than others for your middle school students?

20. Will you change anything about the application process?
21. What will you do to ensure that you get the "right" students into the "right" courses?
22. When you needed help, where did you go?
23. Where did you find the most help?
24. Do you feel that you had the support (content, technological, etc.) that you needed to help your students?
    a. From Burke County?
    b. From NCVPS?
    c. From Blackboard?
    d. From the online teacher?
25. What additional preparations should have been completed before full implementation of this online middle school program?
26. In this system, only eighth graders were allowed to take online courses. Do you feel that the program should be expanded to offer online courses to sixth and seventh graders? If so, what procedures should be followed to ensure that those students will also be successful?
27. As a teacher, has this experience changed your perceptions of online learning? How?
28. We are finishing our first full year of online learning implementation for middle school students. Do you feel that it was successful? Why or why not?
29. Describe your vision for your school for online learning. Will it expand at your school? Why or why not?

APPENDIX E

BCPS Student Survey
(Delivered Electronically)

1. Please enter your NC WISE #.
   NOTE: This number will be kept in a secure location and eventually will be changed to another number to ensure your confidentiality.
2. What middle school do you attend?
   a. East Burke Middle School
   b. Heritage Middle School
   c. Liberty Middle School
   d. Table Rock Middle School
   e. Walter R. Johnson Middle School
3. How would you describe your personal learning style?
   a. Self-motivated, self-disciplined, and organized
   b. Motivated, but I need help remembering assignments and due dates
   c. Spontaneous and not too disciplined—I need someone to motivate me and help me stay on top of my coursework.
4. How would you rate your reading and writing abilities?
   a. Above average; I enjoy reading and writing and am very comfortable completing these type of assignments.
   b. Average; I am okay with both reading and writing, but these are not my best strengths.
   c. Below average; I do not like reading or writing and tend to avoid classes that require numerous reading and writing assignments.
5. Which online course are you currently taking? (If you are not currently taking an online course, please check the one that you took last semester.)
   a. African-American Studies
   b. Earth/Environmental Science
   c. Latin I
   d. French I
   e. Medieval Studies
   f. Spanish I
   g. Success 101

6. Why did you take this class?
   a. I wanted to earn high school credit while I am in middle school to get a head start in high school.
   b. I really like this particular subject area and wanted to learn more.
   c. My parents made this decision for me.
7. How often do you log into your online course?
   a. Every day of the school week
   b. Four out of five days
   c. Three or fewer days per week
   d. More than five days a week
8. How much time per school day do you normally spend on this online course?
   a. 30 minutes or less
   b. Between 30 minutes and an hour
   c. An hour or more
9. Which best describes how you are taking this course?
   a. I am taking it 100% from home.
   b. I have a FULL class period set aside for this course at my school.
   c. I have a PARTIAL class period set aside for this course at my school.
10. How many days a week do you have this class at school?
    a. Every day
    b. A Day, B Day schedule
11. Please compare this course to your face-to-face (seated) courses at your school.
    a. I work just as hard on this online course as I do my face-to-face courses in school.
    b. I work harder in my face-to-face courses at school.
    c. I work harder in this online course than I do my face-to-face courses at my school.
12. Which of the following do you feel is the toughest part of this online class?
    a. Finding time to log in
    b. Not treating it like a normal class
    c. The instructions are hard to follow.
    d. The assignments are too difficult.
    e. Not having immediate access to my online teacher

13. When you need help in this course, who do you contact first?
    a. My online teacher
    b. My facilitator (the teacher physically in my classroom with me)
    c. The Distance Learning Advisor (DLA) for my school
14. Which method do you feel most comfortable using when communicating with your online teacher?
    a. Message Center within Blackboard
    b. Email
    c. Phone
    d. PRONTO (instant messaging)
15. Which of these best describes how you feel about your current overall grade in this online class?
    a. I am pleased with my grade.
    b. I am disappointed with my grade.
    c. I am okay with my grade, but I know I can do better.
    d. I do not care about my grade in this class.
16. What effect do you think participating in online learning has had on your end-of-course test scores this year?
    a. I do not feel that participating in online learning has had any effect on my end-of-course test scores.
    b. I feel that my test scores have improved as a result of my online participation.
    c. I feel that my test scores have decreased as a result of my online participation.
17. How would you rate the quality of instruction that you have received in this online course?
    a. Excellent
    b. Good
    c. Fair
    d. Poor
18. How could your online course be improved?
    a. Directions need to be more clearly written.
    b. Audio of some of the content would have provided me with a deeper understanding of the material.
    c. More visual aids
    d. More contact with other students
    e. More contact with the instructor
    f. More collaborative projects with other students

    g.   Easier navigation through the course (making it easier to find the things that I need)

19. After taking this online course, how would you rate your technology skills?
    a. About the same, I do not think that this course improved my technology skills at all.
    b. Improved, I feel that taking this online course assisted me in improving my technology skills. Although I am not an expert, I feel much more comfortable using technology.
    c. Much improved, I can now use e-mail, web browsers, word-processing software, multimedia software (PowerPoint), etc. with ease and am not afraid to try new programs as they become available.

20. Which software programs and/or applications did you use for the first time ever as you were taking your first online course this year? (Please check all that apply.)
    a. Blackboard
    b. Microsoft Word
    c. Microsoft Excel
    d. Microsoft PowerPoint
    e. E-mail
    f. PRONTO
    g. SAS
    h. Audacity
    i. Other? Please list.

21. Would you recommend this online course to other middle school students?
    a. Yes
    b. No

22. Do you plan on taking more online courses in high school?
    a. Yes
    b. No

23. Do you feel that your school system should continue offering online courses to middle school students?
    a. Yes
    b. No

24. Please explain what you like most about online learning.
25. Please explain what you like least about online learning.
26. Should online learning opportunities be continued for middle school students—why or why not?

APPENDIX F

Middle School Online Application Materials

Burke County Public Schools

Online Learning Application—Middle School

Student's Name _____Birth Date _____

NC Wise # _____ Current Grade: _____ School: _____

Address: _____ City: _____

Home Phone Number: _____ Email Address: _____

Parent/Guardian's Name: _____

Phone Number(s): _____ Email Address: _____

What course do you plan to take?

NCVPS Course Choice #1 _____

NCVPS Course Choice #2 _____

Why do you want to take this course? _____

_____

Please list all extra-curricular activities that you will be involved in the

semester you will take the online course.

_____

_____

☐ Yes ☐ No   Do you have access to the Internet away from school?

☐ Yes ☐ No   Have you discussed online learning with your school

counselor?

Student's Signature: _____ Date: _____

Parent/Guardian's Signature: _____ Date: _____

Counselor's Signature: _____ Date: _____

Office Use Only

☐ Yes ☐ No   DLA has discussed student's application with the

appropriate counselor.   Request: ☐ Approved   ☐ Denied

Principal's Signature _____ Date: _____

DLA's Signature _____ Date: _____
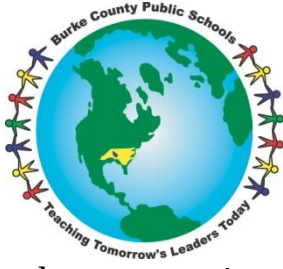
Burke County Public Schools
Online Learning Student/Parent Contract
Middle School

My parent/guardian and I, as a student, understand that by requesting to participate in online learning, I am making a commitment to the following:

- I will attend classes and fully participate in the enrolled course as required by the online course AND my home middle school. (Students will receive assignments via the Internet and will be required to complete them according to the online teacher's time schedule. Students will be working independently.)

- I understand that the online provider's calendar may not match Burke County Public Schools' calendar and I will submit assignments as required by the provider's calendar.

- I understand that once enrolled in an online course, I must stay in that course for the duration of the course.

- I understand that online courses will not be included in my GPA or rank at the conclusion/completion of the course. However, should I not complete the course, my high school transcript will include a failing grade for this course.

- I will inform my online instructor, my DLA (Distance Learning Advisor), and my school counselor in a timely manner if I am experiencing difficulty in my online course (e.g. technical difficulties, navigational difficulties, or comprehension difficulties).

- I will inform my online instructor and my DLA (Distance Learning Advisor) of any scheduled or unscheduled absences and make up any missed work as required.

- I will use courteous language while communicating with my online peers and my online instructor.

- I will use the school network in compliance with the Burke County Public Schools Acceptable Use Policy.

- I understand that some of the factors used to determine if I am eligible for online learning include, but are not limited to, the following:
  o Good attendance
  o Good academic standing
  o Good discipline record
  o Adequate computer skills

- o   Willingness to work independently
- I understand that I may need Internet access outside the school setting to keep up with my assignments.
- I agree to follow the EOG/EOC testing schedule (courses that have EOGs, EOCs, or VOCATS testing) that my home school provides for me.
- I agree to return textbooks to the designated location not more than one day after the final course exam.

**I affirm that I, the student, will complete assignments, projects, and tests without the assistance of another, unless permitted by the online instructor. I further affirm that all work will be of my own origin; I will cite sources when required.

My parent/guardian _____ and I, the student, _____ have read, understand, and agree to abide by this contract.

Parent/Guardian's Name (Print): _____

Parent/Guardian's Signature _____ Date: _____

Student's Name (Print): _____

Student's Signature: _____ Date: _____

Administrator's Name (Print) _____

Administrator's Signature of Approval _____ Date: _____

.

Teacher Recommendation

(Teachers: Student should complete the top portion of this form before giving it to you for completion.)

To Student: **Complete the following items before giving this form to your teacher for completion.**

Student Name: _____

Middle School: _____**Current Grade:** _____

To Teacher: The student named above wishes to take an online course during middle school. Please complete this recommendation form as part of the application screening process. The information you provide will be kept CONFIDENTIAL. ***Please return this form in a sealed envelope, with your name written across the seal, to the Counseling office. Please write the student's name and "ONLINE LEARNING" on the front of the envelope.***

Personal Qualifications	Excellent	Above Average	Average	Below Average	Unsatis-factory
Self-motivated					
Self-disciplined					
Dependable					
Responsible					
Organized					
Tech Savvy					
Self-Advocate (is not afraid to ask for help when needed)					
Attitude Toward Work					
Attitude with Associates/Peers					

Applicants are instructed to give a recommendation form to three of their *current year* teachers (two academic and one computer).

In what class have you had this student this year?_____

Do you have any concerns about this student's ability to have a successful experience in an online learning environment? ___ No ___ Yes; please explain a "yes." _____
_____
_____
_____

Do you: (please check one) ____ Highly recommend ____ Recommend

                               ____ Recommend with _____ Cannot
                                       Reservations   Recommend

Teacher Printed Name _____

Teacher Signature: _____ **Date:** _____

APPENDIX G

BCPS Online Education Policy for Students

DESCRIPTOR TERM: ONLINE EDUCATION POLICY FOR STUDENTS	DESCRIPTOR CODE: 3102	ISSUED DATE: **March 26, 2010**
	LATEST DATE REV.	CROSS REFERENCE

STATUTORY PROVISIONS
None

_____

STATE BOARD POLICY
None

_____

LOCAL BOARD POLICY

ONLINE EDUCATION POLICY FOR STUDENTS

Online education provides an opportunity for students to accelerate learning, recover credit, complete specific curriculum, and learning opportunities not available to the student due to scheduling or uniqueness of course offerings.

The following are acceptable reasons for a Burke County Public School student to enroll in an online educational course:

- The course is not offered at the student's home school.
- If the course is offered at the student's home school, the student is unable to take the course due to an unavoidable scheduling conflict.
- Students enrolled in online courses must be enrolled in Burke County Public Schools.
- Students must take the course during the regular school day at the school site, unless the building level principal has given prior approval for an alternate site.
- Students who have been suspended from the regular school setting and educational services are to be continued are eligible to take online courses provided enrollment is available at the specified providers (NCVPS, iSchool, community college, etc.).
- Students who are receiving homebound services are eligible for online courses with approval from the principal and the administrator responsible for homebound services at the district level.

Courses recommended for online instruction may come from the student, the teacher, the counselor, or the parent. The school principal, in consultation with the Distance Learning Advisor (DLA) and the building level counselor, will make the final determination as to the acceptability of the course(s) for the individual student. Online courses must meet the North Carolina Standard Course of Study goals and objectives. Advanced Placement courses must align with nationally validated standards. All online courses are first come, first serve by the particular provider and there is no assurance of registration in a particular course. Once enrolled in an online course, students may not drop the course without parent, counselor, principal, and DLA approval. Any schedule changes and/or drops must be made within the first ten days of each semester. All online course grades will be reflected on the student's report card and/or transcript. Any drops made beyond the ten-day allowable period will be reflected as a failing grade on the student's transcript.

The current online educational sites and/or programs for students that are recognized by Burke County Public Schools are:

- North Carolina Virtual Public School (NCVPS)
- Huskins and Concurrent enrollment courses through Western Piedmont Community College
- Huskins enrollment through the North Carolina Department of Public Instruction's Learn and Earn initiative (iSchool at UNCG and Western Piedmont Community College)
- Nova Net

Current and new online providers will be re-evaluated each year by the District Distance Learning Advisor with input from principals, DLAs, counselors, and curriculum directors.

:Supporting Documents
- Administrative Procedures—Online Courses
- Burke County Public Schools Online Learning Application—High School
- Burke County Public Schools Online Learning Student/Parent Contract—High School
- Burke County Public Schools Online Learning Application—Middle School
- Burke County Public Schools Online Learning Student/Parent Contract—Middle School
- Burke County Public Schools Teacher Recommendations—Middle School

- Burke County Public Schools Teacher Recommendations— High School

APPENDIX H

BCPS ADMINISTRATIVE PROCEDURE
ONLINE COURSES

The Burke County Public School system supports online education as a viable methodology for the delivery of instruction. To ensure student success in online learning, the following procedures will be followed:

- Students and parents must complete and sign an application/agreement to take an online course, which will be reviewed by the Distance Learning Advisor (DLA) and the student's counselor and principal before permission is granted for registration.
- The DLA shall register students for online courses at NCVPS. Students will follow prescribed registration procedures at iSchool and Western Piedmont Community College.
- The DLA will monitor student progress in all online courses for the duration of the course. Instructor contact and parental contact will be part of the monitoring process.
- Textbooks for North Carolina Virtual Public School courses and iSchool courses are provided free to the student. Textbooks for Learn & Earn Online (LEO) courses are provided free to the student. The textbooks will be obtained from the appropriate sources by the DLA. The DLA will assign textbooks to the online students and collect them from the students at the end of the course. The student must pay for any lost textbooks.
- Textbooks for online Western Piedmont Community College courses offered through concurrent enrollment and regular Huskins are the responsibility of the student.
- Students are responsible for student fees for online community college courses.
- High school students may take no more than two online courses per semester. Middle school students may take no more than one online course per semester. This may be waived by the principal.
- All state and local testing guidelines will be followed (refer to Board Policy #4.1160, Online Education Policy for Students).
- All students who take online Advanced Placement courses <u>must</u> take the AP exam at the end of the course. The student will pay for the AP exam fee.
- A copy of the official grades from the online provider will be submitted to the student's DLA for verification. The DLA will submit grades to the school's data manager for posting to the student's report card and transcript. (NOTE: A mid-semester interim grade may not be available in college courses. In many

college courses, only a final grade is provided.) Numeric grades received will be converted to the current BCPS grading scale and applied to the student's report card and/or transcript. Grades from iSchool and Western Piedmont Community College will be applied as follows to the student's report card and/or transcript:

Community College Grade	High School Grade on Report Card/ Transcript	Community College Grade	High School Grade on Report Card/ Transcript
A	A	W	F
B	B	IW	F
C	C	SC	P
D	D	NC	F
F	F	NS	F
I	I (grade must be replaced with a letter grade no later than the following semester; otherwise turns into an F)		

APPENDIX I

DLA Meeting
Middle School
Tuesday, February 16, 2010
Agenda

- Success Rates (First Semester)
- Parent Meetings
    - o Draft Agenda
    - o Dates
- Registration (Issues and Solutions)
- Drops (Prevention Strategies)
- Enrollment Caps
- Counselors and DLA Meeting
    - o Date
- Teacher Contact
- Course Offerings (Summer and Fall Registration)
    - o Online Academy (summer)
- Overall Issues and Solutions
    - o Difficult Students
    - o Apathetic Students
    - o Parent Help
    - o Textbooks
    - o Course content
    - o Equipment
    - o DLA training (what additional training do we need to complete?)
- Policies
    - o Board Policy
    - o Administrative Procedures
    - o Application (Review and Revise, if necessary)
    - o Teacher Recommendations
    - o Contract
- Advertisements (please bring what you use AND send an electronic copy to me via e-mail)
- Website (additional information needed)

APPENDIX J

BCPS Online Learning Implementation Timeline (2009-2010)

August, 2009
Meeting with Central Office Administration to discuss implementation

August, 2009
Meeting with Principals, Assistant Principals, and Central Office Personnel to discuss implementation

August, 2009
Meeting with Chief Technology Officer and technology personnel to ensure smooth implementation

August, 2009
Appointment of School DLAs by Principals

August, 2009
Meeting with DLAs to discuss implementation, recruitment of students, registration of students

August, 2009
DLAs recruit students, register students, inform parents

August, 2009
Fall classes begin. DLAs ensure students have materials, resources they need. District DLA orders textbooks.

August, 2009-January, 2010
DLAs monitor students, including instructor contact, parent contact, checking grades, etc.

August, 2009-January, 2010
DLA Workshops with District DLA and School DLA to discuss student monitoring

October, 2009
NC State Board of Education rules that no middle school student may take elective course, Success 101

October, 2009
Meeting with Principals, DLAs, Central Office to determine slate of courses for middle school students

October, 2009
District DLAs, School DLAs
Development of application materials for online students

BCPS Online Learning Implementation Timeline—(2009-2010) Continued

November, 2009
Recruitment of students for Spring semester

November, 2009
Meeting with Central Office Administration to develop board policy and administrative procedures

December, 2009
Registration of students for second semester ("for-credit" high school courses)

January, 2010
Second semester begins

January, 2010
District DLA and School DLAs meet to discuss data from first semester, ways to improve student monitoring

January, 2010
Spring classes begin. DLAs ensure students have materials, resources they need. District DLA orders textbooks.

January-February, 2010
Schools have Open Houses for online students and their parents

March-May, 2010
DLA Monthly meetings; discussion of updates, student monitoring

May, 2010
Meeting with Principals, DLAs, and Central Office to discuss development of prerequisite course for online learning

June, 2010
Meeting with Principals, DLAs, and Central Office, final discussion of topics to include in prerequisite course

July, 2010
Development of prerequisite course, BOLT, Burke Online Learning Team

August, 2010
Continued development of prerequisite course, BOLT, Burke Online Learning Team

AUTHOR RESUME

Deborah Harmon Kincaid graduated from St. Stephens High School in Hickory, North Carolina in 1975. She graduated from Appalachian State University in 1979 with a Bachelor of Science degree and a teaching license in Vocational Business Education. In 1980, she received her Master of Arts in Economics and Business from Appalachian State University. She earned her Doctor of Education from Appalachian State University in 2011. She taught in both Mississippi and Louisiana from 1980 until 1987 before returning to her home state of North Carolina. For several years, she worked in industry as a comptroller for a small manufacturing company. She then returned to education in 1997 teaching in the technology area at both the middle school and high school levels. She has also worked as assistant principal and principal at the high school level.

Currently, Deborah works as the Assistant Director of Student Information and Data Management for Burke County Public Schools. She also serves as the District Distance Learning Advisor for all online programs and Coordinator of the Career and College Promise program. She works as an online instructor for NCVPS, LEARN NC, and Caldwell Community College.