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A SECOND CHANCE TO GRADUATE ON TIME: HIGH SCHOOL STUDENTS'  
PERCEPTIONS ON PARTICIPATING IN AN ONLINE CREDIT  
RECOVERY PROGRAM

A dissertation submitted in partial fulfillment of the requirements for the degree of  
Doctor of Philosophy at Virginia Commonwealth University.

by

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## **Abstract**

### **A SECOND CHANCE TO GRADUATE ON TIME: HIGH SCHOOL STUDENTS' PERCEPTIONS ON PARTICIPATING IN AN ONLINE CREDIT RECOVERY PROGRAM**

By Eric L. Jones, Ph.D.

A dissertation submitted in partial fulfillment of the requirements for the degree of Doctor of Philosophy at Virginia Commonwealth University.

Virginia Commonwealth University, 2011

Major Director: R. Martin Reardon, Ph.D.  
Associate Professor, Department of Educational Leadership  
School of Education

High schools in the United States are facing increased scrutiny to increase the number of students graduating with a diploma in 4 years. This pressure comes from many sources. First, The No Child Left Behind Act of 2001 (NCLB, 2001) instituted graduation as a measure of a high school's success at the federal level. States soon followed by increasing accountability in this area. Differences in how graduation rates were measured and advancements in data tracking technology led to many states measuring cohort groups of students who enter high school in the ninth grade and tracking them to see how many graduate in 4 years. This measure became known as an on-time graduation rate and, in many states, became a measure used to determine high schools' accreditation.

School districts responded to these changes in accountability by instituting new programs designed to increase graduation rates and decrease the number of students dropping out. One type of program that has increased in popularity across the country is the online credit recovery program. Online credit recovery programs utilize an asynchronous online learning platform that is designed for students who are repeating a course they failed in a traditional classroom setting. Features of an online credit recovery program include a one-to-one learning environment where students interact with digital curriculum that includes text, audio, video, and graphic information. Online credit recovery courses are designed so that students can demonstrate mastery of known content quickly and focus on material they did not master the first time they took the course. This instructional approach, along with the asynchronous design that allows students to work through course content at their own pace, enables students to earn a course credit in a reduced period of time.

The purpose of the current study was to capture the perceptions of students who are enrolled in an online credit recovery program. The goal of the study to document what factors they believed contributed to their success. The study was driven by research questions which sought to analyze the (a) factors to which students attributed their success in the online credit recovery program, (b) perceived chances of graduating from high school on time after successfully completing the course, (c) relationship between the credit recovery course and the one-to-one laptop computing initiative supported by the school district, and (d) online learning environment of the credit recovery program, as compared to a traditional classroom setting.

A qualitative, phenomenological design was used to explore the research questions. Twenty retained ninth grade students were interviewed. Ten came from each of the two schools that first implemented the online credit recovery program in the school district. The researcher

inductively coded these interviews which allowed themes to emerge through the voices of these students.

These themes included a sense of control of the learning environment in the online credit recovery program that students did not feel in a regular classroom. This control was expressed by the self-paced, distraction-free, learning environment that was enhanced by the district's one-to-one laptop computing initiative. Also, increased and varied opportunities to demonstrate mastery fostered this sense of control. Another major theme that emerged was that students believed that their chances to graduate on time were improved because they were able to quickly earn a credit in a course that they had previously failed. The ability to recovery this credit allowed students to avoid traditional credit recovery options in which they felt they would not be successful. Students also perceived that they would continue to experience success if they were allowed to take other courses through the online credit recovery program.

## CHAPTER 1. INTRODUCTION

Thomas L. Friedman (2006) used the analogy of a flat world to describe the rapidly increasing global nature of the world. Friedman argued that economic and political globalization has reached a new level. A convergence of low-cost personal computers, world-wide fiber optic cables, and the proliferation of work-flow software has allowed individuals to compete and collaborate anywhere in the world (Friedman, 2006). As a result of globalization, the traditional workplace with four walls is disappearing. Instead, individuals are using new skills and tools to create workplaces from wherever they are at any particular moment (Mann & Kirkegaard, 2006). As a consequence of this new world order, workers in the 21<sup>st</sup> century must be adaptable, flexible, and willing to learn new skills (Overtoom, 2002).

### **Ramifications of Globalization for Public Education**

The impact of globalization on public education is profound. Bonk (2009) claimed that education has begun to mirror the flatness of society. This flattening of the world is bringing about major changes as “educational institutions and training organizations are being forced to modify or significantly change the instructional practices that they have used and often found highly effective since they were established” (Bonk, 2009, p. 10). Bonk summarized these significant changes to education in a flat society with the declaration, “Anyone can now learn anything from anyone at anytime” (p. 7). Bonk went on to say that for this declaration to hold true, students and instructors need access to the Internet.

Over the last two decades public education responded to the increasing influence of technology in the world by increasing access to the Internet. According to the National Center for Educational Statistics (U. S. Department of Education, 2001), in 1994, 35% of schools in the United States had Internet access. By 2002, 99% of schools had Internet access, an increase of 280%. Over the last two decades schools have spent well over \$60 billion on equipping classrooms with computers (Christensen, Horn, & Johnson, 2008). Further, major federal and state legislation over the last 10 years has emphasized the need for technology literacy. For example, the No Child Left Behind Act of 2001 (NCLB, 2001) established technology literacy as a core foundation for learning. The emphasis in NCLB was evidence that educators and policy makers realized that jobs and the economy were changing, and that the ability to use technology in a 21<sup>st</sup> century context was vital for preparing students for the future (Muir, Knezek, & Christensen, 2004).

Christensen et al. (2008) claimed that it was not enough to introduce technology into classrooms. The technology that has been introduced into public education over the last two decades has been predominantly utilized as an add-on that supplements traditional classroom teaching. In order for educational technology to mirror the change seen in other sectors of society, Christensen et al. (2008) argued that, “schools need a new system” (p. 38).

Prensky (2001) also stated that our educational system must change. He pointed to another reason for the “new system” proposed by Christensen et al. (2008): The students have fundamentally changed.

Our students are no longer ‘little versions of us,’ as they may have been in the past. In fact, they are *so* different from us that we can no longer use either our 20th century

knowledge or our training as a guide to what is best for them educationally. I've coined the term *digital native* to refer to today's students. They are native speakers of technology, fluent in the digital language of computers, video games, and the Internet. I refer to those of us who were not born into the digital world as *digital immigrants*. We have adopted many aspects of the technology, but just like those who learn another language later in life, we retain an 'accent' because we still have one foot in the past. (Prensky, 2005, p. 8)

Outside of school, students use technology tools to communicate, collaborate, create, coordinate, socialize, and evaluate (Prensky, 2005). Education needs to harness the power of the technology it possesses to engage students in learning activities that emulate the world in which they live.

### **Proliferation of Online Learning**

One example of education changing instructional practice to incorporate 21<sup>st</sup> century learning is online learning. Online learning is defined as learning that takes place partially or entirely over the Internet. Picciano and Seaman (2007) conducted one of the first studies to collect data on online learning in K-12 schools. For the purposes of Picciano and Seaman's study, the researchers categorized online courses as those where students spent at least 80% of their time engaged in Internet-based activities. Blended courses were defined as courses that included face-to-face and online instruction. To be defined as a blended course, 30% to 79% of the content had to be delivered via the Internet. Picciano and Seaman found that "nearly two thirds of all districts [63.1%] currently have students taking either online or blended courses with another 20 percent planning to introduce them over the next three years" (p. 7). Further, the

researchers estimated that approximately 700,000 students were enrolled in an online or blended course. This represented a dramatic increase from an estimated 40,000 to 50,000 students just 6 years earlier.

The growth in online learning is representative of many types of students being served by this instructional delivery model. Watson and Gemin (2008) stated that

online learning programs are designed to expand high-quality educational opportunities and to meet the needs of diverse students. While the primary reason online courses are offered in school districts is to expand offerings to courses that would otherwise be unavailable, the second most commonly cited reason for offering online learning is to meet individual student needs, according to a survey done by the National Center for Education Statistics. (p. 3)

Zandberg and Lewis (2008) found that students enrolled in online courses for a variety of reasons. One population served included students who took online courses because the subject or course was not offered at their home school. This was particularly true for advanced placement or other specialized courses. Another group served was students who took online courses to free up their schedule to take other courses at their home school. A third group was those students who were unable or unwilling to attend school on a regular basis.

### **High School Dropouts**

One population of students who is increasingly taking advantage of online courses are those that is at risk of not graduating. The number of students dropping out of high school has come under increased scrutiny over the last 10 years. Bridgeland, Dilulio, and Morison (2006) contended that NCLB raised awareness of the issue of graduation rates in the United States.



Increased scrutiny of graduation rates led to the conclusion that rates were higher than previously believed. Tyler and Lofstrom (2009) stated that this miscalculation was due to the way the data for dropouts were collected and how graduation was defined. While there is ongoing debate about how widespread the issue has become, one study contended that 1.2 million students were dropping out every year in the United States (Amos, 2008). This translates to 30% of all students in the United States dropping out before earning a high school diploma.

In 2005, the National Governors Association (NGA) led by Governor Mark Warner of Virginia declared 2005 the Year of the High School. The NGA signed an agreement to implement a common method for measuring the graduation rate. Many states used advances in state and national data tracking to implement cohort graduation rates (Balfanz & West, 2006). Cohort graduation rates are generated by tracking cohorts of students from when they enter the ninth grade until they graduate or drop out of school. Using statewide tracking systems, cohort graduation rates can account for mobility between schools anywhere within the state. In essence, students are no longer lost as long as they reside within the state. Cohort tracking has enabled the generation of more accurate on-time graduation rates. Cohort on-time graduation rates measure the number of students who graduate from high school in 4 years. Allowances for additional time in high school can be made for exceptional education students and English language learners.

### **Credit Recovery**

High schools began implementing online credit recovery programs as a response to the increased emphasis being placed on on-time graduation rate. Credit recovery is traditionally defined as a way to recover credit for a course in which a student was previously unsuccessful in

earning academic credit towards graduation (Watson & Gemin, 2008). Credit recovery programs, in general, have a primary focus of helping students stay in school and graduate on time. Historically, in a world of face-to-face learning, credit recovery was confined to retaking a course during the regular school day or during summer school. Students who had previously failed a course retook it in a similar setting and with similar teaching practices. While many students benefited from these time-tested methods, a significant number did not (Tyler & Lofstrom, 2009).

School systems investigating credit recovery programs for their students began looking for alternatives to the historical models. A new platform for credit recovery that emerged was online learning. Having flexible, self-paced, online courses that students could complete anytime, anywhere, offered many advantages to schools and students. Students could use the affordances of 21<sup>st</sup> century learning successfully to complete a course that they were unsuccessful in completing in a traditional classroom.

There are a number of commercial providers of online credit recovery programs. Designed to help students graduate from high school, these online courses are often aligned to state and national standards. Some companies provide online access to certified teachers, while others expect school districts to provide access to teachers for students completing the course. Students are enrolled in an online course and move through the course at their own pace. Courses include regular assessments to monitor students' mastery of material. The typical online program also utilizes interactive technology such as video, simulations, online discussion with master teachers, and instant feedback on quizzes to engage students in the content. In most

cases, school-based facilitators are able to manage, track, and assist students using comprehensive data reports supplied by the program.

As online credit recovery programs have begun to emerge, implementation in school districts across the country has taken many forms. A review of current credit recovery programs by The Principals' Partnership (2006) found that:

Credit recovery programs were scheduled a variety of ways: during the school day, after school, twilight schools (evenings), or during the summer. Some programs met at schools within the district and others have their own locations, such as in shopping centers. Some only accept students in the 11<sup>th</sup> or 12<sup>th</sup> grade and others had programs for middle school students, high school students, and over-aged students. Computer learning systems and Web-based online systems for delivering curriculum or augmenting direct teacher instruction were common. Some were used only onsite during regular program hours and others could be accessed anywhere/anytime. Some credit recovery programs only grant credit for regular courses or curriculum modules. Others grant credit for community service, life and work experience, travel study, passing exams, or correspondence. Some programs offer only one approach. Others offer multiple approaches. (p. 1)

The multitude of ways that online credit recovery programs are implemented across the country increases the difficulty in defining online credit recovery programs. This study focused on one online credit recovery program consistently implemented in one school district. A thorough discussion of this online credit recovery program occurs later in this chapter.

## Overview of the Study

Technology has the potential to change the manner in which students learn. The researcher investigated a 21<sup>st</sup> century solution to an age old problem—high school dropouts. There are many documented reasons that students drop out from high school. Bridgeland et al. (2006) interviewed over 500 dropouts who claimed reasons ranging from peer pressure to economic necessity to a lack of interest in the courses they were taking while in school. Another primary reason cited in the literature is students' failing courses in school and being unable or unwilling to make up these courses. This is particularly true for students who are entering high school as ninth graders. Watson and Gemin (2008) found that “over 60% of the students who eventually dropped out of high school failed at least 25% of their credits in the ninth grade, while only 8% of their peers who eventually graduated had similar difficulty” (p. 4).

This study captured the perceptions of students who were enrolled in an online credit recovery program in a suburban school district in Virginia that supports a one-to-one laptop computing initiative. All students participating in this study had failed at least one academic subject during their ninth grade year. As stated above, these students were at high risk of eventually dropping out of high school. Instead of participating in a traditional credit recovery option, such as retaking the course in a regular teacher-led classroom environment, the students volunteered to take part in an online credit recovery course. The goal of this study was to document the perceptions of high school students who successfully participated in an online credit recovery program to document what factors they believed contributed to their success.

The researcher proposed to interview 20 students who had successfully completed the targeted online credit recovery program. Successful completion was defined as demonstrating

mastery of at least 70% of the course content, and passing the state standardized assessment for that course, if applicable. The researcher analyzed the qualitative data gathered to discern if common themes or patterns emerged among the participants. The researcher correlated this qualitative data to course grades, program usage reports, and state standardized assessments. The researcher expected that common patterns would emerge that could shed light on factors that contribute to student success while participating in an online credit recovery program.

### **Rationale for the Study**

States and districts have created vast data warehouses which track student performance and disaggregate it to the individual student level. Many states have created individual student identifiers to more accurately track student academic performance and the factors that contribute to it. These states are able to accurately track student, school, district, and state data. The development of individual student identifiers has also allowed states to accurately track cohorts of students even if students move to other schools within the state. This led to the development of an on-time graduation rate which details the success of a cohort of students graduating in 4 years.

In response to pressure at the state level, high schools are searching for effective strategies to ensure that students graduate in 4 years. Knowing that not all students will be successful the first time they take a course, schools can be greatly assisted in their quest for enhanced graduation rates by the implementation of effective credit recovery programs. This researcher investigated one online credit recovery program in one school district that allows students to move at their own pace to master content and earn credits in a school district that supports a one-to-one laptop computing environment.

## Overview of the Literature

There are four main bodies of literature that are examined in Chapter 2 of this study. The concepts introduced in the overview below will provide a framework for analyzing results of the study.

### Dewey's Philosophy of Education

The theoretical framework for this study is traced back to the preeminent American philosopher and educator, John Dewey. Under Dewey's creed of education, schools are responsible for preparing students for an uncertain future. Instead of focusing on specific knowledge or training, the purpose Dewey (1897) stated was that

it means so to train him that he will have the full and ready use of all his capacities; that his eye and ear and hand may be tools ready to command, that his judgment may be capable of grasping the conditions under which it has to work. (as cited in Hickman & Alexander, 1998, p. 230)

This purpose was particularly important given the technological advances the world was experiencing at the time. Dewey anticipated the rapidly changing future of American society during the Industrial Revolution. He predicted that education would have to change to meet the needs of the society it served. In his seminal work, *Democracy in Education*, Dewey (1916) stated that, in education, "here is found also the flowering of the social and institutional motive, interest in the welfare of society and in its progress and reform by the surest and shortest means" (p. 203). Dewey's belief that education must mirror the society in which students live serves as a framework for this study.

## Education Community Response

Educational technology history dates back to chalk and slate. Subsequent innovations have resulted in improved student achievement (Harwood & Asal, 2007). Educational technology has taken many forms over the years. In the information age, educational technology can take the form of content-specific software applications, web-based activities, virtual learning, or online assessments (Katz & Rice, 2002). These educational technology practices vary in terms of objectives and outcomes. Examples include content delivery that is characterized by drill and practice, learner-centered applications, and data-driven virtual learning (Valdez et al., 2000).

**Twenty-first century skills.** In the last 10 years, numerous policy groups have identified a body of skills that is necessary for success in the Information Age. For instance, the International Society for Technology in Education (ISTE, 2007) has created standards to indicate the skills that must be mastered in order to prepare students to participate effectively as citizens in the 21<sup>st</sup> century. These standards are called the National Educational Technology Standards for students (NETS). The NETS identify specific skills that students will need to succeed in a changing world.

Another organization that works to promote 21<sup>st</sup> century skills is the Partnership for 21<sup>st</sup> Century Skills. This organization has created the Framework for 21<sup>st</sup> Century Learning to provide a roadmap for incorporating 21<sup>st</sup> century skills into public education. This consortium is made up of representatives from national educator groups, as well as business leaders in the field of technology (The Partnership for 21<sup>st</sup> Century Skills, 2003).

There are common elements between NETS and the Framework for 21<sup>st</sup> Century Learning. First, both emphasize the importance of knowing how to use computer technology effectively to locate information, as well as the ability to communicate information to others. Both frameworks make it clear that 21<sup>st</sup> century skills are about more than computer technology. Collaboration, creativity, and problem solving are featured prominently in both sets of standards. These skills have also been identified by researchers as the ones that are valued in the workplace now and are also expected to be valued in the future (Doukidis, Mylonopoulos, & Pouloudi, 2004; Pantazis, 2002; Stuart, 1999).

**Digital divide.** The term “digital divide” was coined by Allen Hammond (a law professor at New York Law School), and Larry Irving (a political appointee at the Department of Commerce), to express the gap between those individuals or communities who reap the full rewards of technological innovations and those that do not (Warschauer, 2003). Even though 99% of schools have Internet access, this does not ensure that all students benefit equally from computer technology. Over the last 10 years, the digital divide has become a concern in our educational system (Wyatt, Henwood, Miller, & Senker, 2000). The research indicates that if the digital divide is not addressed then entire groups of students will miss out on an important tool for the development of 21<sup>st</sup> century skills (Monroe, 2004).

**One-to-one computing.** One method of delivering instructional technology that has become increasingly popular is the one-to-one laptop computer initiative. In the last 10 years, local school districts and states, such as Maine, have initiated large one-to-one laptop computing programs (Muir et al., 2004). These initiatives have been characterized by students receiving a laptop computer for use inside and outside of school. Students are able to access the Internet



through schools' wireless networks. This instructional tool allows teacher and students to access information and instructional resources electronically. Having real time access to information and resources enables these laptop computers to become a staple for instructional delivery (Penuel, 2006). Anytime, anywhere access allows the seamless use of computer-based technology in the classroom. Further, access to the computer-based technology in school and at home opens up an array of educational resources and encourages communication with peers and teachers (Roschelle & Pea, 2002). Having a one-to-one laptop initiative creates a platform for online learning that is available to all students.

**Online learning.** Online learning is defined as learning that takes place partially or entirely over the Internet. Over the last decade, online learning has experienced explosive growth. In 2000, it was estimated that 45,000 K-12 students were enrolled in online courses. By 2008, that number mushroomed to over 1 million students (Christensen et al., 2008). This explosive growth in K-12 online learning is forecast to continue in the years to come. Nagel (2009) cited a report by the research firm Ambient Insight that said:

More than 2 million preK-12 students take some form of schooling online right now—whether attending a virtual school for all their classes or just taking one or more courses via the Internet. But while the vast majority of students will continue to take all of their courses in physical classrooms over the next five years, the number of students taking courses online will jump to more than 10 million by 2014. (p. 1)

Means, Toyama, Murphy, Bakia, and Jones (2009) completed a meta-analysis of the effectiveness of online learning. The researchers identified 522 independent studies for review. Of these 522 studies only 46 met the following criteria: (a) meeting the definition of online

learning, and comparing it to face-to-face instruction; (b) reporting enough data to calculate an effect size; and (c) employing an experimental or quasi-experimental research design.

Means et al. (2009) found that online learning produced stronger student learning outcomes than those designs that relied solely on face-to-face instruction. The most illuminating finding from the meta-analysis is that the researchers did not find a single study that met the three criteria above for the K-12 setting. Given the exponential growth in online learning, this Means' et al. meta-analysis clearly indicates a need for additional research at the K-12 level on this topic.

### **High School Dropouts**

High school dropouts are a serious issue facing society today. New methods for calculating the dropout rate have emerged from better data tracking systems at the state level. These methods show that only 70% of students graduate with a high school diploma—a lower rate than previously believed (Balfanz & West, 2006). The high dropout rate is exceedingly problematic; Bridgeland et al. (2006) found that high school dropouts are more likely than their peers to be unemployed, incarcerated, or live in poverty. Rouse (2005) calculated that dropouts have a cumulative cost in state and federal income taxes from age 20 through age 67 of over \$50 billion.

### **Online Credit Recovery Programs**

Educators have leveraged online learning to increase graduation rates through the use of online credit recovery programs. Zehr (2010) found that leading producers of online credit recovery programs have seen an eightfold increase in sales in the last 2 years. New York, Chicago, and Boston all recently launched an online credit recovery program. Dessoiff (2009) stated that educators are attracted to online credit recovery programs because they offer a

different way to motivate students who have failed courses in a traditional classroom setting. The interactive, self-paced nature of online credit recovery programs makes it particularly appealing for students at risk of dropping out given that one reason that students drop out is that they become bored and disinterested in a traditional classroom with teacher lecture as the primary instructional delivery model (Bridgeland et al., 2006). Zehr (2010) noted that there is no educational research on the effectiveness of online credit recovery programs.

### **Research Questions**

Zehr's (2010) comment regarding the lack of educational research on the effectiveness of online credit recovery programs provides an ideal segue into the research questions that drive this study.

1. To what do high school students participating in an online credit recovery course attribute their success in it?
2. How do high school students participating in an online credit recovery course view their chances of graduating from high school on-time after successfully completing the course?
3. What do high school students participating in an online credit recovery course perceive as the relationship between the credit recovery course and the one-to-one laptop computing initiative supported by the school district?
4. How do high school students participating in an online credit recovery course perceive the online learning environment of the credit recovery program, as compared to a traditional classroom setting?

## Design and Methods

The researcher interviewed 20 high school students who were enrolled in an online credit recovery program. The students were enrolled in two high schools within a suburban high school district that utilizes a one-to-one laptop computing program. Ten students came from each high school. Students who agreed to participate in the districts' online credit recovery program retook a course they had failed the previous school year. A class period during the school day was devoted to the online credit recovery program. Students used their school-issued laptops to access and complete the online credit recovery course they were assigned during this class period. Up to 25 students could be enrolled in the online credit recovery program during each period of the day. Due to the asynchronous nature of the online credit recovery program, students in one class period were assigned multiple classes to retake. Students within the same class could take English, social studies, math, or science courses since the course content was all online. A teacher was assigned to facilitate the program and assist students as needed. However, students primarily learned content and skills through the online program.

The goal of these interviews was to gain insight into the perceptions of these students as they related to the online credit recovery program. As Seidman (1991) claims, "At the root of in-depth interviewing is an interest in understanding the experience of other people and the meaning they make of that experience" (p. 3). These students were purposefully selected from a population of ninth graders who had successfully completed a course through the online credit recovery program. Successful completion of a course was determined by course grades and, where applicable, success on the appropriate state standards tests. Participants were students

who were in need of credit recovery, having failed at least one academic course during their ninth grade year.

### **Delimitations**

This study was limited to students who volunteered to participate in an online credit recovery program. It was further limited to students who initially failed at least one academic course during their ninth grade year, since this was a precondition for participating in the program. The study also focused only on students who had successfully earned a Carnegie credit through the online credit recovery program. Finally, since the district studied has a one-to-one laptop computing initiative, the results of the study should be limited only to district with a similar initiative.

### **Definition of Terms**

The following terms are central to the study. Definitions are provided to facilitate the reader's understanding of these terms as they are used in the context of this study.

*Instructional technology* is a combination of processes and tools used to address instructional needs of students. The emphasis of instructional technology in this study is on the application of computers and related technologies, such as software packages, multimedia devices, and other tools (Roblyer & Edwards, 2000).

*One-to-one computing* has many variations in its implementation throughout school districts. Core components of a one-to-one program include providing students with laptop computers preloaded with productivity software. Students are able to access the Internet through the schools' wireless networks. Finally, there is an instructional focus on using the laptop computers to complete academic tasks in the classroom. One variation common to one-to-one

programs is whether students are allowed to take laptop computers home for increased productivity. Some initiatives mandate that the computers stay at school for security reasons. Others, like the district in this study, allow students to keep laptop computers with them throughout the school year both in and outside of the classroom. This 24/7 access encourages anytime/anywhere learning (Penuel, 2006).

*Digital divide* is a term coined in the late 1980s that refers to the discrepancy between those individuals who possess the knowledge and skills to use technology tools and those that do not. The digital divide can exist between economic classes, racial or ethnic groups, or between developed and undeveloped countries (Warschauer, 2003).

*Twenty-first century skills* are a group of skills deemed necessary to survive in an increasingly complex and technologically advanced world. According to ISTE (2007), they include the ability to use informational technology to increase productivity and creativity, the ability to collaborate, the ability to communicate in a multimedia forum, and the ability to use technology to solve real world problems. Research has identified these skills as critical to success in the workforce (Overtoom, 2002).

## CHAPTER 2. REVIEW OF THE RELATED LITERATURE

The chapter is designed to review related literature that serves as the foundational rationale for providing students, who are participating in an online credit recovery program, a voice in articulating how they believe this type of program enabled them to reach the goal of becoming high school graduates. Examination of the literature reveals that credit recovery programs using computer-based online instruction are a present day response to a historical issue—high school dropouts. Using instructional technology to increase the number of high school graduates is an increasingly popular strategy to increase high school graduation rates (Picciano & Seaman, 2007).

This chapter will be divided into four sections. The presentation of related literature begins with an overview of John Dewey’s work, focusing on his philosophy of education playing a central role in creating a democratic society. This overview serves as the theoretical framework for this study through Dewey’s assertion that the goal of education is to prepare individuals to become fully contributing members of a democratic society. In order to accomplish this goal, the educational system must reflect society itself and allow students to communicate and collaborate in authentic settings. An educational system that reflects society 50 years ago cannot prepare all students to be successful adults today. Our society today is one that is increasingly reliant upon technology to communicate and operate.

The second section of the chapter will examine the response from the education community to the technology revolution. The proliferation of information and communications technology in public schools will be discussed. Technology by itself will not fundamentally change the way in which students are educated. In order to effect meaningful change that reflects the world in which students live, a framework of skills that students must possess in order to be successful has been developed. This framework has become known as the 21<sup>st</sup> Century Skills Initiative (Overtoom, 2002). These skills will be defined, and the ways in which they are being implemented will be discussed.

The issue of equity with regard to technology is invoked by the digital divide (Warschauer, 2003). The ramifications of this divide for society in general and specifically for education will be explored. School districts have initiated many programs to erase this digital divide among students within the walls of the school building. These programs include installing computer labs (both fixed and mobile), and issuing students laptop computers or other mobile computing devices for students to use at school. While these programs address the issue of the digital divide at school they do not address the issue once students go home. One program that accomplishes the goal of minimizing the digital divide at home and at school is one-to-one computing. One-to-one computing is defined as students having a laptop computer assigned to them for use inside and outside of school. Typically, students are able to access the Internet through a wireless network to give them access to information anytime, anywhere, at least when they are within the range of a wireless network. This includes access at school and at home, for students who have Internet access at home (Penuel, 2006). Studies documenting the advantages of one-to-one computing will be analyzed to determine the impact of this instructional model on



student achievement. The third section of this chapter will conclude with an examination of research related to online learning. Online learning in the K-12 environment has increased dramatically over the last 10 years. A review of literature on the impact of this increase will be conducted.

The final section of the chapter will center on the high school dropout issue and a specialized form of online learning, credit recovery, which is being instituted as a way to decrease the number of high school dropouts. This section will begin by examining the high school dropout issue, including establishing common factors leading to students dropping out, and the individual and societal costs associated with dropping out of school. An emerging strategy to reduce the dropout rate is through the use of instructional technology. Technology's role in serving as a platform for increased student learning will be explored. The focus will be on online learning that enables students to attain course credits required to attain a high school diploma.

The literature review will conclude with a review of the limited research on online credit recovery programs. Credit recovery refers to a student earning credit for a course that the student previously attempted but failed, thereby not satisfying a requirement for graduation (Watson & Gemin, 2008). Credit recovery is not a new phenomenon. Historically, credit recovery meant retaking the course in a traditional classroom setting either during the regular school year or during summer school. As Susan Patrick, CEO of the North American Council for Online Learning, stated: "When students have completed the attendance required in a course, and were unsuccessful, the options for earning credit towards graduation are often limited to using the same book, often with the same teacher, within the same seat time approach" (as cited

in Watson & Gemin, 2008, p. 16). With advancements in technology, credit recovery has expanded to include online learning as another vehicle to reteach content for students. Online credit recovery programs allow students to progress through the content at their own pace. Since seat time requirements have been satisfied the first time a student takes the course, students are often able to complete an online credit recovery course in a shorter amount of time and earn academic credit towards graduation. These online credit recovery programs have a primary focus on helping students stay in school and graduate on time.

### **Dewey's Philosophy of Education**

John Dewey was a prominent philosopher of the late 19<sup>th</sup> and 20<sup>th</sup> century. Dewey wrote extensively on education and its role in maintaining and furthering a democratic society.

According to Olafson (1977), Dewey was

not satisfied with any conception of the school as a stage of preparation and self-qualification for a life that [was] to come later; and he insist[ed] that a school [was] itself a major life-context, an institutional reality, and that as such it must exemplify and participate in the wider life of a democratic society. (p. 184)

The best way to prepare students to participate in society is for the education system to mirror the conditions which are valued by the community at large. This belief that education should not be focused on preparing students for a future life, but instead should build upon the life that students live every day is captured in Dewey's essay, *My Pedagogic Creed* (1897/1998), in which Dewey asserted "education, therefore, is a process of living and not a preparation for future living" (cited in Hickman & Alexander, 1998, p. 231). According to Boisvert (1998),

Dewey believed that education for the sole purpose of preparing students for the future was one of the great failings of traditional schools.

Dewey expressed distaste for regimented education built upon the acquisition of knowledge that prepared students for a specific future. Dewey is known as the father of experiential learning. In a real sense, the purpose of Dewey's philosophy of education is the infusion of social meaning and relevance into the learning activity that takes place in the school. Dewey advocated for the replacement of the individualist and intellectual organization of learning activities by the style of cooperative inquiry which he held to be at the heart of democratic social practice (Olafson, 1977). Dewey believed that schools isolated knowledge from practice, and operated within a cocoon instead of interacting with the wider society. According to Boisvert (1998), "The thinker, sitting alone and contemplating, must be replaced by a community of inquirers who share in the task of uncovering, creating and articulating truths" (p. 99). Thus, the social aspect of learning was vital to the acquisition and application of knowledge. For Dewey, communication is the foundation of social life. Communication allows individuals to remake themselves and to alter their environment (as cited in Boydston, 1970).

Dewey's focus on the social nature of education derived in part from the rapidly changing world around him. Dewey lived and wrote during the Industrial Revolution. At the time, society was rapidly changing from agrarian to industrial and from rural to urban. This environment reinforced Dewey's perception that we were incapable of predicting what the future would hold for society and its citizens. As Dewey stated (1897/1998), "With the advent of democracy and modern industrial conditions, it is impossible to foretell definitely just what civilization will be twenty years from now, hence it is impossible to prepare the child for any precise set of

conditions” (cited in Hickman & Alexander, 1998, p. 230). Society was rapidly changing, and education had to alter its purpose in order to keep pace. Passing on a codified body of knowledge would not allow students to be successful in the future. Dewey knew that these changes would spawn new knowledge and skills.

In particular, Dewey saw the role that technology and science were beginning to play in society. Dewey (1927/1998) stated that, “Science and the technology which has issued from it are dominant tendencies of the present culture, more conspicuously prominent in the United States than elsewhere, but everywhere all but universal in scope” (cited in Hickman & Alexander, 1998, p. 36). Advancements in technology allowed people, information, and goods to travel more quickly. These changes to the democratic society necessitated that citizens be adaptable to rapidly evolving conditions. The social nature of education was changing as well. As advancements in communication became the norm, it was incumbent upon the educational system to utilize these new communication systems. Dewey (1916/1998) stated the impact of these changes on the educational system:

A society which is mobile, which is full of channels for the distribution of a change occurring anywhere, must see to it that its members are educated to personal initiative and adaptability. Otherwise, they will be overwhelmed by the changes in which they are caught and whose significance or connections they do not perceive. (p. 88)

The quote above, written almost 100 years ago, encapsulates our society today. Dewey’s assertion that science and technology would change the way society operates has proven true. However, Dewey’s goal of producing individuals who thrive in a democratic society has not changed. A democratic society is still a social one in which individuals interact and adapt to

their surroundings. Increasingly, communication and collaboration occurs through the use of information and communications technology (ICT). If ICT is the mode for communication and collaboration in today's world it is imperative that public education's use of ICT increases. To not do so would perpetuate an artificial environment that does not mirror the society in which student's live.

### **Education Community Response**

Information and communications technology has changed the way the world operates. ICT has become the medium in which we communicate, learn, and work. ICT can be a catalyst for change that includes a wider variety of instructional methods that meet the needs of all students through differentiated instruction (Sandholtz, Ringstaff, & Dwyer, 1997). The interactive, visual, and kinesthetic nature of instructional technology can engage learners and facilitate collaboration to an extent never before possible. Access to these new communication tools increases the social nature of learning so critical to Dewey's philosophy of education.

More importantly, students are already using these tools in their daily lives outside of school. To increase relevance for students and to capture the true social nature of today's world, educators must leverage these tools as a way to further learning. Prensky (2005) declared students were already using ICT to engage in complex learning through social, collaborative means:

They're already busy adopting new systems for communicating [instant messaging], sharing [blogs], buying and selling [eBay], exchanging [peer-to-peer technology] creating [Flash], meeting [3D worlds], collecting [downloads], coordinating [wikis], evaluating

[reputation systems], searching [Google], analyzing [SETI], reporting [camera phones], programming [modding], socializing [chat rooms], and even learning [Web surfing].

(p. 9)

Learning becomes a public and highly visible activity which is collaborative in its very nature when ICT is incorporated into the school setting (Dimock & Boethel, 1999). This does not occur simply by adding technology inside school classrooms. In fact, instructional practices have changed little despite the proliferation of ICT. In most places, classroom instruction today looks much like it did two decades ago. According to Christensen et al. (2008):

If the United States is serious about leaving no child behind, it cannot teach its students with standardized methods. Today's system was designed at a time when standardization was seen as a virtue. It is an intricately interdependent system. . .schools need a new system. (p. 38)

Technology allows information to be accessed more quickly. It allows users to create real-world simulations and three-dimensional models to trigger long-term memory. Teachers can engage students with the visual nature of many technologies and employ multiple modes of instruction. However, if technology is not employed based on sound pedagogical principles that have been shown to support cognitive processes, then any potential benefit for the learner may be lost.

### **Twenty-first Century Skills**

There is a belief that a specific set of skills exists that schools need to incorporate into their instructional practice to engage students who have grown up in the 21<sup>st</sup> century. There are many organizations that began advocating the establishment of commonly recognized 21<sup>st</sup>

century skills. One of the first was the CEO Forum on Education and Technology (2001), which was a coalition of business leaders, educators, and policy makers that formed to establish and assess these 21<sup>st</sup> century skills. As the CEO Forum on Education and Technology concluded, “The definition of student achievement must be broadened to include the 21<sup>st</sup> century skills that will be required for students to thrive in the future” (p. 1). These 21<sup>st</sup> century skills align with Dewey’s philosophy of education in that they are not static skills that prepare students for a specific job or industry. Rather, they are skills that transcend those needed for an occupation. They are skills that maximize human interaction through collaboration, communication, and problem solving within the context of a world that relies on ICT in all of these areas.

The first comprehensive study of 21<sup>st</sup> century skills was conducted by Burkhardt et al. (2003) and resulted in a report sponsored by the North Central Regional Educational Laboratory (NCREL) and the Metiri Group. In the report Burkhardt et al. stated that, “schools must embrace new designs for learning based on emerging research about how people learn, effective uses of technology, and 21<sup>st</sup> century skills in the context of rigorous academic content” (p. 2). The report went on to say that the world in which our students live is considerably different from the world in which adults grew up, and that students will learn more when they are engaged in meaningful, relevant activities that are rooted in their world. Burkhardt et al. (2003) argued that the public must acknowledge that there are a specific set of skills essential for all learners.

The 21<sup>st</sup> century skills cited in the NCREL report (Burkhardt et al., 2003) included digital-age literacy, inventive thinking, effective communication, and high productivity—all framed within rigorous academic study. Burkhardt et al. identified these skills utilizing a process that included a literature review, an examination of contemporary reports on workforce trends,

an analysis of data from national educator surveys, and reactions from interest groups. This process included gathering data from educators at 10 state-level conferences, and conducting focus groups in Chicago and Washington, DC. Of particular importance was cross-matching the skills identified with national models that include the National Educational Technology Standards (NETS), the Information Literacy Standards for Student Learning, the Standards for Technological Literacy, and the Secretary's Commission on Achieving Necessary Skills (SCANS).

The CEO Forum referenced above was renamed the Partnership for 21<sup>st</sup> Century Skills (P21) in 2002. It is currently comprised of business leaders, educators, and policy makers, and is arguably the preeminent group lobbying for the inclusion of 21<sup>st</sup> century skills into our educational system. The P21 framework uses core content as the foundation for the development of skills of critical thinking and problem solving, communication, collaboration, and creativity and innovation. It is important to note that these 21<sup>st</sup> century skills are not new to veteran educators. In fact, these skills have always been important skills stressed by teachers. The difference in the 21<sup>st</sup> century is the infusion of technology into every aspect of learning. These skills provide a framework for education and create a new paradigm for learning that harnesses the power of ICT to develop citizens that will be successful in the 21st century.

P21 encourages states to join the partnership—as of 2010, 15 states are P21 states. These states are Arizona, Illinois, Iowa, Kansas, Kentucky, Louisiana, Maine, Massachusetts, Nevada, New Jersey, North Carolina, Ohio, South Dakota, West Virginia, and Wisconsin. In order to become a P21 Leadership State, a state must provide documentation of a commitment to incorporate 21<sup>st</sup> century skills into state curriculum from elected and appointed leaders within a



state, including the governor and the chief state school officer. States then must submit an application that details how the public schools within the state will infuse 21<sup>st</sup> century skills into their state standards. P21 Leadership States create standards, assessments, and professional development programs to ensure that all students are prepared for the 21st century workplace.

**Assessment of P21 skills.** Honey, Fasca, Gersick, Mandinach and Sinha (2005) wrote a report sponsored by P21 that asked a critical question: If 21<sup>st</sup> century skills can be identified, how do we measure whether students are learning them? Honey et al. contended that “the movement to embrace and foster widespread adoption of 21<sup>st</sup> century skills hinges on identifying ways to assess students’ acquisition and application of this knowledge” (p. 4). Thus, Honey et al. reviewed current assessments that measured key dimensions of 21<sup>st</sup> century learning.

Honey et al. (2005) identified 46 assessments that measured at least one of the 21<sup>st</sup> century domains detailed above. They ranged from the nationally-recognized National Assessment of Educational Progress to the less well-known Assessment of Analytic Reasoning and Communication Skills produced by The Council on Aid to Education. In addition, Honey et al. described state-wide efforts to create assessments. These included Connecticut, which passed a bill in 2004 urging the development of K-12 international education, and established a task force to recommend strategies for implementing the bill. In Massachusetts, the state’s Initiative for International Studies has convened conferences on Massachusetts and the Global Economy, and sought to identify classroom best practices and assessments to measure the effectiveness of instruction in this area. This emphasis on global awareness in a world that is shrinking due to technological advancements ties in well to the 21<sup>st</sup> century skills movement.

## Digital Divide

Over the last 10 years the digital divide has become a concern in our educational system. According to Warschauer (2003), the term digital divide was coined by Hammond and Irving to express the gap between those individuals or communities who reap the full rewards of technological innovations and those that do not. This term has highlighted a problem in education in the United States as schools increase computer usage, Internet access, and online instructional resources. Even though 99% of schools have Internet access, this does not ensure that all students benefit equally from ICT.

Each year the National Center for Educational Statistics surveys schools on various technology indicators. Schools with Internet access increased from 35% in 1994 to 99% in 2001 (U.S. Department of Education, 2001). In 1994 only 27% of schools with high minority enrollment had Internet access as compared to 38% of those schools with the lowest minority enrollment. Likewise, in 1994, only 18% of the lowest socioeconomic schools had Internet access versus 39% in schools with the highest socioeconomic levels. This represented a significant difference in access for minority and economically disadvantaged students. During the last 4 years for which there are data, this disparity has virtually disappeared. In 2001, there was only a one percentage point difference for minority students, and a two percentage point difference for students from lower socioeconomic circumstances.

Another facet of the digital divide, which impacts education, is a student's access to ICT while at home. In today's world, teachers are increasingly incorporating ICT into their lessons, content, and assessments (Picciano & Seaman, 2007). Having access to these tools during school is one side of the coin. However, if some students have the ability to reinforce or

continue learning at home while others do not, this creates an inequitable situation. The National Telecommunications and Information Administration conduct population surveys that detail computer use in U.S. households (U.S. Department of Commerce, 2000). Not surprisingly, in 2000, only 12.7% of households below the poverty line had Internet access. What is more alarming is the divergence in Internet access in households with a middle-class income (\$35,000-\$49,999) at 46.2% in 2000 versus households with the highest incomes (\$75,000) at 77.7% in 2000. These numbers show that, in 2000, students in lower, or even middle-class homes had significantly lower Internet access than those students who lived in homes with a higher socioeconomic level.

DiMaggio and Hargittai (2001) argued that as concerning as the data were with regard to access to ICT, the more important question was the inequality among the skills that students possess. The authors stated:

As the technology penetrates into every crevice of society, the pressing question will be *not* who can find a network connection at home, work, or in a library or community center from which to log on, but instead, ‘what are people doing, and what are they *able* to do, when they go on-line.’ (p. 3)

DiMaggio and Hargittai continued with a review of five forms of inequality that they suggested would exist even if differences in access were erased. They included differences in hardware connections and equipment, autonomy in use of the web, ICT skills, availability of social support, and variation of use. DiMaggio and Hargittai concluded with a call to refocus the research in the area of the digital divide to address these deeper inequalities that will still exist when everyone has access.

In order to overcome this digital divide schools must instruct all students in the use of ICT. It is not enough to place computers in a school. The computers and other forms of ICT must be used by all students. Schools must be cognizant of the fact that all students have adequate practice and instruction using the technology. This means that teachers must incorporate ICT into daily instructional planning.

### **One-to-one Computing**

One way to more adequately ensure substantial reduction in the digital divide is to undertake a one-to-one computing initiative (Penuel, 2006). In a one-to-one computing initiative, schools provide a laptop computer for each student to use while in school. Most one-to-one initiatives also allow students to take the laptop computer home with them to continue their learning while at home (Penuel, 2006). Another important defining characteristic of a one-to-one laptop computing initiative is that student laptop computers have wireless Internet access. Wireless Internet access in school allows students to access information from the worldwide web, as well as from internal school servers where course assignments and resources may be stored. This access to networked resources using a laptop computer at school for every student diminishes the digital divide. To truly erase it a school system would have to ensure that students have Internet access at home as well.

As DiMaggio and Hargittai (2001) stated, access to the hardware is not enough to erase the digital divide. A main focus of one-to-one laptop use is to facilitate the attainment of instructional objectives. Laptops are preloaded with educational and productivity software that are intended to become primary contexts for instructional delivery within classrooms (Penuel, 2006). In states such as Texas, Maine, New Hampshire, and Michigan, students in certain grade

levels throughout the state have participated in such an instructional initiative. Large districts such as Broward County in Florida, and Henrico County in Virginia have implemented a one-to-one laptop initiative in secondary schools as a whole (Penuel, 2006). Finally, many individual schools, both public and private, have instituted one-to-one laptop computing initiative in their classrooms.

The research community has not kept pace with this burgeoning movement (Mouza, 2008). Bonifaz and Zucker (2004) claimed that there were three goals that districts or schools cited when implementing a one-to-one laptop initiative. First, most initiatives focused on improving academic achievement. For many, this included increasing equity of access to digital resources for all students. Second, particularly for statewide initiatives, a goal was to prepare students for a workforce that increasingly relies on 21<sup>st</sup> century skills. A third goal, for some programs, was to seek a transformation in the quality of instruction by making it more “student centered.” Penuel (2006) conducted a review of the research literature, and located 46 research articles on one-to-one laptop initiatives. Most of the research published was descriptive in nature. Only four studies employed a quasi-experimental methodology with pretest-posttest designs and comparison groups (Penuel, 2006). Findings from these quasi-experimental studies, as well as the descriptive studies, showed positive effects of one-to-one laptop initiatives, but were narrow in focus. A discussion of the four quasi-experimental studies follows.

**Quasi-experimental study 1.** Russell, Bebell, and Higgins (2004) compared different student-to-computer ratios in classrooms at a single Massachusetts elementary school. Three different computer-to-student ratio conditions were compared: a 4:1, a 2:1, and a 1:1. There were many advantages noted for the one-to-one ratio. Students in the one-to-one condition used

laptops across the curriculum more than their peers participating in the other conditions. Students within the one-to-one group also used their laptops at home for academic purposes more than their peers. It is understandable that students would use laptops more at home if every student has a laptop. A 2:1 and 4:1 condition would preclude every student from taking their laptop home.

The most important finding arising from the Russell et al. (2004) study was that, based on classroom observations and lesson plan review, there was less large group instruction in classrooms that had the one-to-one laptop computing condition. The other two conditions are also favorable, although not to the same extent, for individual or small group instruction.

The fact that the researchers found more individualized instruction in the one-to-one condition is significant because individualized instruction is a hallmark on 21<sup>st</sup> century learning. Limiting factors of this study included that it was conducted in one school in grades 4 and 5. Also, neither students nor teachers were randomly assigned to a one-to-one laptop classroom. This could be a confounding variable since the teacher and students who volunteered for the one-to-one classroom may have been predisposed to using the technology more. Thus, it is difficult to generalize these findings beyond this limited setting.

**Quasi-experimental study 2.** Of particular relevance to this study is Schaumburg's (2001) study examining the effects of a one-to-one laptop computer initiative on technology literacy. Conducted at a high school in Germany, Schaumburg gave a researcher-designed technology literacy assessment to 45 students from two one-to-one laptop computer classes (ninth grade, age 14-15). These students were in their third year of participating in a one-to-one

laptop computer initiative. Schaumburg also gave the assessment to 68 ninth graders from the same school that did not use laptop computers, but had regular access to the school's computer labs. Students in the one-to-one laptop computer initiative performed better on the researcher-designed assessment than the control group.

The assessment measured productivity tool knowledge and use, skill in using the Internet, and knowledge of hardware and software. These findings confirmed that participating in a one-to-one laptop initiative improved computer technology literacy, as defined by Schaumburg (2001), compared to the computer laboratory access option.

Schaumburg's (2001) study has particular reference to this study because it found that students participating in a one-to-one laptop initiative increased their technology literacy when compared to students who can access computers only in a traditional computer lab condition. Technology literacy is a core 21<sup>st</sup> century skill. As Dewey's philosophy of education suggested, students' educational setting should mirror society as a whole. Today's society is dependent on technology to communicate and collaborate. The fact that Schaumburg found that technology literacy improved in the one-to-one laptop computing condition confirms that this configuration is associated with an increase in 21<sup>st</sup> century learning.

**Quasi-experimental study 3.** Gulek and Demirtas (2005) conducted one of the most comprehensive studies linking one-to-one laptop computer use to student achievement. Students in a middle school in California were followed for 3 years in cohorts. Approximately 30% of the students volunteered to participate in a one-to-one laptop computer initiative. These students were issued a laptop computer and grouped in classrooms with other students participating in the initiative.

Using cumulative grade point averages, end-of-course grades, and standardized test results as dependent variables, the researchers showed no statistically significant difference between students participating in the initiative and the rest of the student body prior to implementation of the program. After Year 1 of the study, students in the one-to-one laptop computer initiative earned significantly higher test scores and grades for writing, English, and mathematics. The findings for writing were the strongest and substantiated earlier research on the effect of laptop usage on writing performance (Goldberg, Russell & Cook, 2003).

There were limitations within this study. First, teachers volunteered for the one-to-one classrooms. It is possible that the differences in student performance could be related to differences in teachers. Second, although the comparison group approach showed no significant difference between the experimental and control groups in terms of selected academic outcomes prior to the program, there was no way in this design of ensuring comparability on other relevant characteristics like openness to learning with computers or other latent variables. It is plausible that students who were open to learning with computers chose to be part of the experimental group. Others who chose not to be part of the experimental group may not have been open to learning with computers, and may not have benefited from learning with computers even if they had been given them. In other words, there may well have been more factors impacting the outcome than simply use of computers. Random assignment of students to treatments would have been one way of strengthening this design.

A third limitation with this study relates to the lack of data on how students used laptops for learning. The study did not measure laptop use, only access to laptops. No observations



were conducted of classroom lessons. Further, teachers were not asked even to self-report how they integrated the use of the laptops into their lessons.

**Quasi-experimental study 4.** Finally, Mann (2008) conducted a comprehensive study in Henrico County Public Schools, Virginia. Henrico County Public Schools employs one of the largest one-to-one laptop computer initiatives in the United States. Mann's study focused on high schools in Henrico, where close to 15,000 students participate in a one-to-one laptop computer initiative. Mann designed mixed-methods, 3-year longitudinal population study of students, teachers, parents, and building administrators, collecting both quantitative and qualitative data. Each year of the study, parents, teachers, students, and administrators were surveyed and interviewed to determine their attitudes towards the one-to-one laptop computer initiative.

Mann's (2008) study was particularly innovative because it employed software that measured computer program usage, and gathered randomized real-time data that tracked both student and teacher program usage. A random sample of teachers and students was selected and had a software program installed on their laptop. The software program collected data on which programs were running on the computer. The frequency and duration of use for each program was also captured. In addition to tracking computer program usage, the software periodically prompted the owner of the laptop to describe what they were using the laptop to do at that moment in time. A screen message periodically instructed the user of the laptop, whether a teacher or a student, to type in what they were using the laptop computer to do at that moment. The message also asked the owner to summarize the current task being carried out on the laptop.

Mann's study represented a major step forward in gathering accurate data concerning the actual computer program usage (for example, word processing, spreadsheet, or Internet browsing), and self-reported data on what educational task was being facilitated by that program use (for example, writing a poem, brainstorming). These data provide detailed information on how the laptops and associated ICT are being used in the classroom and also provide longitudinal patterns to show changes in use.

Mann (2008) concluded that there were positive outcomes for student achievement based on Standards of Learning (SOL) performance. Students also reported that their study habits had improved and that they felt better prepared for the future. Students and teachers reported that instructional practices as well as student assessment practices were changing as well. Mann's longitudinal study documented that the randomly selected students who used laptops more frequently in class achieved higher scores than those randomly selected students who did not use laptops in class as often. This finding applied to six of Virginia's SOL tests. Mann's final technical report found that:

The average SOL test score gain associated with laptop use is 20.7 points in a 300-point range (SOL scores range from approximately 300-600). In this final report, Interactive, Inc. summarizes the relations between laptop use and student achievement over the lifetime of the laptop initiative [and of this study]. The 20.7 gain is composed of changes [positive and negative] for all subjects for all three years and is an 'all years, all subjects' summary gain. (p. 1)

To summarize, when compared to all Henrico high school students' achievement on the SOLs during this time period, students who used laptops in class the most scored on average 20.7

points higher than those who used them the least. Disaggregating the data to individual SOL subject tests, there were larger gains in social studies, reading and science. These larger gains were offset by decreased scores on the writing and Algebra I SOL.

Over the course of the longitudinal study, Mann (2008) found that students perceived the nature of classwork was changing. Years 2 and 3 of the study showed an increase in group work, problem solving, and real world applications:

Students report a change—their homework now requires them ‘to go to local business websites, collect data from businesses or other community groups or otherwise use technology outside the school.’ Students reported increased group work as a result of the laptops and group, team and cooperative work is a hallmark of *21<sup>st</sup> Century Skills Partnership* preparation. (p. 5)

### **Online Learning**

One of the benefits of a one-to-one laptop computer initiative is that it provides students with ready access to online learning when they have Internet access. Online learning is defined as learning that takes place partially or entirely over the Internet. Online learning can be conducted as a substitute to traditional face-to-face learning or in conjunction with face-to face learning, which is defined as a blended approach (Means et al., 2009).

Online learning is typically classified as either asynchronous or synchronous. Asynchronous learning allows students to access content at their convenience. Communication tools such as e-mail, threaded discussion boards, and newsgroups are employed for teacher feedback and peer-to-peer feedback. Synchronous learning approximates face-to-face learning using technologies such as webcasting, video streaming, and chat rooms (Zandberg & Lewis,

2005). According to Means et al. (2009) many online learning courses today employ both asynchronous and synchronous learning.

Online learning has experienced explosive growth in the last decade. According to Christensen et al. (2008), roughly 49,000 K-12 students nationwide were enrolled in online courses in 2000. In 2008, that number mushroomed to over 1 million K-12 students. Christensen et al. believed that the number of participants was likely to increase, as over 71% of districts that offered online courses stated that they planned to expand their course offerings in the future. This belief is also held by the research firm Ambient Insight which found that over 2 million preK-12 students were enrolled in online courses in 2009. The firm also projected that the number of preK-12 students taking online courses in 2014 will jump to more than 10 million (Nagel, 2009).

These courses have continued to expand in popularity because they serve a wide range of students. Online courses provide a flexible option for those who cannot or choose not to attend traditional face-to-face classes. They also allow access to courses that may not be available at an individual student's school. According to Means et al. (2009) online courses are popular with students who are looking to accelerate their learning and for those who are looking to acquire course credits that they failed to pass in a traditional classroom setting.

### **Researching the Effectiveness of Online Learning**

The explosion in online learning enrollment has spurred increased research into the impact of online learning. An examination of studies that contrast the effectiveness of online learning with traditional face-to-face learning is particularly relevant to this study. Cavanaugh, Gillan, Kromrey, Hess, and Blomeyer (2004) completed a meta-analysis of research studies on

the subject at the K-12 level. Cavanaugh et al. reviewed studies of 14 online education programs that operated between 1999 and 2004. Cavanaugh et al. found that “distance education can have the same effect on measures of student academic achievement when compared to traditional instruction” (p. 2). Their meta-analysis examined the impact of factors including content area, grade level, role of the instructor, length of the program, frequency of the program, instructor preparation, and the setting of the students. None of these factors had a statistically significant effect on student achievement.

This meta-analysis was limited due to only a small number of extant studies comparing online learning to traditional face-to-face instruction. At the time of the meta-analysis there were approximately 50,000 K-12 students participating in online courses, which may have impacted the number of studies conducted. Cavanaugh et al. (2004) acknowledged that measures of performance contained in the literature provide a limited picture of the full experience of students in an online learning environment.

A subsequent meta-analysis completed by Means et al. (2009) 5 years later provided a more complete picture of the effectiveness of online learning as it looked at studies outside of the K-12 arena, including higher education and workplace training courses. This meta-analysis was different than the one completed 5 years earlier by Cavanaugh et al. (2004), in that only studies of Internet-based learning were included. Distance education courses that videotaped instructor lectures were excluded. Means et al. reviewed all studies completed between 1996 and July 2008 that contrasted online learning to face-to-face learning. Online learning was defined as “learning that takes place partially or entirely over the Internet” (Means et al., 2009, p. 9). Online learning included courses that were taught completely through Internet-based instruction

as well as blended courses. Blended courses combined Internet-based activities with face-to-face instruction, where face-to-face instruction was defined as teacher-led instruction that included only text-based resources. In order to be defined as a blended course, Internet-based activities had to have been incorporated. These activities “served as a replacement for or an enhancement to conventional face-to-face instruction” (Means et al., 2009, p. 3).

Means et al. (2009) initially identified 522 independent studies for review. A 3-step screening process was employed to identify studies for further examination. First, all studies had to meet the definition of online learning discussed above and must have compared online learning to face-to-face instruction. Second, studies had to report sufficient data to calculate an effect size based on defined measures of learning. Third, only studies with controlled designs, employing either an experimental or quasi-experimental design that met a minimum standard, were included. Means et al. identified 46 studies that emerged from this screening process. From the 46 studies, 51 independent effect sizes were calculated.

Means et al. (2009) found that “classes with online learning on average produce stronger student learning outcomes than do classes with solely face-to-face instruction. The mean effect size for all 51 contrasts was +0.24,  $p < .001$ ” (p. 18). Means et al. went further to divide the 46 studies into two categories: (a) those with solely online instruction, and (b) those that employed a blended model of instruction. They found that classes that employ a blended approach combining online and face-to-face learning had a larger advantage than strictly online instruction. The effect size for studies that compared blended instruction with face-to-face instruction had a mean effect size of +0.35, which was significantly higher than the effect size

comparing strictly online instruction with face-to-face instruction which had an effect size of  $+0.14$ .

Means et al. (2009) cautioned against generalizing the findings to the K-12 population because the results were obtained primarily from other educational settings such as graduate programs and job training. In fact, the researchers stated that the most surprising finding of their literature search was that there were no experimental or quasi-experimental studies that compared the effectiveness of online and face-to-face instruction for K-12 students that met the criteria for inclusion in the meta-analysis. Further, Means et al. commented, many of the studies involving undergraduate or older learners suffered from small sample sizes, a lack of information about retention rates of students, and potential researcher bias. Means et al. concluded their meta-analysis by calling on K-12 educators to conduct, “rigorous research examining the effectiveness of online learning for different types of students and subject matter” (p. 54).

### **High School Dropouts**

Online learning has the potential to be a solution to a perennial educational issue: high school dropouts. This study arises from the increasing focus that has been placed on preventing dropping out of a high school in recent years. NCLB (2001) included graduation rate as an indicator of successful high schools across the country. Bridgeland et al. (2006) contended that NCLB raised awareness of the issue of graduation rates in the United States. Passage of NCLB in 2002 resulted in seismic shifts in our education system. Increased scrutiny of graduation rates led to the conclusion that rates were not as high as previously believed. Previous estimates were distorted because organizations utilized different methods of calculating graduation and dropout rates, and by the fact that student identification and tracking was difficult. More accurate studies

found that over 1.2 million students were dropping out every year in the United States (Amos, 2008). National studies have found that the true graduation rate is between 68% and 71%. This means that almost one-third of all students in the United States drop out before earning a high school diploma.

In 2005, the National Governors Association led by Governor Mark Warner of Virginia declared 2005 the Year of the High School. The NGA signed an agreement to implement a common method for measuring the graduation rate. Many states used advances in state and national data tracking to implement cohort graduation rates (Balfanz & West, 2006). Cohort graduation rates are generated by tracking cohorts of students from when they enter the ninth grade until they graduate or drop out of school. Using statewide tracking systems, cohort graduation rates can account for mobility between schools anywhere within the state. In essence, students are no longer lost as long as they reside within the state. Cohort tracking has enabled the generation of on-time graduation rates. On-time graduation rates measure the number of students who graduate from high school in 4 years. Allowances for additional time in high school can be made for exceptional education students and English language learners as has already been pointed out.

Bridgeland et al. (2006) reported that the decision to drop out of high school is an increasingly detrimental one for the individual and society as a whole. Dropouts are more likely than their peers to be unemployed, live in poverty, be incarcerated, be unhealthy, and be single parents with children who also drop out from school. One of the major ways that advancements in technology has changed the workplace is that jobs that do not require high school education and training have been replaced by machines, or are being outsourced to countries overseas



(Amos, 2008). In the past, the United States could afford to have large numbers of high school dropouts because they could still obtain well-paying jobs and support their families. However, Rouse (2005) recently quantified the cost of dropping out of high school and found that the situation has changed greatly over the past 50 years. Rouse summarized her findings in the following comparison.

In 1964 a high school dropout earned 64 cents for every dollar earned by an individual with at least a high school degree. In 2004 the high school dropout earned only 37 cents for each dollar earned by an individual with more education. High school graduation has been a necessary [but not sufficient] pre-requisite for making it in America. (p. 2)

Rouse (2005) also estimated the long-term impact for individuals and society of high school dropouts by stating that dropouts earn about one-half of the earnings of those individuals with only a high school diploma over the course of their lifetime. Rouse calculated that dropouts only contribute 40% of the state and federal income tax revenues of those with a high school diploma. Consequently, the cumulative cost of dropouts in regard to state and federal income taxes from age 20 until dropouts reach age 67 exceeds \$50 billion. It is important to note that Rouse's figure only represents income tax revenue. It does not include the increased costs for social services or the costs of decreased productivity in the workforce. According to Amos (2008), if the students who dropped out of the class of 2008 had stayed in school and graduated, the nation's economy would have benefited from an additional \$319 billion over their lifetimes. Amos went on to state that if the dropout rate remains the same over the next decade then those dropouts will cost the nation over \$3 trillion.

In 2006, Bridgeland et al. published a report written from the perspective of high school dropouts. It documented their insights and reflections about why they dropped out, and included their opinions about what schools could have done to keep them in school. The study documented “the perceptions of 467 ethnically and racially diverse students aged 16 through 25 who had dropped out of public high schools in 25 different locations in large cities, suburbs and small towns” (Bridgeland et al., 2006, p. 22). The findings of this study are skewed towards areas with high dropout rates and towards urban settings with 67% of participants living in a city. Provided the limitations of the study are kept in perspective, the findings are relevant to a discussion of why students drop out. Nearly half of the students said a major reason for dropping out was that classes were not interesting. Forty-three percent said they had missed too many days from school and were not able to make up missed work. Thirty-two percent of respondents were required to repeat a grade prior to dropping out.

Participants in the Bridgeland et al. (2006) study also discussed what might have encouraged them to stay in school. Eighty-one percent said they would have appreciated more opportunities for real-world learning. The same number of respondents stated that improved instruction that was differentiated for their needs would have been beneficial. These figures paint a picture of students who are disengaged from school. The traditional classroom with its undifferentiated approach does not meet their needs. In fact, three-fourths of respondents stated that smaller classes with more individualized attention would have facilitated their learning. Bridgeland et al. (2006) argued that

great schools learn to treat each student differently, rather than demanding that all students fit into the ‘one size fits all’ format of schooling that is widely used today. In

light of the fact that our current educational system produces about one-third of kids who do not graduate, and another one-third who are not sufficiently prepared by the education they have received to be college ready, it is crystal clear that some structural reforms are necessary. (p. 14)

### **Online Credit Recovery Programs**

The voices of high school dropouts such as those discussed by Bridgeland et al. (2006) illustrate that traditional high school is not meeting all students' needs. As discussed above, increased political and economic pressure has been placed on public education to reduce the dropout rate.

An emerging strategy to partly address the high school dropout epidemic is through implementing credit recovery programs. Trotter (2008) defined credit recovery as an opportunity for students to earn academic credit for a course they have failed previously. Credit recovery is not a new phenomenon. The time-honored institution of summer school is a form of credit recovery. In addition schools have offered evening classes and makeup classes during the regular school day for generations. For many potential dropouts these forms of credit recovery are not appealing because they often offer instruction in the same format using the same pedagogy that was associated with their failure the first time. As already quoted above, Susan Patrick, CEO of the North American Council for Online Learning stated, "When students have completed the attendance required in a course, and were unsuccessful, the options for earning credit towards graduation are often limited to using the same book, often with the same teacher, with the same seat time approach" (as cited in Watson & Gemin, 2008, p. 16).

Educators have begun looking for additional ways to motivate students who have failed courses in the traditional face-to-face classroom. Many school districts are adopting online instruction as the primary instructional delivery method for credit recovery (Dessoiff, 2009). The flexible and self-paced nature of online credit recovery is appealing to many students who have not been successful in a traditional classroom. Online credit recovery may be more engaging to some students because it can easily provide individualized instruction by the teacher or the course management technology (Watson & Gemin, 2008). Other advantages of online credit recovery programs include the fact that they can individualize instruction through flexible pacing and schedules. Programs can also be configured by the teacher to provide extra practice, frequent assessments, and self-monitoring of progress (Watson & Gemin, 2008). Also, since the seat time requirement has already been fulfilled by students when they initially took the course, online credit recovery programs can assess what students already know and concentrate time on concepts and material that needs to be mastered. As Christensen et al. (2008) stated, online credit recovery programs provide “modularity [which] means that students do not have to waste instructional time on concepts they’ve mastered; they can simply take the modules with which they struggled in order to pass the class” (p. 94).

There is no denying a huge growth in online programs for students who need to recover credits (Dessoiff, 2009). Many students take courses through state virtual schools. The largest of these virtual schools is Florida Virtual School (FLVS). In 2008, FLVS publicized the fact that nearly 20% of student enrollment was for credit recovery. This data are collected through

self-reporting by students when enrolling in a course—which FLVS acknowledges may not be accurate. Regardless, it is safe to say that a large number of students are taking courses to recover credits (Watson & Gemin, 2008).

Another set of data that needs to be more carefully collected is the success rate for students who are enrolled in courses for credit recovery. Many people claim that if a student is not motivated to pass a class in a traditional face-to-face classroom he or she cannot be expected to complete a course on his or her own. Again FLVS is one of the providers to collect data to answer this question. Watson and Gemin (2008) reported that, “In the 2006-2007 school year, FLVS students who self-reported taking courses for credit recovery had a passing rate of 90.2%, similar to the 92.1% passing rate for the entire FLVS student population” (p. 9). These data demonstrate that students who self-report that they are taking a course for credit recovery are almost as successful as those students who are taking courses for acceleration, enrichment, or because a required or elective course is not available at their home school.

Online credit recovery programs are high interactive with little text and many assignments that are structured as learning games (Dessoiff, 2009). Trotter (2008) claimed that commercial online providers such as APEX and PLATO have designed their courses to leverage ICT, relying on audio, video, graphics, and animations. They also personalize instruction to the individual student through diagnostic assessments and utilize the ability to communicate virtually with instructors and tutors. It is believed that this 21<sup>st</sup> century nature of online credit recovery is appealing to many students who may not be engaged by traditional pedagogy. As one educator told Watson and Gemin (2008):

Because of the e-learning aspect of our credit-recovery program, it also seems that students have changed their attitudes toward credit recovery. They realize that credit recovery is not all worksheets, repetition and drudgery; it also means relearning the standards in engaging and interesting formats with lots of visuals and graphics to help students learn. (p. 16)

This reliance on 21<sup>st</sup> century skills and ICT could be the basis of the appeal for many students. The interactive, personal nature of education is in line with Dewey's philosophy of education and 21<sup>st</sup> century learning. While there is scant research on online learning as a whole, the research on online credit recovery programs is almost nonexistent. This purpose of this study was to provide meaningful data about online credit recovery programs from the student's perspective.

### **Conclusion**

The purpose of this chapter was to provide a literature-based framework justifying this study. Beginning with the theoretical basis of Dewey's philosophy of education for a democratic society, a pattern emerges on the importance of instructional technology in fostering student learning. The recent theory that there is an emerging body of skills necessary for success in today's rapidly changing world, known as 21<sup>st</sup> century skills, which is particularly pertinent to this study. If there is indeed a set of skills that our high school graduates need to possess, what is the best way to teach and develop them within our K-12 schools?

Feeding into this idea of developing 21<sup>st</sup> century skills in all students is the notion of the digital divide. As pointed out previously, the idea that there is a divide between those that have access to ICT and those that do not has been thoroughly documented. Of more importance to

this study is the recent idea that the true divide between the “haves” and the “have nots” is related to the skills and knowledge that individuals possess.

Some schools, districts, and states believe that providing all students with a laptop for use both during and after school is a strategy to address some of these issues. These one-to-one laptop computing initiatives provide all students with wireless Internet access before, during, and after school hours within the school building.

More importantly, some districts have imbedded technology integration within the curriculum taught in classrooms. Thus, in the best case scenario, students are immersed in ICT. One of the main benefits of one-to-one initiatives is that they provide students access to online learning. The increasing use of online learning in K-12 education is documented above. Studies have shown that online education can be as effective as face-to-face instruction.

Against this backdrop of online education in a one-to-one computing environment, a critical issue in our educational system—high school dropouts—was explored. The prevalence and costs of high school dropouts demonstrate that it is an enormous problem in today’s society. Studies documenting why students drop out clearly show that one among many contributing factors is failing courses in a traditional classroom setting. An emerging strategy to combat this problem is credit recovery programs that use online instruction. Chapter 3 will continue with a description of the proposed study to document students’ perceptions of a credit recovery program in a large, suburban school district that employs a one-to-one laptop computing initiative.

### CHAPTER 3. METHODOLOGY

This chapter will focus on the methodology and design of this study. The purpose of a study should dictate the methodology and design employed (Rudestam & Newton, 2001). The purpose of this study was to give voice to students who participated in an online credit recovery program in a large, suburban public school district in Virginia. This school district employs a one-to-one laptop computing initiative for all of its students in grades 6 through 12. The goal of the study was to document perceptions of high school students who successfully participated in an online credit recovery course to establish what factors they perceived as contributing to their success. Program success is defined through these students' voices and by analyzing the shared meaning of their perceptions. The core meanings of the online credit recovery experience were identified and this clarification contributes to the body of knowledge pertaining to online credit recovery programs. The researcher designed the study and its methodology was derived from the research questions listed below:

1. To what do high school students participating in an online credit recovery course attribute their success in it?
2. How do high school students participating in an online credit recovery course view their chances of graduating from high school on-time after successfully completing the course?



3. What do high school students participating in an online credit recovery course perceive as the relationship between the credit recovery course and the one-to-one laptop computing initiative supported by the school district?
4. How do high school students participating in an online credit recovery course perceive the online learning environment of the credit recovery program, as compared to a traditional classroom setting?

This chapter is organized into seven sections. The first section will be an introduction to the design population. The design population describes the parameters of the study and the environment in which the credit recovery in the division exists. This context setting is important for interpreting the findings of the study. The second section will center on a rationale for conducting a qualitative study. This section will also describe the type of qualitative methodology that was used. The third section will lay out procedures for initiating the study; including the steps initiating the study within the division as well as Virginia Commonwealth University's Internal Review Board process. The fourth section will describe how participants were selected for the study. As part of this discussion, the methods for attaining informed consent and assuring confidentiality will be shared. The fifth section will detail the data collection and analysis techniques that were followed throughout the study. Specifically, the instruments used to collect data, the program to record interviews, and interview protocol will be discussed. The sixth section will address issues of quality and credibility. The chapter will conclude with a summary of delimitations of the study.

## **Design Population**

The school division comprises 245 square miles surrounding a large city on the East, North, and West. The school system has a student population of approximately 49,000 students. The district has an unusual mix of diverse settings and can truly be characterized as urban, suburban, and rural. Minority students make up 51% of the district's population and 35% of students qualify for free or reduced lunches.

This study focused on high schools students, of which there are approximately 14,500 in 8 comprehensive high schools and 1 nontraditional high school during the 2009-2010 school year. High schools in the division consist of students in grades 9 through 12. All high schools are fully accredited through the state accreditation system and each high school has made Adequate Yearly Progress (AYP) as defined in NCLB (2001). Given the success of the divisions' high schools on state and federal accountability standards, the one measure stands out as needing improvement is the on-time graduation rate. Data from the Virginia Department of Education (VDOE) (n/d) shows that the state on-time graduation rate for the 2009 student cohort was 83.2%. The divisions' on-time graduation rate for the same cohort of students was 81%.

In an effort to improve on-time graduation, defined as graduating from high school in four years, the division began a pilot of an online credit recovery program at two high schools in November, 2008. This credit recovery program used online content provided by a commercial vendor to deliver academic course content to students. The courses were correlated to state standards and allowed students to progress through the content at their own pace provided they passed barrier online assessments. Students completed assignments, study material and took assessments anytime and anywhere since the division issued all high school students a laptop

with a wireless network card. The program was also structured with regular class time with a dedicated instructor who monitored student progress and provided additional instruction as needed. Once students completed all content associated with a course and passed a summative assessment, they were awarded a Carnegie credit for the course. If there was a state standards test associated with the course, students also took this assessment at the next opportunity. Students who passed the corresponding state standards test were awarded a verified credit, which is the term designated by the VDOE to denote earning a Carnegie credit for the course plus passing the corresponding state standards test.

The division chose to focus this new credit recovery program on ninth grade students who had not successfully started their high school career. The division defined a successful start to high school as not failing more than one academic class during ninth grade. Failing more than one academic course placed students at risk of not being promoted to the 10th grade since division policy dictates that five credits are required to be promoted to 10th grade. One of those credits earned must be English. The division's decision to concentrate on recovering credits for ninth graders was supported by research. For example, according to Allensworth and Eason (2007), academic success in ninth grade course work is highly predictive of eventual graduation. In fact, Allensworth and Eason (2007) contend that it is even more telling than demographic characteristics or prior academic achievement. Kennelly and Monrad (2007) found that many students are not given the extra support they need to successfully make the transition to high school. As a result, over one-third of all dropouts are lost in ninth grade.

Approximately 500 students were enrolled in the credit recovery program for ninth graders at risk of not graduating on time. These ninth graders had all failed more than one core

academic course. Instead of repeating the course needed for graduation in a traditional classroom setting, they were enrolled in an online credit recovery program. The researcher identified students who successfully completed a course through this program during the 2009-2010 school year. Successful completion of a course was determined by course grades, participation and, where applicable, state assessment scores. This subset of students served as the design population for the study.

### **Rationale for a Qualitative Design**

Given the purpose of this study and the research questions previously listed, the researcher designed a descriptive, qualitative study. According to Merriam (2009), qualitative research is “interested in understanding how people interpret their experiences, how they construct their worlds, and what meaning they attribute to their experiences” (p. 5). The purpose of the study and the research questions fit within these parameters, especially individuals interpreting and giving meaning to their experiences. Further, the topic of how students interpret their experience in an online credit recovery program is one that demands thorough exploration and a detailed view of the topic. Creswell (1998) cites exploration of an experience with a detailed view as one of the hallmarks of qualitative research. Another characteristic of qualitative research is that the natural setting is the source of the data. The researcher does not attempt to manipulate the setting rather the context of the environment is an important variable to consider (Bogdan & Biklen, 1982). These conditions supported qualitative inquiry as the preferred methodology of this study. The naturalistic, inquiry-based nature of qualitative study produces rich and complex perceptions of the design participants without manipulating the research setting.

The specific qualitative approach used under these criteria was phenomenological in nature. Patton (2002) stated that phenomenology has been particularly influenced by philosophers, Edmund Husserl and Alfred Schutz. Their work established phenomenology as an important perspective in the social sciences. Bogdan and Biklan (1982) defined phenomenological research as the “attempt to understand the meaning of events and interactions to ordinary people in particular situations” (p. 31). Patton (2002) stated that phenomenology is more than making sense of experiences. It studies how individuals “transform experience into consciousness, both individually and as shared meaning” (p. 104). The key to this transformation is for individuals to make sense of and express their experiences. This naturally includes interpretation of the experience and incorporating it into a worldview (Patton, 2002).

While the philosophical basis of the qualitative approach employed in this study was phenomenology, the methodology the researcher chose was a case study approach. Creswell (1998) defines a case study as “an exploration of a ‘bounded system’ or a case [or multiple cases] over time through detailed, in-depth data collection involving multiple sources of information rich in context” (p. 61). The determining factor that defines case study research is to define the bounded system. Merriam (2009) provides the example of a study of how adults learn to use computers to define a case study. If the study is general to adults and computers it could be qualitative, but it would not be a case study because there is no bounded system. In order for it to be a case study the research would have to focus on, “*one* particular program or *one* particular classroom of learners [a bounded system], or *one* particular older learner” (Merriam, 2009, p. 41).

For this study, the design participants were all enrolled in a specific program—credit recovery. The credit recovery program is a unique environment that has its own pedagogical and social construct. Further, students were all participating in the program under similar circumstances; they had been unsuccessful in a traditional classroom setting at the high school level. This allowed the researcher to discover how this environment had meaning for them as individuals. The analysis of all participant interviews as well as program usage data facilitated the interpretation of shared meaning.

### **Procedures**

The first step in this research process was to gain approval from the division to conduct the study. The division reviews all research requests using a standing research review committee. The Director of Research and Planning was contacted to secure an application for research. The researcher completed the application upon approval of research design and worked with division officials to gain approval. The next step was to complete an application to the Virginia Commonwealth University Institutional Review Board (IRB). The application requested consideration of expedited review of the proposal since the study design met all guidelines established by the IRB for exempt status. This application included specific steps outlined in this chapter which comprised the data collection portion of the study.

As part of the approval process, the researcher developed an informed consent form since school-age students were actively participating in the study (see Appendix A). The students also completed a form to signify their assent to participate in this study (see Appendix B). As Seidman (1991) points out, “It is both ethically and methodologically desirable to seek it. The consent of the participant is most effectively indicated by his or her signature on an informed

consent form” (p. 51). The consent form informed parents and students of what was expected of participants and how the data collected were to be used. The signature indicated the parents’/guardians’ approval. It included the participants’ rights to review material and the right to withdraw from the process. Finally, the consent form clearly indicated that the participants’ identity would remain confidential. During interviews with participants, the concept and intent for confidentiality was thoroughly explained. Interviews of participants were voice recorded, but a coding system was used to protect students’ identity. Further, school or any other information that surfaced during the interviews was coded to ensure confidentiality. After documenting these steps, completing forms, and agreeing to follow these procedures, the IRB approved the study design.

### **Participant Selection**

Participants for the study were selected using a purposeful sampling method. According to Merriam (2009), “To begin purposeful sampling, you must first determine what selection criteria are essential in choosing the people. . .to be studied” (p. 61). The primary selection criterion for this study was ninth grade students who have obtained a Carnegie credit while enrolled in the credit recovery program. Once the population was established, 10 students were randomly invited from each of the two high school sites that were using the online credit recovery system to participate in this study. In the event that some of the initial invitees were not willing to participate, other(s) were randomly chosen to be invited from the population at the relevant school site. These procedures created a sample of 20 students. The researcher conducted in-depth interviews of these 20 students to gather their perceptions on the credit recovery program.

## Data Collection

The primary source for data collection was individual interviews with each participant. Seidman (1991) suggested that “at the root of in-depth interviewing is an interest in understanding the experience of other people and the meaning they make of that experience” (p. 3). Seidman went on to contrast interviewing with other forms of data collection such as document review, observation, surveys and questionnaires by stating, “If the researcher’s goal, however, is to understand the meaning people involved in education make of that experience, then interviewing provides a necessary, if not always completely sufficient, avenue of inquiry” (p. 4). Since this study was designed to capture student perceptions of the experience of participating in an online credit recovery program, interviews were the best method to accomplish the primary goals of the study.

Interviews of 20 students occurred in private conference rooms at their home school. The student and researcher sat around a conference table in an environment that was safe and nonthreatening for the student. Interview sessions lasted approximately 30 minutes and were voice recorded. Voice recording the sessions ensured that no data were lost. Also, listening to the recorded version gave the researcher an opportunity to review his questioning techniques and make improvements for future interviews (Merriam, 2009). Interviews began by reviewing the informed assent form. Special emphasis was placed on the anonymity of students and the right of students to withdraw from the study at any time. The next step was to review the purpose of the study, the procedures for the interview, and how the data collected would be used. Finally, participants were informed that the researcher might be contacting them to set up further interview sessions as needed.



Questions for the interview were derived from the research questions listed at the beginning of this chapter. The questions sought to document perceptions of high school students who had successfully participated in the credit recovery program chosen for this study to establish what factors contributed to their success. The interview also contained questions to determine to what extent credit recovery high school students viewed the credit recovery program in relation to the school district's one-to-one laptop computer initiative. Finally, questions invited participants to share their opinions of the effectiveness of the credit recovery program in terms of promoting on-time graduation. Keeping these three goals in mind allowed the researcher to collect ample data from which to address the research questions.

The researcher followed the approach advocated by Seidman (1991) in which interviewers use primarily open-ended questions with a goal of having the participant reconstruct his or her experience as it relates to the credit recovery program. Prepared questions included:

1. What class did you take using the online credit recovery program?
2. How was the class setup? What did you do in the class?
3. Describe your experience in the credit recovery program.
4. Would you like to take additional classes in this format? If so, why?
5. How is this experience different from a regular class you take with a teacher? How is it similar?
6. Why did you fail the same class last year? What contributed to you not doing well?
7. How did you use your laptop to complete coursework for this course?
8. How does the credit recovery program compare to how you use your laptop in other classes?

9. Did your experience using a laptop computer affect your success in this program?
10. You are in the credit recovery program because you were not gaining enough credits to stay on-track for graduation. How did you feel when you entered the program?
11. What is your assessment of the program now?
12. In your opinion, did this experience in the credit recovery program change your prospects of earning a high school diploma?
13. What would you like to share about your experience in the program that was not covered in these questions?

The interviewer interjected probing questions where appropriate based on the progress of the interview and the willingness of the student to provide detailed responses.

### **Data Analysis**

When there is no hypothesis to test or variables to manipulate, qualitative data analysis is an inductive process where experiences must be interpreted (Merriam, 2009). Bogdan and Biklan (1982) describe qualitative data analysis as

the process of systematically searching and arranging the interview transcripts, field notes, and other materials that you accumulate to increase your own understanding of them and to enable you to present what you have discovered to others. Analysis involves working with the data, organizing it, breaking it into manageable units, synthesizing it, searching for patterns, discovering what is important and what is to be learned, and deciding what you will tell others. (p. 145)

During this process, the researcher was mindful that in qualitative research data collection and data analysis do not have finite beginning and ending points. Patton (2002) explained that during

the process of data collection, ideas about data analysis will emerge. Thus, notes that are taken during and after each interview session will prove as valuable as the transcripts themselves.

Voice recordings from the interviews were entered into the Atlas.ti data analysis software program. Atlas.ti, a computer-assisted qualitative data analysis software (CAQDAS) program, was first produced in Germany and is now used worldwide. The first CAQDAS programs were created to increase the accessibility of qualitative data by overcoming the physical limitations of paper data records (Wickham & Woods, 2005). In essence these first programs allowed researchers to organize and store files in a more efficient way. Advancements in CAQDAS programs, such as Atlas.ti, provided researchers with increased functionality. Barry (1998) posits that CAQDAS programs

help automate and thus speed up and liven up the coding process; provide a more complex way of looking at the relationships in the data; provide a formal structure for writing and storing memos to develop the analysis; and, aid more conceptual and theoretical thinking about the data. (p. 1)

Today, CAQDAS are powerful data analysis and modeling tools that allow the researcher to code and organize data by themes and ideas. Lewins and Silver (2009), in a review and comparative analysis of the newest CAQDAS programs, claim that these programs build on earlier versions by “allowing the researcher to test relationships between issues, concepts, themes, to e.g. develop broader or higher order categories, or at the other extreme, to develop more detailed specific codes where certain conditions combine in the data” (p. 1).

A process of winnowing, using Atlas.ti, was the next step. The intent of this study was to provide students an opportunity to share their perspectives of participating in an online credit

recovery program. This entailed methodically reviewing the recording and identifying responses that spoke to the research questions. This was followed by coding data or identifying common categories or themes that emerged from the recordings. During this step it was important to verify meaningfulness and accuracy of the categories. These categories and the ensuing themes that emerged within them were analyzed to generate interpretations that were used to answer the research questions.

### **Quality and Credibility**

Qualitative research design must take into account the quality and credibility of the design and its execution in order to ensure high quality results. Patton (2002) stated that this credibility is dependent on three factors. These factors are (a) using rigorous methods of fieldwork to produce high quality data that are analyzed in a systematic fashion, (b) ensuring the credibility of the researcher, and (c) a belief in the value of qualitative inquiry that is naturalistic in design. Validity was strengthened by member checking within the interview context. During the interview, participants were asked to verify the interviewer's understandings by checking statements for accuracy. The research design presented in this chapter had developed research questions, an interview protocol, and a rigorous data analysis plan to ensure that these three factors were addressed.

Experimenter bias was a threat during the qualitative interviews. The researcher supervises secondary education in the division. The online credit recovery program at the heart of this study was created and implemented with his approval. It is natural to assume that being directly involved in the development of the online credit recovery program had some bearing on conclusions that came out of this study. Patton (2002) states that acknowledging this potential

bias is one method to increase credibility in the research findings. Another method that Patton advocates is looking for and reporting alternative themes, divergent ideas, and rival explanations. These alternative constructs and conclusions were examined and tested thoroughly as part of the data analysis process.

The researcher, in a qualitative study, “is the primary instrument for data collection and analysis” (Merriam, 2009, p. 15). Seidman (1991) says that we must recognize that the meaning derived is always a function of the participant’s interaction with the interviewer. By “affirming its possibilities interviewers can use their skills to minimize the distortion that can occur because of their role in the interview” (Seidman, 1991, p.16). This researcher has had 20 years of experience working with and interacting with high school students. This includes roles as diverse as teacher, mentor, athletic coach, and assistant principal, and principal. The researcher’s experiences include multiple opportunities to interview and discuss programs with students in a variety of settings. Even today, in the current role as a central office administrator, the researcher meets regularly with a group of 150 high school students to seek input on the functioning and improvement of high schools. This long and varied background of communicating with high school students increased the researcher’s effectiveness in the interview process. Participants felt comfortable talking with and interacting with the researcher. That being said, it is important to note that the researcher had no previous relationship or direct interaction with participants in this study.

The goal of the study was to capture the experiences of high school students participating in an online credit recovery program. The researcher was committed to using naturalistic inquiry to give students a voice to express these experiences. Using qualitative methods, as described

above, created an understanding of the collective experiences of participants in this study. The findings produced from this work documented the perceptions of these students who participated in this program

## CHAPTER 4. ANALYSIS

As stated in Chapter 1, the goal of the study was to research the perceptions of high school students who successfully participated in an online credit recovery program to discern what factors contributed to their success. Interviews with 20 students, who had successfully completed their participation in the online credit recovery program, were guided by the questions as outlined above. From the perspective of each participant, the questions were:

1. To what do you attribute your success in the online program?
2. How do you view your chances of graduating from high school on-time after successfully completing the course?
3. What do you perceive as the relationship between the credit recovery course and the one-to-one laptop computing initiative supported by the school district?
4. How do you perceive the online learning environment of the credit recovery program, as compared to a traditional classroom setting?

This chapter presents the findings of these interviews. Findings were developed inductively by analyzing the interviews using a qualitative protocol to insure that themes emerged naturally through the students' own voices. The chapter will begin with a condensed summary of the interview process by means of which the researcher collected data. Part two of the chapter will discuss the analysis process used to make meaning of this data. As the

researcher is the instrument in a qualitative study, the analysis process used to create distinct units of meaning, develop and refine a coding system to organize emerging themes, and finally to document relationships using these codes is vital to understanding how themes emerged. Third, the rich narrative of the 20 student participants who successfully completed an online credit recovery course is discussed in the context of the research questions above. This narrative, developed through the data analysis process discussed in the previous section of this chapter, will enable emergent themes to be fully explored to provide a synthesis of the students' perceptions around these questions. The chapter will conclude with a summary of the findings of this study.

### **Summary of Interview Process**

Interviews were conducted in two of the division's comprehensive high schools. Ten students from each high school were interviewed. Participants were selected using a purposeful sampling method. The researcher obtained a list of all students who had successfully completed a course through the online credit recovery program from each building level principal. The researcher contacted students from the list and met with them to review the purpose of the study and to review informed consent and assent documents. Students who expressed a willingness to participate in the study were asked to return the consent form with their parent's signature and the assent form with their signature. Five of the original students that the researcher met with chose not to participate after receiving consent and assent instructions and documentation from the researcher. The researcher went back to the list of eligible participants and met with seven more students before a sample of 20 students committed to participate in the study.



## Study Participant Makeup

The 20 students included 10 male and 10 female participants. The 10 students at each school were diverse with respect to race and ethnicity. While socioeconomic data were not collected, the researcher's impression from comments made during individual interviews was that there was socioeconomic diversity among the group of participants as well. This deduction was made based on comments related specifically about the ability to pay for summer school classes, and the availability of technology at home. After conducting the interviews, the researcher believes that this group of participants was generally typical of the students who participated in the online credit recovery program.

The researcher noted that students were generally eager to participate in the interviews. The collection of signed consent forms was relatively easy and students seemed at ease with the parameters of the assent form that all signed. Three students did show up to scheduled interviews without the necessary documentation and attempted to convince the researcher that his/her parent knew about the interview and was "cool" with it. These three attempts were unsuccessful, but each student had the required signed forms for the second attempted interview session. Some students were more talkative than others with interviews stretching to over 25 minutes. Only two students needed constant prompting to give in-depth answers. No students asked to be released from the study and, as can be seen in students' comments that appear later, their responses were thoughtful, insightful, and articulate. Students appeared comfortable throughout the interviews and were not reticent to share positive or negative comments.

All interviews took place in a conference room in the school counseling department of each school. The researcher purposefully chose not to conduct the interviews in the front office

area due to the potential connotations that some students may have associated with an area where they might have had negative experiences related to violation of school rules. The researcher provided refreshments to participants in the form of water, soda, sports drinks (i.e., Gatorade), baked goods, chips, and candy. The refreshments were an effort to make students feel comfortable. It is interesting to note that slightly fewer than half of the students took advantage of these refreshments.

### **Dynamically Refining the Interview Protocol**

Interviews followed an open-ended scripted format. The interview protocol was constructed to correspond to the research questions (see Appendix C). The researcher drew on the review of literature in Chapter 2 of this study in the areas of online learning, and high school dropouts to shape the interview questions. The initial draft of the interview protocol was reviewed by two members of the division's research and planning department to increase face validity. Feedback received from these individuals included that there were too many direct questions that would lead to yes/no answers. As a result of feedback from division staff and a review of relevant literature, the interview protocol was shortened and included broad open-ended questions with prescribed probing questions to use based on the answers of each respondent. A primary challenge for the researcher was to allow the participant space and time to fully answer these broad open-ended questions.

The researcher noticed in listening to the first couple of interviews that he had a tendency to rush the interviewee and move on the next question. Listening to the recordings of the first two interviews allowed the researcher to modify this behavior, but it was a continual challenge.

The researcher began each interview with some factual, direct questions to allow the interviewee to become comfortable with the surroundings and the researcher.

### **Recording Interviews**

Interviews were recorded using the researcher's laptop with the program Audacity, which is a free audio recording and editing software program. The researcher also used a hand-held Olympus Digital Voice Recorder, model number VN-8100PC, as a backup recording device for each interview. The backup step was critical. This became obvious when, during the second interview, the researcher neglected to push the record button on Audacity. If not for the back-up recording using the Olympus hand-held recorder, the interview with Dave, which was one of the richest and most forthright interviews conducted, would have been lost.

During interviews the researcher also took occasional brief notes by hand. The researcher found that focusing on note taking during the interviews detracted from the quality of the conversation with the participant. At the conclusion of each interview, the researcher would take down field notes after the students left the interview room. These field notes were a valuable piece of data to reference during the data analysis process.

At the conclusion of each interview, the researcher would save the interview recorded by Audacity in an MP3 format and then back it up to an external hard drive. This enabled the researcher to have copies of the interview saved in three different locations: the hard drive of his laptop computer, an external hard drive, and the hand-held recorder. The data analysis process began when each MP3 file was uploaded to the Atlas.ti qualitative data analysis program which was also loaded onto the researcher's laptop computer.

## **Data Analysis**

Once the Atlas.ti software was installed on the researcher's laptop computer the researcher spent some time learning how to use the product. The researcher wishes to acknowledge the invaluable help provided by a colleague of his who had recently used Atlas.ti to analyze interview data. The help provided considerably flattened the learning curve associated with the use of the software. While the coding of participants' responses was carried out directly on the audio files, the researcher anxiously awaits the day when technology enables high quality electronic transference of audio straight to text.

### **Primary Documents**

The MP3 audio files of interviews were initially uploaded to Atlas.ti as primary documents. Each primary document was titled with a letter and number combination. The letter corresponds to the school—an "A" for one school and a "B" for the other. The number represented the order of the interview at each location. Thus, A1 signified the first interview conducted at School A. Primary document B5 corresponded to the fifth interview at School B. Each of the 20 interview audio files became a primary document. The next step in the process was to enter initial codes into the code manager using the open coding tool. These initial codes were taken from the research questions and field notes. Examples from the research questions included "graduate" to be assigned to quotations that mention high school graduation and "laptop" to be used when a student mentioned the role of their laptop in taking the online credit recovery class. Examples from the field notes include "self-paced" and "retaking quizzes," which were both prevalent in students' answers about why they were successful in the online credit recovery course. Once these initial codes were entered into Atlas.ti, the next step in the

data analysis process was to begin scanning the audio files and identifying quotations (i.e., one or more sentences or phrases, spoken by a participant, which conveyed a complete thought).

### **Identifying Quotations**

Prior to assigning any codes, the researcher listened to each of the 20 primary documents in their entirety. The purpose of this exercise was to refresh the researcher's memory of the interviews. After listening to each of the primary documents, the researcher assigned a pseudonym for each student interviewed. This pseudonym was then entered into Atlas.ti in addition to the letter/number combination identifying each primary document.

The researcher had decided to identify all the quotations prior to assigning them codes, so he then went back to the first primary documents (A1-Shaya) and began the process of identifying quotations. To repeat, for the purpose of this study, quotations were one or more sentences or phrases, spoken by a participant, which conveyed a complete thought. Consequently, quotations ranged from a few seconds to several minutes in duration.

To identify quotations, the researcher used the program window within Atlas.ti, which appears much like any audio recorder menu (see Figure 1). The program window has a running timer, a stop/play button, and a fast forward and rewind button. In addition to these common features, it also has a button to create a new quotation and buttons to create the beginning and ending point of a quotation. Once a quotation is identified with a beginning and ending location, Atlas.ti automatically saves it and gives it an identification number that corresponds to the time sequence within the primary document. All quotations identified within a primary document are also linked to it within the quotation identification.

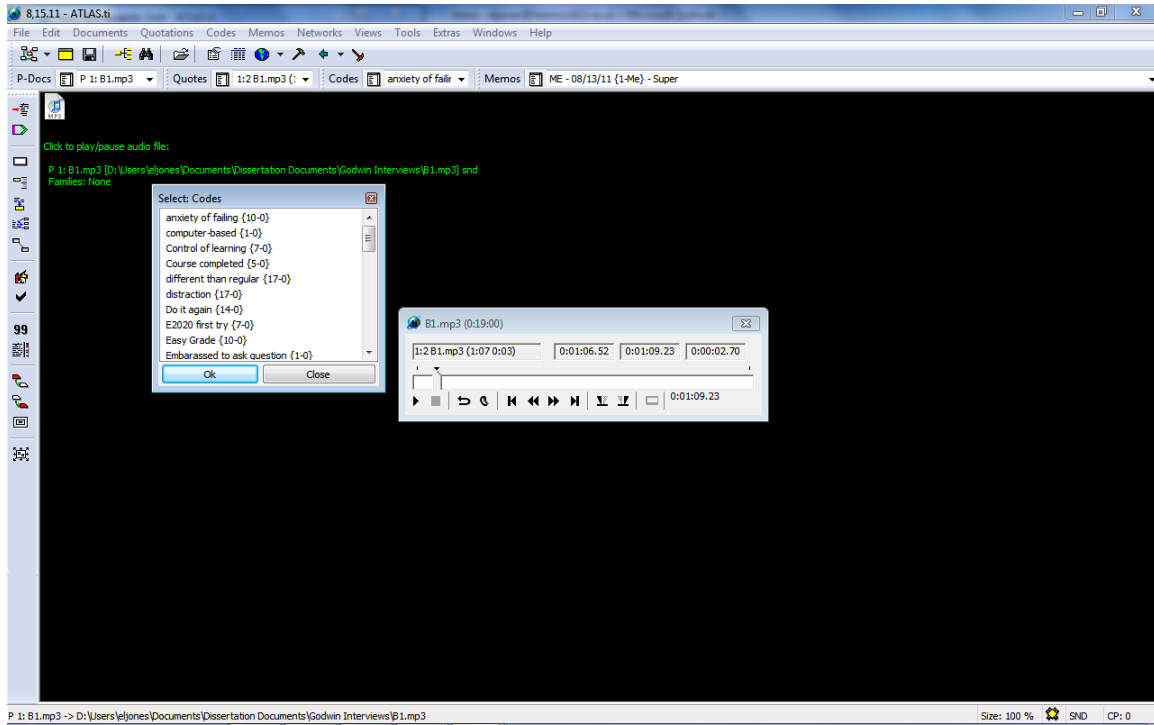


Figure 1. Screenshot of Atlas.ti program, including code list and quotation manager.

After some introductory practice with the quotation manager, the researcher began identifying quotations within each of the 20 primary documents. The most difficult aspect of this task was deciding when to end one quotation and when to start a new one. During the first few primary documents, the researcher realized upon review that the quotations were too long and encompassed disparate ideas and thoughts. In other words, they were not quotations. After realizing this, the researcher redoubled his focus on identifying quotations that accorded with the definition. After completing this initial coding, 457 quotations had been identified.

### **Inductive Coding**

The next step in the data analysis process was to code all identified quotations. This step could have been done concurrently with identifying quotations; however, the researcher decided that listening to all quotations before assigning codes would aid in the inductive coding process. Identifying quotations first gave the researcher a keener sense of what codes might need to be created in addition to the a priori ones that stemmed from the interview questions themselves. As stated earlier, some codes were created based on field notes and the research questions. Those codes could be assigned to a quotation simply by clicking on them from the code list. New codes could also be created from the free code menu option. Once a new code was created it automatically appeared in the assigned code list and could be linked to additional quotations by simply clicking on it. Quotations could also be assigned more than one code. For example, a student discussing why he/she failed a course last year would be assigned the code “why fail.” If during the same quotation a student mentioned that he/she was not motivated to do the work in the class he/she would also be assigned the code “student motivation.”

Every quotation was assigned at least one code since every quotation conveyed meaning, and this meaning had to be interpreted in the context of this study. Although the researcher had been careful to focus on the complete thought as a characteristic of a quotation, at this coding stage some quotations were divided. At this stage, it also became clear that some quotations captured information that was not relevant to the study.

During this part of the process, the researcher was not trying to make meaning of each of the quotations and codes. The goal was to assign a meaning to each quotation in order to see what themes would rise to the surface. This process is consistent with the emergent design model utilized during the study. Another primary benefit of this approach was that no secondary themes or information would be overlooked. After completing all 20 primary documents, the researcher had created 61 unique codes.

### **Analyzing Codes for Consistency and Accuracy**

Once codes were assigned, the researcher reviewed each of the 61 unique codes by listening to all quotations assigned to a particular code. The ability to effortlessly review all assigned codes as a group is the major affordance of a qualitative analysis program such as Atlas.ti. A need to have consistent and accurate meaning of quotations within each code was a primary reason for this activity. In order for themes to emerge from the coding process, consistent meaning is vital. In other words, this is an important step in making sure that findings have credibility.

One code that came under scrutiny was “Why take online credit recovery class?” The researcher originally created this code for quotations that discussed how they were assigned to the online credit recovery class. After listening to all quotations assigned to the code, it was



clear that the meaning had morphed considerably to include why students were not successful in a regular classroom setting as well as why they were successful in the online credit recovery class. After listening to all quotations the researcher decided to delete this code and recode all quotations to a more accurate code.

Another example was one of the preassigned codes “benefits of online credit recovery class” to answer Research Question 4 about why students are successful in the online credit recovery class when they were not in a regular classroom setting. After a review of quotations linked to this code, the researcher discovered that many of the quotations revolved around skipping class and truancy issues. While many participants were answering in this way in response to the question, “Why do you think you were successful in the class this time?” the participants were discussing the inverse of that question by describing why they were not successful in a regular classroom. Upon review, the researcher created three new codes to more accurately capture the participants’ responses.

The researcher was also cognizant that a risk in coding is to have codes that are redundant in meaning. This can lead to confusion in meaning and having an unwieldy number of codes from which to draw emergent themes. Merriam (2009) warns that having too many codes can be unmanageable. She contends that fewer categories enable more effective communication of findings. She also cites Creswell (2007) who states that he attempts to narrow dozens of codes at the beginning of the data analysis process into five or six themes (Merriam, 2009). The researcher did uncover many redundant codes. One example was the codes “Computer-based instruction” and “Learning in an online credit recovery program.” It was clear after listening to all quotations assigned to these two codes that they all held the same meaning, namely, how a

student learned in an online credit recovery program. Thus, the code Computer-based instruction was eliminated, and all quotations assigned to it changed to the code, “Learning in an Online Credit Recovery Program.” The same was true of the codes “Testing out” and “Pretest” so the researcher decided to have only “Pretest.”

As a result of this process, the researcher was confident that the codes had been consistently applied. The researcher also had a clearer understanding of the meaning of each code after undergoing this exercise. An added benefit was that the number of codes was reduced from 61 to 44. All codes had at least four quotations assigned to it which provided a deeper, more contextual meaning associated with more than one participant voice.

The researcher then loaded all codes into an Excel spreadsheet (see Appendix D). The thinking behind this step was to facilitate the sorting and manipulation of the data more easily. Additional fields were created that included participant pseudonyms and a brief description of each code. This was followed by transcribing specific quotations that corresponded to participants and each of the 44 codes. Quotations which reflected the most accurate meaning of a code were included. The researcher also chose those quotations that were most insightful and thoughtful in nature. The Excel spreadsheet contained 134 quotations upon completion. The last piece of information included on the spreadsheet was the assignment of each code to one of the research questions. This step facilitated the development of themes and enabled them to emerge for further analysis and reporting.

### **Emergent Themes from the Voices of Students**

The purpose of this study was to document the perceptions of high school students who successfully participated in an online credit recovery program. The study focused on four

research questions which are listed in the introduction to this chapter. Analyzing 20 participant interviews through the inductive process described above has allowed the following themes to emerge. The researcher used verbatim quotations from participants to provide a rich narrative for each theme. In some cases the researcher paraphrased participants' responses but only when necessary to preserve grammatical continuity. Multiple quotations were offered for each theme to convey a full sense of meaning.

Table 1 provides a visual representation of the themes identified by the researcher and the codes from which these themes emerged. This enables the reader to visually discern the relationship between the codes and the themes. The table also includes the number of the research question that each theme addresses and provides the narrative structure for the remainder of Chapter 4.

### **Successful Completion of Online Credit Recovery Course**

Participants provided rich, detailed descriptions of their perceptions of factors that led to successful completion of an online credit recovery course. Five themes emerged from the analysis of the data with 16 codes spread between these themes. The themes encapsulate the perceptions of students surrounding the first research question of this study: To what do high school students participating in an online credit recovery course attribute their success in it? A discussion of each theme follows drawing deeply on the words of students to illustrate and make meaning of each theme.

**Control of learning.** A primary reason that participants cited for their success in the online credit recovery class was that they were in control of their learning. Students recognized that, unlike in a regular classroom setting where the teacher is in control of the learning, with this

Table 1

*Themes Identified by Researcher and Codes From Which Themes Emerged*

Codes assigned to participant quotation	Emergent theme	Corresponding research question no. theme addresses
Able to move at own pace	Traditional credit recovery options	1
Different than traditional class	Control of learning	1
In zone	Control of learning	1
Ability to choose when to work on course	Control of learning	1
Progress monitoring	Control of learning	1
Self-responsibility	Control of learning	1
No distractions using OCRP	Distraction	1
Ability to focus	Distraction	1
Quiet nature of OCRP	Distraction	1
Structure of OCRP program	Structured learning	1
Retake quizzes	Multiple opportunities for mastery	1
Retake tests	Multiple opportunities for mastery	1
Cumulative pretest	Prescriptive testing	1
Topic pretest	Prescriptive testing	1
Learning in OCRP	Structured learning	1
Control of virtual lecture	Structured learning	1
Anxiety of failing	Anxiety of failing	2
Relationship between failing and graduating	Anxiety of failing	2

Table 1 – continued

Codes assigned to participant quotation	Emergent theme	Corresponding research question no. theme addresses
Importance of graduating on time	Anxiety of failing	2
Stigma of failing	Importance of classified in correct grade	2
Class classification	Importance of classified in correct grade	2
Motivation to graduate	Improved chances of graduating	2
Success in self-directed class	Improved chances of graduating	2
Desire to take other OCRP	Improved chances of graduating	2
Recommend OCRP to peers	Improved chances of graduating	2
Success using same pedagogy	Traditional credit recovery options	2
Repeating class and all content	Traditional credit recovery options	2
Repeating class with younger students	Traditional credit recovery options	2
Factors limiting summer school	Traditional credit recovery options	2
Laptop usage	Anytime, anywhere learning	3
Importance of laptop	Anytime, anywhere learning	3
Prepared for college learning	Better prepared from online learning	3
No home computer	Improved access	3
Access of content with laptop	Improved access	3
Traditional classroom distractions from peers	Distractions in traditional class	4
Lack of motivation in traditional class	Loss of focus in traditional class	4

Table 1 – continued

Codes assigned to participant quotation	Emergent theme	Corresponding research question no. theme addresses
Not completing work in traditional class	Loss of focus in traditional class	4
Lack of remediation in traditional class	Role of classroom teacher	4
Traditional teacher off task	Role of classroom teacher	4
Individual attention from traditional teacher	Role of classroom teacher	4
OCRP teacher monitor progress	Role of OCRP teacher/school A	4
OCRP teacher motivate	Role of OCRP teacher/school A	4
OCRP teacher direct instruction	Role of OCRP teacher/school A	4
OCRP teacher communication	Role of OCRP teacher/school A	4

Note. OCRP - Online Credit Recovery Program.

program they were in charge. As Carmen stated, “I was in my own little world and I knew exactly what I was doing. I wasn't confused, you know.” When prompted by the researcher, Carmen added, “I would say because, it's like quiet and you're in your own zone and I can move, you know, I'm in my own state of my mind.” It is interesting to note that six different participants used the exact phrase “in the zone” to describe how they were successful in the online credit recovery class.

In addition to knowing that they were in control, participants expressed positive feelings about having control of their learning. They recognized that they were responsible for their learning. Bobby said:

That was cool. I felt I was in control. I knew exactly what I had to do and it was up to me to decide when and for how long. It's like you feel like an adult. No one was telling me what to do all the time.

Another participant, Raoul, added:

It's an opportunity to you when by yourself working, instead of a teacher telling you, you have to finish the quiz by the end of class. In the (online credit recovery) program it wasn't like that, you could finish the quiz at home or at school, anytime. That really helped me a lot.

While control of learning was a theme mentioned by participants, the researcher identified four different aspects of this theme in the coding that provided depth and additional understanding to which specific features of the online credit recovery class fostered this sense of control. These four subthemes are the self-paced structure of the class, progress monitoring features within the program, the ability to complete assignments outside of regular class time, and the

self-responsibility necessary to be successful in the class. These four subthemes are discussed below.

***Self-paced structure.*** All 20 participants used the term self-paced when describing the program and citing reasons why they were successful in it. Thirty-four quotations were linked to the code “self-pace.” The prevalence of this code is evidence that participants perceived it being a major factor that contributed to their success. In fact, 14 participants mentioned self-pace as an initial response to the first open-ended question of the interview, “Tell me about your experience in the credit recovery program.” However, the words of the participants provide even greater proof to its importance. Those quotations range from the matter of fact like Cody, “I like working at my own pace. That's the main thing.” Bella expands on this thought when she stated, “I can work at my own pace. It's easier to keep up with your grade cause you know where you are at and what you have to make up.”

Like Bella, other students realized that going at your own pace was not just empowering, it also facilitated increased learning because students could take their time to fully learn a concept. Rose stated:

It was [good to be self-paced], cause I learned that sometimes it depends on the teacher, if you just go over it once or twice and don't go into detail, I'm not going to learn. I'm not going to even try to, but if I go at my own pace I can pick up anything.

This idea that the student could learn at his/her own pace was also voiced by Carmen, “I don't have to rush through because like the class is on this side. You don't have to be embarrassed with what section you are. Most people they get upset because they can be slower than others.”



In addition to liking the self-paced nature of the program that helped create the feeling that participants were in control, the participants were quick to point out that pacing was not completely up to the student. Korven said, “I think it's much easier because it's kinda at your own pace, but its where to at a point where you have to be on it every day.” Jake adds, “It's good to go at your own pace but then again you can't go at your own pace, you can't be too slow. You still need to work rapidly.” Participants were clearly aware that while they had control of their learning and they could move at their own pace, they also had to stay on a track to complete the course. This feeling was predicated on the progress monitoring feature of the online credit recovery program that will be discussed as the next subtheme. Students were notified when they were falling behind schedule and reminded by the program that they needed to catch up. Despite this feature limiting some control for learning, students still appreciated deciding when and for how long to work on the online credit recovery program. This is evidenced by Sara stating:

You have to keep up with the program, but at the same time you can do it at your own pace, which makes it a lot easier for the students because with all your classes and having them every day, it just makes it easier to pace yourself.

***Progress monitoring.*** The online credit recovery program has a built-in progress monitoring system which notifies the user how much of the course they have successfully completed. The progress monitoring feature also has a color-coded feature that informs the user if they are on track to complete the course in the assigned amount of time. Maria described the color-coded system as, “If you have blue you're where you are supposed to be, green you are ahead of where you're supposed to be, and red you're behind.” This three-color notification system always appears at the bottom of the user's screen when they are logged on to their course.

The progress monitoring system is dependent on the classroom teacher and district practice for how long a student should take to pass a course. For instance, many of the participants began their online credit-recovery program at the beginning of the school year. If the participant only had one course to repeat the teacher may set the course to be completed by the May 15<sup>th</sup>. The online credit recovery program would then calculate the amount of material to be completed and constantly calculate whether the student was on track to complete by this date.

Some students were pulled from a class that they were failing at the end of the first semester. Those students may still have a May 15<sup>th</sup> completion date entered into the system and would have to complete more work to be completed by that date. Of course, students could always work in the “green” and finish a course early. If students had multiple classes to repeat within the school year, they were either encouraged to stay in the “green” by their teacher or the progress monitoring system was adjusted to complete two courses in the time available.

Participants mentioned the colors inherent in the progress monitoring system in 24 separate quotations. In fact, several participants stated that it really motivated them to stay on track. Bobby stated, “I liked that you knew where you were, you know. The colors on the bottom always kept you on track. If I got in the red, I knew I had to do some more work.” Participants also described how they felt when they got in the “red” and knew they were behind. Bella offered, “I would always get upset if I was blue or red.” John even pointed out the benefit of using colors as a notifier, “It's weird with colors because if you see that red you feel like, oh no, I'm behind right now, but if you see green you're okay, I'm ahead.”

Participants were also aware that if they were in the red that it meant they needed to spend more time completing work to ensure that they got back on track. Jake described how he

got behind over winter break, “I was always in the red because I was busy the whole winter break, so that’s what kinda threw me off. But later after winter break I got it done and finished it up.” Carmen shared how she felt and what she did when she got in the red:

If I was close to getting to the red I would make sure I did some extra time to make up that so I wouldn't have that problem. I got mad every time. I think I only got in the red like two times. It was like I have to work extra hard now.

The progress monitoring system also informed participants how much of the course they had completed and their grade to date. Participants noted that this feature was also helpful. Mike stated, “They tell you how much you've completed and on the bottom it also shows you your grades.” Cody added, “It gives you a percentage of the class completed. It tells you if you're behind or on schedule and there's also your overall grade. I thought that was pretty cool.” Olympia also mentioned this feature and its effect on her, “It had an arrow that showed me where I was supposed to be at so it wasn't like, wow, I'm behind let me just give up and not know where I'm supposed to be.” It is interesting to note that only one-third of the quotes attributed to the code “progress monitoring” mentioned this percentage of course completed graphic as compared to the number of quotes describing the color-coding system. This leads the researcher to believe that for these participants the visual nature of the colors had a larger impact in the area of progress monitoring.

***Completing assignments outside of class time.*** One attribute of the program that helped keep students out of the red was the ability to work on the online credit recovery program outside of regular classroom time. There was a wide divergence among participants in the amount of time they worked outside of regular classroom time. Some participants found that they could

stay on track to complete the course without devoting a significant amount of outside time.

These participants' thoughts are represented by Korven who said, "I worked on it mainly in class or if I had free time during the day I would get on it. If I wasn't pushed to get on it by the level I wouldn't do it." Mike echoes these thoughts:

It depends what time of the year you really get into it. If you're near the middle of the second semester you want to do it at home, but there was really no need for me to. It was easier for me to do it here.

On the other hand, several participants worked on their classwork a great deal outside of the regular classroom. Raoul stated that, "On the weekends, I would get up at 8 in the morning and work on it until 1 or 2. Because I really didn't have anything to do so I had a lot of time to work on it." There were other participants who maximized the school day to work on course content outside of the online credit recovery class time. Carmen represents these participants when she says, "I worked on it as much as I could throughout the day or I would, I would stay after school and work on it in the library." Finally some participants like Edison started off not working on it outside of class, but changed their practice as the school year went on. Edison stated that:

World History, I didn't work on it at all; I just thought it was going to be stupid. But now I know, if you really want to get ahead and get done faster than your gonna want to do it. You wanna go after school and start working. So I was working on my Earth Science a lot after school.

These quotations illustrate that for many participants the ability to work on online credit recovery content outside of the normal class time allowed them to stay on track to finish the course or

even finish it earlier. The researcher will provide additional information on this topic in the context of answering Research Question 3, which centers on the role of the district's one-to-one laptop computing initiative in the completion of the online credit recovery class.

***Self-responsibility.*** To conclude this discussion of the theme, Control of Learning, it is important to note that participants recognized that with this control of the learning also came the self-responsibility to be successful. Participants realized that since they were working on their own with the computer-based program, that they held the responsibility to be successful. Patrise summed up this idea well when she said, "It made me responsible for my learning. You know what I mean. It was up to me, I couldn't blame my friends or the teacher since it was just me and the computer. That was a big difference." Jake clearly articulated this idea of self-responsibility when he stated, "The rest falls on me, it depends on what I do. It's all about what you do. It's not that a virtual classroom may be harder or a real classroom might be harder, it depends what you do." Even though the environment was different and may have taken some time to adjust, participants expressed that they had a responsibility to take advantage of this opportunity. Like when Edison said:

It was weird at first, cause you don't have a teacher communicating with you, laughing with you. But I didn't think about it as a regular class room cause I know I needed to hurry up and get done with this and this is exactly what I was here for.

Olympia simply stated, "The school helped me, so I should help myself pass."

**Lack of Distractions.** Every participant mentioned a lack of distractions during their interview as a reason why they were successful in the online credit recovery program. After coding was completed by the researcher, there were 24 quotations associated with the code

“distractions.” Students liked taking their friends out of the learning setting and found that they could focus better without them in a classroom. Dave said, “In a regular class, I get distracted by my friends. They don't do any work and that rubs off on me. I know it shouldn't, but it's hard especially when the class is boring.” Bella added, “They're more concentrated, there's not really your friends talking to you and stuff.” Finally, Maria added, “I learned more in the [online credit recovery] class than last year, I didn't get distracted the whole time, I never talked in class, nobody did, it was silent the whole time.” It is clear that not having social distractions in the online credit recovery class was something that participants noticed and felt played a positive role in passing the course. However, participants are in class with other students when they take their online credit recovery class. How then are there less distractions?

Since a large part of instruction in the online credit recovery program is listening to video lectures, students wear headphones when they are in class. Participants' words demonstrate that this encouraged a quiet, focused learning environment where students got into the zone. Participants often referred to their online credit recovery class as one-to-one instruction because it was just them and their computer. John said, “I thought it was going to be kinda weird that there wouldn't be a teacher there, but I thought it would be like an experience; I liked the one-to-one experience much better, so I don't get so distracted.” John followed prompting by the researcher to expand on this thought:

I just get side tracked on stuff and get off focus and everything and [online credit recovery program] you have your headphones on and you just listen to the lecture and there's really nothing else for you to do. There's nothing going on in the world when

you're just looking into the computer. If you pay attention to the computer than you should be fine.

Participants may not have felt the material was exciting, but they definitely saw the one-to-one environment as a positive. Dave shared, "With the recovery class it's just you and your computer. You really get in the zone. It's not real exciting, but it sort of forces you to pay attention." Jake summarizes the quotations or many participants when he states that, "The difference is it's more quieter. You don't have as much disruptions. You can put on the headphones and listen to the teacher." From the number of quotations and the words of participants a theme emerges that a lack of distractions in the online credit recovery classroom is a prominent reason for success in the course. Having a quiet environment that is free of distractions is perceived by participants as a reason for success in the program.

**Structured Instructional Program.** Another theme that rose to the surface was that the very structured instructional program contributed to participants success in the class. Mike an excellent job of explaining how instruction was presented and sequenced in his class:

Once you get on and log on to (the online credit recovery program) you have your classroom, you can pick what class you're doing if you're doing multiple ones. Then they usually start off with a prequiz. If you pass that they go to the normal quiz. You skip the lecture and everything and if you pass that you go to the next section. But if you don't pass the prequiz, they do vocabulary then a lecture and then usually an online content and there is homework, but you can do that right in class. And then you take the real quiz. And usually after every two or three sections they have a topic test that goes through everything and that's the only thing you have to be in the class to take online. You can

take everything else, you can take quizzes at home, you can use any laptop. But you have to use your laptop at school with him in the class so he can pass you through everything to do the test and the cumulative exam.

Each unit of instruction has the same structure. A video lecture of new material has to be watched and students have the ability to pause the video and rewind it if they miss something. They also have the option of taking notes online. Then there are quizzes and tests. Interestingly, the participants did not find this structure that different from their regular classroom learning structure. Carmen compared her regular English class to the online credit recovery class, “It's about the same on [online credit recovery class]. You read a story. You tell the settings, vocabulary. You study, you still have to study. Just because it's online doesn't mean that you don't have to work.” Cody concurred with Carmen’s statement when he said, “There’s the lectures and stuff and the online teacher. Pretty much like a regular class, just online.”

Some participants stated the online credit recovery course learning structure was better than a regular teacher-led classroom. One area was the video lectures. Several participants indicated that they liked being able to pause and rewind the lecture in case they missed something. They also appreciated the opportunity to take notes online while they are listening to the lectures. Sara expressed this viewpoint well. The questions in parentheses are prompts from the researcher for more detail:

It has this little box at the bottom where you take notes. [Did you use that feature?] Yes a lot because, it helps you on the quizzes too. You get to use whatever you put into that box. Whatever you can fit in there you can use on tests. [Did you ever rewind the video lectures to listen to them again?] I actually did it a lot because they talked and go so fast



through everything that not all of us can type that fast and listen to the same words every time. [Does that help?] Yes, You can't do that in a regular class because the teacher's not going to go back and repeat something just for you and have everyone else in the class get lost.

Other participants cited advantages to the online learning environment. Cody said, “Some of the subjects were kinda a little difficult. It would help me break it down and help me understand it a little better. Not really a tutor but an online tutor itself.” Bella also described advantages to the online lectures, “The teachers explain everything, every detail. I felt like my [face to face in regular class] teacher just said things and didn't really go through them.” Terrance said, “The lectures really break it down and explain it to you real good.” Finally, Alayna expressed unequivocally her belief that she learned more in the online credit recovery course than she did in her regular English class saying:

It give[s] me more detail on what I'm supposed to do. It would actually walk me through it, it would go over it with me and help me more in this course. If I had stayed in an actual classroom I would not be as far as I am academically.

Alayna followed this quote with an extended quotation in answer to friends who said she was not doing anything of substance in the online credit recovery class:

Even some of my teachers are like what are you doing? That isn't a real class. It actually helps more. Even my English teacher, when I got taken out of her class I thought she was going to be upset or stuck up about it but she wasn't. She even checked back up on me like 2 months ago. She asked me how I was doing in the class. I was like I finished it. She looked surprised. I'll never forget the look on her face. She was like how can you do

it in that class when you couldn't do it in my class. It's mostly just more help. Like I don't think it's the teacher's fault. It's like the amount of people. They'll be like 20 people in the class and if you're the one person who needs help, but you're afraid to raise your hand. That's one of the reasons I think I passed it. With (online credit recovery program) there's no reason to be afraid because it's just you.

It is clear from these participant voices that the structure of the instructional program within the online credit recovery program played a significant role in their success. Participants perceived that they were receiving instruction that they could manipulate and review to reach a clearer understanding of the subject matter. They also did not see a significant difference in the structure of this class as compared to regular teacher-led classrooms.

**Multiple opportunities to demonstrate learning mastery.** An aspect of the online credit recovery program that received significant attention during the participant interviews was the ability to demonstrate mastery of content in multiple ways. Since all students in the online credit recovery program are enrolled after failing the course in a regular classroom setting, the program begins with a cumulative prescriptive pretest to determine what content students learned during the previous enrollment in the course. Participants in this study had many comments about this prescriptive cumulative pretest. Another feature of the online credit recovery program that allows multiple opportunities to demonstrate learning is the ability to retake quizzes and unit tests. This is another setting that is determined at the district level. Currently, students have the opportunity to retake quizzes three times. Before students can retake a quiz they have to have approval from their instructor. This approval is contingent on the student spending time reviewing the material being assessed and completing additional practice assignments. Topic

tests can be retaken two times, again with instructor approval. Participants also recognized this as being a benefit of the program that they do not often enjoy in regular classrooms. Student quotations will reveal both of these features as contributing to the theme of multiple opportunities for demonstrating learning mastery as an important reason for their success in the class.

***Prescriptive cumulative pretest.*** All participants commented on the cumulative pretest. Some remembered it with dread due to its length and comprehensive nature. However, even those who did not like taking it, acknowledged the benefit of the exercise. One of those students was Edison who said,

I hated that one. It's a very long test. It's almost like the SOL or like the beginning of year test for your regular classes. It just shows you what you know and if you do real good, if you pass it, it's way easier because your percent will go by 2s and 3s instead of just point 1s and 2s. You already know the stuff, so they just teach you the stuff that you don't know. If you did well on the big test on the beginning then you didn't have to do as much.

Other participants looked back on the test fondly. Like Bobby, "I LOVED the big test at the beginning. It was long, real long, but at the end of it [my teacher] said I had tested out of like 30 something percent. That made me feel smart."

Participants valued the fact that they did not have to relearn content they retained from last year. John said:

I liked that a lot because the stuff that I did learn you could just totally get that out of the way. You don't even have to look at that anymore, you're fine with it, so it just gets rid

of it. I like that a lot because it saves time and it just saves you from learning something again.

Jake gave a specific example related to his class, Earth Science,

The test at the beginning of the year, it shows you how much stuff you need to work on, it's just setting it up. So if you're bad in oceanography and you're good in earth, chemical and weathering it shows that your good in that so you don't need to take it. But it might put a little oceanography in there because you failed it on the pretest.

Finally, some participants recognized that this would not be an opportunity they would have if they were to retake the class in a regular class setting. Alayna demonstrated this when she said:

In a classroom they're gonna go over everything, so even if I know it I'll be sitting there.

While I'm sitting there I'll be missing important stuff I don't know. So at least with [this]

I can take out what I do know and what I don't know and just have it so I can focus on the main things that I need to focus on. But if I'm in class I'm most likely gonna zone out and

I'm not gonna get exactly what I need.

***Retaking quizzes and tests to demonstrate mastery.*** As described earlier, students in the online credit recovery program could retake quizzes up to three times and tests up to two times. Participants in this study consistently saw this as a positive practice not only to help their grade in the class but also to encourage deeper learning. Edison stated:

If you fail the quiz, yeah it will bring your grade down a little bit. But then you do vocabulary that's a 100. Then you do your definitions and that's a 100. If you listen to the lady [video lecture] the whole time that's a 100. All three of those is how you learn

and that's how you improve your grade. Then you take the quiz again and you should know what it is if you did all three of those things.

It can see from Edison's comments that participants could not retake quizzes immediately. Rather, reviewing and remediation had to occur first.

Participants expressed the desire to have this opportunity in their regular classes. Jake stated, "That's the good part, you get can retake your stuff except your homework. It's better anyway, because in real classrooms you can't get to retake the test all the time." Terrance followed up with a very thoughtful quotation that all educators should have to read. He said:

I like being able to retake quizzes. Sometimes you have a bad day and don't do your best. Instead of keeping that 'F,' you have a chance to study, learn what you missed, and try it again. If the point is us learning this stuff, it works. Why don't we do that in regular classes?"

Participants in this study were clear that having the ability to retake quizzes was a major benefit to taking a course through the online credit recovery program.

### **Graduating From High School on Time**

The second research question focused on uncovering students' perceptions on how the experience of successfully completing an online credit recovery course affected their opportunity to graduate from high school. The data analysis process resulted in four themes emerging from the participants' voices. These four themes were induced by the researcher from 84 quotations that were organized into 13 separate codes. These themes include the participants' anxiety of failing the ninth grade, their strong perceptions that passing an online credit recovery program had improved their chances of graduating on-time, their enthusiasm for the online credit recovery

program, and the idea that they are better prepared for future courses as a result of their experience in the online credit recovery program.

### **Anxiety of Failing Ninth Grade**

Ten participants expressed stress and anxiety related to failing traditional courses which resulted in them being retained in the ninth grade. Olympia stated, “I did not like that at all, I worry about grades more than anything. That the one thing that makes me stress a lot is grades.” This anxiety led to some participants feeling that they would not be able to get back on track to graduate. Terrance speaks to this anxiety when he said:

I was real worried about failing ninth grade over the summer. I know I messed up last year, but I didn't see how I could fix it. After [online credit recovery program], I know there's a way for me to get back on track.

When John was asked how he would have earned the credit he lost last year he did not have an answer, instead he stated, “I would be freaking out, I wouldn't know what to do.” Some participants who had already failed a grade in middle or high school had a deeper level of concern. One of those participants was Carmen who said, “I was afraid they were going to kick me out. I was afraid of that because, you know, I've always had my goals. I want to be the first one to go to college.”

Interestingly, a great deal of the anxiety that participants held was related to not being classified as a student in the grade level with their class. District policy states that students must pass five courses in order to move up to the next grade level. One of those classes must be English since it is a required course at each grade level. Documentation on course schedules and the student information system denotes that these students are at a different grade level. Also,

homerooms at each of the high schools participating in this study are organized by grade level. Thus, students who are retained remain in homerooms with students of the lower grade. Carmen expressed her relief when she was officially reclassified to her correct grade:

At the beginning of the year I was still considered a freshman because I didn't have my English credit. Now I'm a full sophomore. I gained my credit I lost. I was happy. I was excited. All my stuff said I was a sophomore.

Maria expressed the change in classification that occurred after passing the online credit recovery class, "I was a ninth grader for one-half of the semester. When I passed it I got put in the 10th grade." When the researcher followed up by asking her what would have happened if she had not been able to take the online credit recovery course, she stated, "I would probably be 10th grader next year and would have been a ninth grader all year. That was really bothering me." Rose spoke to how she felt when she was moved back to a 10th grade homeroom, "After I passed my class, they moved me to a 10th grade homeroom. I remember getting my new schedule and seeing 10th grade on it. I was really happy and thought I was back on track."

Participants also spoke about the traditional credit recovery options as compared to the online credit recovery option with regard to getting back on track for graduation. The two options that students have always had for recovering credits are to retake a failed course in summer school or to take it in the same setting the following school year. Clearly, from the participants' voices on this issue neither option was appealing or, in many cases, feasible for them. With regard to summer school, several participants spoke about conflicts which would preclude them from taking a course. The first conflict was a lack of money to pay for the course. Olympia stated, "First, when I failed the class I thought that I had to go to summer school which

was going to be like 300 [dollars] something. It was making me stressed because I knew we couldn't do that.” The cost of summer school also prevented Rose from retaking a class, “It was too much money. My parents said no.” Patrise expressed her relief when she heard that she would have the opportunity to take the course through the online credit recovery program. “I was real happy when I heard about this chance. I was stressing all summer. We couldn't afford summer school and I knew that I was going to be have to retake Biology.” Participants also had other commitments over the summer that prevented them from attending summer school. John stated that he could not do summer school because, “I have baseball during the summer so I couldn't do that.” When Mike was asked about attending summer school he said, “Nah, I have a job during the summer.”

As unappealing as summer school was for participants to recover their credit, there was even greater resistance to retaking the class during the school year in a traditional setting. There were several reasons for this resistance. Sara cited the work load of adding another academic class to her schedule, “All the classes in one day are just overwhelming and to add another class to that, I don't think I could do it. [The online credit recovery program] was very helpful.” Korven could not cite a specific reason but said, “If I would have been put into another class I probably wouldn't have passed it. I probably wouldn't have passed it.” Two participants talked about the social awkwardness of repeating academic classes with students that are younger. Patrise said that she did not want to retake Biology because:

I didn't want to retake the class with a bunch of younger kids. They would all know that I failed and I would feel stupid. I'm quiet in class and don't like to ask questions anyway. I would be real scared of sticking out in a class I already failed.



Dave almost went from a potential dropout to an actual student who would not earn his high school diploma when he was faced with the prospect of retaking Biology:

I was excited when I heard about this chance. I decided over the summer that if I had to retake Biology that I was dropping out and getting my GED. I couldn't go through it again. I mean it was bad the first time. Having to do it again with kids that were younger than me wasn't going to happen.

These participants' voices paint a picture that demonstrates that many were concerned and even stressed over having to retake a failed course, but could not find a way back from their failure. At least for many of the participants, retaking a course through one of the traditional credit recovery options that have been available for decades was not meeting their needs. Bella expresses the relief that many participants felt when they found out about the online credit recovery class, "I'm happy that there was a chance because I was kinda worried about that. And I didn't really know this was here until I was offered. . .told, so I was really happy."

### **Improved Chances of Graduating**

As a result of successfully recovering a course credit through the online credit recovery program, all participants believed they had improved their chances of graduating. Just recovering one course credit can change a participant's outlook. Carmen said, "It means a lot to me and things like that that I can't get. I stress about it and I don't know what I'm going to do. Having that back I've gained something that I lost." Participants also expressed that they were determined to graduate despite what their actions may lead others to believe. Bobby said, "I really want to graduate with my class, you know. I know that some of my teachers think that I don't care, but I do. I want to pass, but sometimes I get overwhelmed with the work." When

Jake was asked about whether he had a better chance of graduating and if he was motivated to do it, he gave a very forthright and insightful response:

It depends on whether I keep up the good work because if I fail another class I have to go to [online credit recovery program] again and I would be set back. The rest falls on me, it depends on what I do. It's all about what you do. It's not that a virtual classroom may be harder or a real classroom might be harder, depends what you do. Me failing last year, I brought that on myself. I actually tried this year. Me failing last year was my motivation for this year; despite me having the [online credit recovery program] class, I think I would have passed Earth Science again. But the virtual helped it a lot.

Jake's expressing that it was up to him and that he had to do the work was echoed by Alayna when she was asked who could be successful in an online credit recovery class, "I think like anyone who is not lazy. Some people took about 6 months on one class. If I can do this class in 3 months than anyone can if they are willing to put in the work."

Several participants stated that they had friends and classmates who would benefit from the online credit recovery program. Dave said, "This class really helped me. I've told a couple of my friends who are failing that they need to try it. It helped me, it can help them, too."

Edison also thought that others would also succeed in the class by pointing out a specific example:

I would suggest it for anybody, I mean anybody to use it. I know this girl right now that's in it; she was just going to get her GED. She's in the 11th grade. She's going to graduate this year now.

Others were looking at opportunities for them to do additional classes using the online credit recovery program. Dave said, “I'd be better off doing all my classes through [online credit recovery program]. I'd have a much better chance of graduating if I could do more classes this way.” Korven was looking beyond credit recovery and asked his teacher if he could take a new class on the program, “Actually, I was trying to see if I could finish the first class, so I could see if I could take another class to get ahead.”

Participants perceived that their chances of graduating had improved as a result of the online credit recovery program. All participants voiced this belief. The participants' words above accurately portray that the anxiety of failing a course was alleviated by being able to quickly recover a credit through the online credit recovery program. Further, participants felt that traditional credit recovery options, such as summer school and repeating a course in a traditional setting, was not as feasible as doing the course online. Edison sums up how the online credit recovery program can improve a student's chances of graduating, “It's very good. You learn a lot of stuff. It goes by quick. If you really want to graduate really quick I advise going to [online credit recovery program].”

### **Relationship to the One-to-One Laptop Computing Initiative**

The third research question was linked to the fewest codes and quotations after the data analysis process was completed by the researcher. Only five codes and 67 quotations were aligned. Participants in general did not see a strong relationship between the districts one-to-one laptop computing initiative and the online credit recovery program except for three areas. First, participants did voice the ability to access and work on the course anytime, anywhere by using their laptop computer and associated wireless Internet access networks at

school, home, and in a couple of cases other locations within the community. Second, four participants stated that they did not have a computer at home and that having the district issued laptop allowed them to complete coursework away from school. Even for those with a home computer, some participants discussed having better access to the content by using their laptop. Third, four participants believed that successful completion of the online content was preparing them for future coursework in high school and beyond.

The most prevalent connection that participants made between the one-to-one laptop computing initiative and their success on the online credit recovery program was the ability to access and complete course content anytime, anywhere. Participants perceived that they were able to complete the course faster, but also at their own pace because they could work on it everywhere. Sara said, “It just made everything a lot easier because you always had access as long as you had Internet.” Students not only completed the course during their assigned class time, but also throughout the school day. Terrance said, “I can't imagine finishing this class without my laptop. I used my laptop for the whole class. I worked on it in other classes when I had time, in my study block, and at home.” Alayna took it a step further by completing course content while participating in after school activities. She said:

I'd sit at lunch to do it. I stayed after school every day because I was in the plays and everything. So, during our play breaks I would do [online credit recovery program] or before our performances I would just get on there and do a mini cram session.

One area of disparity among participants was the amount of time they spent working on the course during school hours versus at home. Felicia was at one extreme, “When I was doing my online credit recovery class I usually stayed online for 36 hours straight. I wouldn't sleep, just to

finish. I would use my laptop and sometimes my Dad's computer.” Raoul also spent a great deal of time working on the course at home, “On the weekends I would wake up at 8 in the morning and work until 1 or 2. It was like I didn't have anything to do.” Cody, on the other hand, said, “I didn't do much at home, I did it during class and in my study period.” John also believed that he completed most of the course during school hours. When asked where he worked on the class he said, “In class, study hall, at home sometimes.” When the researcher asked him if he could give a percentage breakdown of how much time he worked on it during school versus at home, he offered, “I would say 70% in class and 30% at home. It gave you a lot of time in class to do it. In that 45-minute period you can get a lot done.” It is important to note that these perceptions tie back into one of the main reasons that the participants felt that they were successful in the course. The fact that they had control over when they could work on the course instead of being told by a teacher when things were due was important. This flexibility and self-paced design of the online credit recovery program produced these extremes to some extent.

The digital divide was discussed earlier in Chapter 2. It refers to the divide in opportunity and resources between those that have access to ICT and those that do not. The digital divide did come into play in this study. Four participants did not have access to a computer at home and would not have been able to complete course content without their District-supplied laptop computer. Patrise gives voice to those participants who benefitted from improved access to ICT:

I wouldn't have been able to finish the class without my laptop. We don't have a computer at home. I probably shouldn't tell you this, but I used to use my neighbor's

wireless signal to do my work. I would work on it at McDonald's, in my other classes when I had free time, pretty much everywhere.

Jake also spoke about completing his coursework at home and said, "I used my laptop, we don't have a home computer." For some participants that may have access to a home computer, having a laptop of your own can also make a difference. Olympia talked about the benefit of having her own laptop computer to use,

I would sit with my laptop in a chair and work for hours. Our home computer is in the back of the house and doesn't work well. I probably never would have worked on it at home without my laptop.

Narrowing this digital divide was one of the major goals of this district's one-to-one laptop computer initiative. For many of the participants in this study, being able to use their laptop at home and at school provided them with flexibility in accessing course content that allowed them to successfully complete an online credit recovery course.

Probably the most surprising aspect of this theme was that some participants voiced that not only did they benefit from the ability to work on the course anytime, anywhere, but that they actually were better prepared for the future as a result of taking a class through the online credit recovery program. Three different participants referenced the self-guided nature of online instruction and how it is becoming an increasingly popular course format. These participants perceived that they will be better prepared for future classes as a result of participating in the online credit recovery program. Bobby stated:

You know, I think this [online credit recovery] class will really help me in the future. I know I can do it now, right. If I did this by myself, I should be able to handle anything. It seems like everything is going online, so I'll be ready for it.

Patrise also believed that the course will help her when she goes to college,

I want to be the first one in my family to go to college. I think [online credit recovery program] has really helped me because you are independent in college. This class taught me how to learn in that way.

Alayna also saw similarities between the online credit recovery program and what she perceived the college learning environment to look like,

I had already planned on getting my diploma. When I saw what it was like on [online credit recovery program] it was like this is kinda like college. At first the thought of college scared me to death. I can barely focus on my homework, much less a whole class. But now with [online credit recovery program] I think I can do it.

### **Factors that Led to Failing in a Traditional Classroom Setting**

All participants gave great detail to their perceptions for why they were successful in the online credit recovery program. A thorough discussion of these perceived factors occurred earlier in response to Research Question 1. Interestingly, participants also talked about why they felt they were not successful in a traditional classroom setting. A review of the data led to the realization these reasons for not being successful in a traditional classroom answered Research Question 4, “How do high school students participating in an online credit recovery course perceive the online learning environment of the credit recovery program, as compared to a traditional classroom setting?” Themes arose by correlating 117 quotations linked to 10 distinct

codes. A discussion of these themes will serve to provide depth to our understanding of why the participants were successful in the online credit recovery program. Participants gave many reasons for their failure in the regular classroom setting. Two of these factors are the inverse of why they felt they were successful in the regular classroom setting: too many distractions and a lack of focus in class. Participants also discussed the role of the regular classroom teacher versus the role of the online credit recovery teacher. The researcher found one of the few discernible differences between the two study locations in participants' comments about the role of their online credit recovery teacher.

### **Distractions**

Earlier, participants gave voice to their perception that the lack of distractions in the learning environment of the online credit recovery program was a primary reason for their success in it. They cited the benefit of the one-on-one environment where they could not be distracted by classmates. It comes as no surprise that 12 participants said that a regular classroom setting had too many distractions and that those distractions played a role in them failing the class. Dave was one of the participants who cited distractions in the regular classroom environment as a reason for his failing a course, "In a regular class, I get distracted by my friends. They don't do any work and that rubs off on me. I know it shouldn't, but it's hard especially when the class is boring." Patrise laughed out loud when she was asked if she would have passed the class if she had retaken it in a regular classroom environment. After she finished laughing she said:



I know I wouldn't have passed if I had to retake it in a regular class. I would have been laughing and playing with my friends in the class. It's too distracting. With [online credit recovery program], it forces you to pay attention.

Olympia also said that she gets distracted by those around her. She said she did not talk to peers in the class, but she got distracted by other conversations and actions. When asked how this impacted her performance in the class she said, "Sometimes you're not paying attention, you're outta zone, what did she say. You can't ask the people next to you or you get in trouble. Then you are lost and fall behind." For the participants in this study, a major difference between the learning environment in a regular classroom and the environment in the online credit recovery program was the prevalence of distractions in the regular classroom environment.

### **Loss of Focus**

Another difference between the two learning environments was the level of focus that participants had on their work. The researcher already discussed findings that participants felt that they were in the zone when working in the online credit recovery program. They also felt that they were motivated to stay on track and focused by the progress monitoring features of the program. In a regular classroom environment, participants did not have that focus or motivation. Jake was one participant who expressed this lack of focus as a primary reason for failing in a regular classroom environment, "I have a very big lack of interest, so sometimes I wouldn't do the work. But when I would do it and pass it." The researcher probed further by asking him why he was not interested. He answered that he just was not focused on it and did not see a reason to do all the work. Later in the interview, the researcher asked him how he did on his SOL test. He responded that he passed the SOL by saying, "The SOL is never a problem, if anything it would

be the class because I wouldn't put that much effort into it.” When asked again why he failed Jake replied simply, “Just not doing work.” Bobby was another participant who talked about his previous lack of focus or motivation. Interestingly, he also discussed how he did well on summative assessments, but had trouble doing the day to day work:

I just didn't do the work. I didn't see the point. I passed the tests, but I didn't do all the worksheets and homework. Then when you fall behind, you know it's hard to catch back up cause the teacher has to keep teaching the rest of the kids.

Terrance added that the ninth grade year was difficult for him. The transition to high school was overwhelming and his schoolwork was not a focus. He added:

I was real immature last year being my first year in high school. I was more interested in my friends and girls than my classes. I wasn't focused on my work. It was my fault, but I couldn't seem to get it together.

These participants all talked about how they were more focused in the online learning environment. The researcher questions how much of the renewed focus came from intrinsically knowing that they needed to pass the course this time and how much of it was derived from the different learning environment.

### **Role of Teacher**

Participants discussed the role of the classroom teacher in both learning environments. For teachers in the regular classroom environment, participants focused primarily on how the teacher impacted them failing the class. This focus was driven by the interview protocol. The researcher did not ask probing questions on attributes of the classroom teacher. Participants' voices on this subject derived mainly from questions about why they failed the class previously.

Thus, it is logical that any comments about the regular classroom teacher would be in this context. It is important to note that only two participants blamed outside factors for them failing the course. Eighteen participants took responsibility for failing the course. That being said, participants did voice how actions of classroom teachers impacted them failing the course. Alayna was answering a question about retaking quizzes and tests in the online credit recovery program, when the researcher asked her if she had that opportunity last year in her regular classroom environment. She immediately discussed the teacher refusing to give her assistance outside of class when needed:

My teacher, she didn't offer any help at all. I asked her if there was tutoring after school and she said if you don't learn it in class then you don't learn it at all. So I was like how is that supposed to help me?

For Alayna the ability to review material and retake quizzes assisted her greatly in developing mastery of the content. She clearly believed that her classroom teacher's practice of having one opportunity to learn the material prevented her from passing the class. Two other participants pointed to their classroom teacher's propensity to get off track when providing direct instruction. Shaya discussed getting confused and lost in her regular class. When asked why she got lost she responded, "Some of the teachers they go off on other subjects. To me, some of the teachers can't teach. They don't teach the right way. Using the computer, it just stays on track." Terrance also believed that his teacher getting off-task fed into his ability to stay focused:

I have a real attention problem. Sometimes real teachers get off-task and start telling stories. I get lost and stop paying attention. With the video lectures it's easier. They get to the point, and if you miss something you can just rewind it and hear it again.

Both Terrance and Shaya found that the online learning environment helped them stay on task. Both discussed the video lectures as being more focused and direct. They both also talked about the ability to pause and rewind those lectures when they missed content.

### **Online Credit Recovery Teacher in School A and School B.**

The researcher checked for differences in the experiences of participants in School A and School B as evidenced by their comments. For the most part, the researcher found consistency between their experiences. One area of difference was between the online credit recovery teacher at each school. Participants in School A described the role that their online credit recovery teacher played as mainly technical support and someone who monitored their progress. School A participants did not feel that he played a large role in their success. Mike provided a thorough explanation of the responsibilities of the classroom teacher in School A:

If we don't pass the quiz the third time, he'd have to pass us through it, not give us a good grade, but have to see everything on there to make sure he got the grade in. Then he'd go to the next pre-quiz. If there was a test, we are not allowed to take that without him being in there and the way that he does that is he has to look at everything you have done to make sure there's nothing on your computer screen, so it's not like cheating and stuff. . .and just make sure you got all the right grades and then moves us on to the open test.

This technical role of checking on progress and facilitating movement through the course was also discussed by Carmen. She hesitated when asked about the role of her online teacher and finally responded, “I think what happens is he pays attention. Even if you don't ask him

anything, he checks on you.” Olympia was one participant who liked her teacher’s assistance.

Her observations of his role included:

He wasn't just sitting down. I liked his help a lot. He would get up and check on us and walk around and make sure we were in the same place. Instead of talking, he had a sticky note where you would come into class and write down what you need. . .and after attendance he calls you up to his desk to talk to him in privacy if you need help.”

Olympia was the only participant in School A who shared a motivational strategy used by her teacher:

He checks if you went on it at home so when you come back you get your name on the board or something on hanging the wall saying congratulations to so and so for 3 hours of homework this weekend.

It is interesting that no other participant from School A mentioned this strategy of recognizing students who completed work outside of class time. One participant openly wished for more assistance from the online credit recovery teacher. Raoul thought that the students in class were left on their own too much. He expressed a need for more individual assistance from the teacher when he said:

[Online credit recovery program] program should be more encouragement. Teachers should be there like ‘Hey, you gotta keep up and you gotta do your work.’ Teachers think that because you’re doing everything on the computer they don't need to pay attention to you or help you if you have a question or anything like that.

While Raoul was the only participant that openly criticized the role that the online credit recovery teacher played in School A, there was a large contrast between comments of participants in School A versus the praise that the teacher in School B received from participants.

Alayna's description of her online credit recovery teacher was extremely positive:

She was probably like one of the best teachers I've had. She wasn't just a teacher. She was like a mom kind of. She wasn't one of those teachers who was like if you fail you fail. She would help you through and make sure you passed.

Edison also talked about this teacher as a mother figure. He was more specific with the role that she played:

She did everything. She turned us on, fixed all the problems. She helped us a lot. She devoted herself to us nonstop. Every time I see her she's in the class room. Even when she's at home until 9 or 10 p.m., she'll still be on trying to see if anybody's still on helping us and stuff. She'll tell us because when we come back she'll say, 'I see you didn't get on last night.' Like a mother with the help but disciplining us. Keep on track make sure I'm doing what I need to do.

Edison's quote above discusses how his online credit recovery teacher would be online at night helping students. Korven described the purpose of this communication as primarily motivating students. He discussed how she would email him often when he was on the program at home to give him words of encouragement. He also said that he and other students recognized how committed she was to seeing that they succeeded. Bobby also felt this commitment when the online credit recovery program first started. He expressed skepticism with the class at the

beginning and did not see how it would help him. He said that he came close to giving up on it, but that his teacher would not let him give up. He said:

Then [teacher] talked to me. She said this is a chance for me to get my credit back—that the school was giving me a second chance. She really helped. She talked to me a lot and called my mom. Finally, I gave it a shot, you know. After a minute, I found that I liked it.

Participants' words clearly demonstrate an increased role and level of involvement from the teacher in School B. This role of “mother” and motivator had an impact on students. School B is the more challenging environment with more diversity and lower socioeconomic levels. Thus, the teacher in School B may have been responding to the more overt needs of her students or she may have embraced this new position more than the teacher in School A.

### **Summary of Findings**

This chapter was focused on reporting findings from participant interviews. The chapter began with a review of the data analysis procedures completed. The researcher used an inductive process to allow themes to emerge directly from the words of the participants. The researcher listened to each interview on four different occasions using the Atlas.ti program. This allowed the researcher to have a holistic understanding of all 20 interviews. The interviewer then began creating quotations from each of the interviews. Once quotations had been identified, the researcher used inductive coding to begin organizing the quotations into units of meaning that would eventually become the themes discussed in this chapter as findings. After analyzing the codes for consistency and accuracy, the researcher chose the most relevant quotations for each code and transcribed them onto an Excel spreadsheet. Excel was used because it is easily

organized and reorganized according to various fields. The researcher found this format useful for looking at the data in a variety of ways. Finally, the researcher assigned codes to each of the four research questions and created a field for each research question.

### **Factors Contributing to Success in Online Credit Recovery Course**

The first research questions allowed themes to emerge around the factors that contributed to participants' success in the online credit recovery course. The first theme was control of the online learning environment. Participants recognized that they were in control of the class and responsible for their success. There were four subthemes that created the overarching theme of control of the learning environment. The first of these subthemes was that the online credit recovery course was self-paced nature of the course. Participants repeatedly pointed to the fact that they could proceed through the course at their own pace as a positive factor in their success. With this self-paced structure, participants intuitively realized that they had to keep up with their work. Without a classroom teacher dictating when and where to complete assignments, participants had the power to decide how to proceed through the course. This understanding added to the feeling of being in control.

A second subtheme within the theme of control of learning was the progress monitoring features within the online credit recovery program. Participants saw value in knowing how much of the course they had completed, and if they were on track to complete it within the assigned amount of time. This information was always displayed on the home screen of the program, providing a constant reminder to participants about where they stood in the class. The system also used a color-coded visual reminder, cueing participants whether they were behind (in red), on track (in blue), or ahead of schedule (in green). The final part of the progress



monitoring program was the display of a constantly updated grade for the course. As participants completed assignments, quizzes, or tests the program would calculate and display their grade. Participants expressed that knowing their grade kept them apprised of their success in the class.

The ability to complete assignments outside of assigned class time also contributed to the feeling of being in control of the learning environment. Participants completed assignments in a variety of settings including: study halls, during free time, at lunch, before and after school, at home, at public libraries, and one even worked on the course at McDonalds. Participants could decide when they wanted to work on the course as long as they had access to a computer and Internet access. Some participants worked on the course for hours over the weekend and others concentrated on working on it during schools hours. The important thing for the participants was having the flexibility to do it when it worked for them. Finally, some participants expressed that the control of the learning environment fostered a development of self-responsibility. For these participants the singular nature of the learning environment led to them taking responsibility for their learning.

**Distraction-free environment.** A second theme that emerged was that the online learning environment was free of distractions. Every participant interviewed spoke to this theme. In the regular classroom environment, participants said they got distracted by friends, by the teacher being off task, or by zoning out themselves. In the online credit recovery program, participants felt that they could focus better without these distractions. The fact that they often had to listen to audio files using headphones contributed to the lack of auditory distractions.

This theme was easily identified as a factor that contributed to the success of participants in the online credit recovery program.

**Structured instructional program.** Participants identified a consistent structure to the online credit recovery program. The courses followed a similar structure from one instructional topic to the next. Participants came to expect a prequiz, lecture, homework, and practice assignments followed by a quiz or test. They also expressed value in being able to see the entire course mapped out like a detailed syllabus. This consistent and transparent structure also enhanced the feelings of being in control of the learning environment.

**Multiple assessment opportunities.** One feature of the online credit recovery program that participants found valuable was the opportunity to take pretests and to retake quizzes and tests. Each course within the program begins with a cumulative prescriptive test. Participants take this pretest to demonstrate what they learned the first time they took the course. Topics and concepts that are answered correctly in this assessment are not retaught to the participant. Thus, participants who learned and retained material from the first time they took the class have that content taken out of online credit recovery course, thereby shortening the course. Even though some participants expressed that this cumulative test was too long and boring, all participants saw value in the exercise. Further, participants expressed how helpful it was not to have to relearn material they already knew. In addition to the opening prescriptive pretest, each unit had a prequiz that served the same function. This structured pretesting gave participants the opportunity to demonstrate mastery and maintain their pace to complete the course.

Each unit of instruction within a course also had a summative quiz or test. These assessments could all be retaken by participants if they failed them the first time. Participants

recognized that this was not an opportunity they had in a regular classroom. They agreed that this was a great strategy that allowed them to immediately relearn and then have another opportunity to demonstrate mastery. This ability to quickly remediate themselves and then retake quizzes or tests was expressed as a major benefit of the course.

### **Graduating On-Time**

Themes also emerged around the second research question related to increased chances of graduating on-time. Participants expressed anxiety at being in the situation of being retained in the ninth grade. They clearly recognized that this retention impacted their ability to graduate with their class. Participants were reminded that they were still ninth graders by the homeroom they were assigned to and all student documentation they received such as their schedule, transcript, and report card. Another source of anxiety was the limiting nature of traditional credit recovery options. These include summer school and repeating a course the following school year. None of the participants took advantage of summer school even though they were not aware that the online credit recovery option existed. Reasons for not taking summer school courses included the cost and having other obligations over the summer. Participants expressed that they would not be successful retaking a class in a traditional classroom model. One reason stated for this belief was the stigma of being in classes with younger students. Another was the belief that the factors that led to them to fail the course the first time would still be present.

All participants expressed the value of earning a credit they had previously failed to acquire. Further, the participants all said that they would like the chance to earn other credits through the online credit recovery program as long as they did not have to fail a course in order

to have the opportunity. Finally, participants knew that even though they had recovered a credit, they had to continue working hard or they would be back in the same situation.

### **One-to-One Laptop Computing**

Participants saw a relationship in the one-to-one laptop computer initiative in the district and their success in the credit recovery program. The primary link was the value in having the laptop to work on the online credit recovery course anytime, anywhere. Participants used their laptop to work on the program in class, at other times during the school day, and outside of school. Four participants said that they did not have a computer at home and without their laptop they would not have been able to work on the course at home. Having this laptop allowed students to complete the online credit recovery course faster. One subtheme that emerged was the belief by some participants that they were better prepared for future classes as a result of working in the online learning environment. These participants perceived that college courses would rely on online learning and they felt better prepared to take those courses as a result of completing one in high school.

### **Factors That Led to Failing Course**

Themes emerged from participants' voices when comparing the online credit recovery class to the class in a traditional classroom setting. Those themes centered on the factors that led to participants failing the traditional course. In some cases, these factors were mirror images of the factors, previously discussed, that participants offered as reasons they were successful in the online credit recovery program. These factors included having too many distractions in a regular classroom and lack of focus and motivation. Participants also contrasted the role of the teacher in a traditional classroom and the online credit recovery program teacher. Participants stated the

impact of classroom teachers on them failing the course. They perceived that their classroom teacher was not inclined to provide them extra help or assistance outside of class. They also stated that teachers would get off topic which would cause them to lose focus.

## CHAPTER 5. DISCUSSION

The purpose of this study was to explore the perceptions of high school students who successfully participated in an online credit recovery program to discern what factors they believed contributed to their success. Interviews with 20 students who had successfully completed a course using the online credit recovery program were guided by the research questions below:

1. To what do high school students participating in an online credit recovery course attribute their success in it?
2. How do high school students participating in an online credit recovery course view their chances of graduating from high school on-time after successfully completing the course?
3. What do high school students participating in an online credit recovery course perceive as the relationship between the credit recovery course and the one-to-one laptop computing initiative supported by the school district?
4. How do high school students participating in an online credit recovery course perceive the online learning environment of the credit recovery program, as compared to a traditional classroom setting?

Researchers have not previously conducted interviews with high school students participating in an online credit recovery program. This study gave a voice to students who were

at risk of dropping out of high school and not earning a high school diploma. In the process, this study attempted to add to the available research by analyzing participants' perceptions to provide information on the factors that contributed to their success in the program, and to document the implications of this success on their prospects of earning a high school diploma.

In this final chapter, the rationale for the study and the methodology used to the complete it are reviewed. Emergent themes are summarized in the context of the research questions and current research is discussed in relation to these themes. The implications for students who are repeating the ninth grade and enrolled in an online credit recovery program are addressed and recommendations are made. Finally, suggested areas for future research are detailed.

## **Rationale and Methodology**

### **Rationale**

This study arises from the increasing focus that has been placed on preventing students from dropping out of high school in recent years. Studies have found that over 1.2 million students are dropping out of school every year (Amos, 2008). This increased focus began with passage of NCLB (2001), which required high schools to use graduation rate as their second academic indicator. In recent years, advancements in technology have enabled states to develop robust data systems capable of tracking individuals and groups of students across schools within the state. These advancements in data tracking have led to the generation of accurate on-time graduation rates, which calculate how many students who enter ninth grade in a particular school year graduate with a high school diploma 4 years later. National studies have found that the on-time graduation rate is between 70% and 75% (Stillwell, 2010). This means that approximately one-quarter of all students in the United States fail to graduate on time.

High schools around the country are implementing online credit recovery programs as a strategy to increase on-time graduation rates and reduce the number of high school dropouts. Zehr (2010) found that leading producers of online credit recovery programs have seen an eightfold increase in sales in the last 2 years. Dessoiff (2009) stated that educators are attracted to online credit recovery programs because they offer a different way to motivate students who have failed courses in a traditional classroom setting. The interactive, self-paced nature of online credit recovery programs make them particularly appealing for students at risk of dropping out.

Online credit recovery programs are designed to help students graduate from high school. Aligned to state and national standards, these programs utilize information and communication technology such as video, simulations, online discussion with master teachers, and instant feedback on quizzes to engage students in the content. Students are enrolled in an online course and move through the course at their own pace. Course content is preceded by preassessments to identify material that students have already mastered. Mastered content is electronically removed from a particular student's experience of the course, thereby allowing students to focus their time learning new content. This new content is followed by regular assessments to monitor students' mastery of material. Students often have the opportunity to retake assessments that they do not successfully pass. This opportunity to retake assessments allows students to review and relearn material they have not mastered. School-based facilitators are able to manage, track, and assist students using comprehensive data reports supplied by the program.

### **Methodology**

This study captured the perceptions of students enrolled in an online credit recovery program in a suburban school district in Virginia that supports a one-to-one laptop computing



initiative. The district's one-to-one laptop computing initiative was one of the first large scale implementations in the nation, and remains, more than a decade later, one of the largest district-wide implementations. All participants in this study failed at least one academic subject during their ninth grade year, thereby placing them at risk of dropping out of high school. Instead of participating in a traditional credit recovery option, such as retaking the course in a regular teacher-led classroom environment, the participants volunteered to take part in an online credit recovery course. The goal of this study was to document the perceptions of high school students who successfully participated in an online credit recovery program to document what factors they believed contributed to their success.

The researcher interviewed 20 students who successfully completed the targeted online credit recovery program by earning a passing grade in the course. The researcher used Atlas.ti (a qualitative data analysis software program) to analyze the qualitative data gathered from the voice recordings of these interviews. A computer-assisted qualitative data analysis software (CAQDAS) program, enabled the researcher to identify specific quotations and assign each an identifying code. Once these codes were analyzed for consistency and accuracy, the researcher was able to organize them into similar units of meaning. This step allowed themes to emerge from among the participants' responses. These common patterns shed light on factors that the students perceived as contributing to their success in the online credit recovery program.

### **The Online Credit Recovery Program Versus a Traditional Classroom**

Participants were asked to describe their experience in the online credit recovery program in a variety of ways. They were quick to provide a summary of that experience and often contrasted it to their experiences in traditional teacher-led classrooms. In Chapter 4, these

findings were discussed separately in association with the corresponding research question. Since these findings are often mirror images and have implications for both learning environments, they will be discussed together below. Table 2 provides a visual representation of the researcher's analysis of differences between the two learning environments drawn from the students' voices.

Table 2

*Analysis of Online Credit Recovery Learning Environment and Traditional Classroom Environment*

Online credit recovery class	Traditional classroom
Student in control	Student passive participant
Quiet environment	Lots of distractions
Self-paced	Pace of instruction dictated by teacher
Real time progress monitoring	Sporadic updates on progress
Prescriptive assessments	Posttesting only
Retaking assessments	One opportunity to show mastery

**Student Control of Learning Environment**

Participants perceived that they were in control of the learning environment in the online credit recovery program. This sense of control was a theme that emerged as a factor contributing to their success in the online credit recovery class. Bobby expressed this theme clearly when he said:

I felt I was in control. I knew exactly what I had to do and it was up to me to decide when and for how long. It's like you feel like an adult. No one was telling me what to do all the time.

There were several factors that were identified as subthemes that constituted the overarching theme of control of learning environment. These subthemes included the self-paced nature of the course, the progress monitoring feature, the ability to work on course content anytime, and the sense of self-responsibility that came from having control of the learning environment. The pace of instruction and progress monitoring will be discussed in depth below.

**Pace of instruction.** The first words that came from participants when asked why they felt they were successful in the online credit recovery class were typically some variation of, “I can move at my own pace.” Participants felt strongly that the ability to complete assignments according to their schedule was a major factor in their success. Raoul expressed this when he said, “That program really helped me keep up with my work. I needed more time to do my homework or my quizzes. I can finish it at home or at school or anytime and that really helped me a lot.” Some participants spent hours working on the online course outside of school. Others worked on it primarily during their credit recovery class.

This freedom to choose when to complete coursework was in direct contrast to the teacher-led pace of a regular classroom. Participants expressed that in traditional classes, they felt rushed, would get lost, or become confused working on assignments. Instead of being able to slow down and learn the material on their own, they were forced to move forward with the other two dozen students sitting in the class. This lack of control in a regular classroom was a factor in participants’ becoming frustrated and falling behind. Carmen was one participant who

stated that the teacher-led pace of a traditional classroom was a problem, “I don't have to rush through because like the class is on this side. You don't have to be embarrassed with what section you are. Most people they get upset because they can be slower than others.” The researcher postulates that these feelings of embarrassment or frustration were followed by resignation that they were not going to be successful in the traditional classroom. The pace of instruction in a traditional classroom resulted in students falling behind, becoming confused, and ultimately resigning themselves to failure. These feelings of resignation were stated clearly by Rose when she said:

It was ‘cause I learned that sometimes, it depends on the teacher, if you just go over it once or twice and don't go into detail, I'm not going to learn. I'm not going to even try to, but if I go at my own pace I can pick up anything.

**Progress monitoring.** This feeling of falling behind and not being able to catch up can also occur in an asynchronous online class. Being able to move at one's own pace without feedback on a rate of progress that will ensure the completion of course content is one of the drawbacks of asynchronous online courses. The online credit recovery program studied has a robust progress monitoring system that participants perceived as a contributing factor to their success. Cody described the progress monitoring feature of the program, “It gives you a percentage of the class completed. It tells you if you're behind or on schedule and there's also your overall grade. I thought that was pretty cool.” This information was displayed graphically on the home screen as a constant reminder to participants. The system used a color code to visually notify students if they were behind schedule. Students “in the red” were behind schedule. The color green informed students they were ahead of schedule. Students repeatedly

expressed that the colors were effective in motivating them to get caught up if they were behind. John said, “It's weird with colors because if you see that red you feel like oh no I'm behind right now, but if you see green you're okay. I'm ahead.”

Progress monitoring in a traditional classroom typically consists of reported grades at the end and midway point of the grading period. Teachers typically inform students that they are missing assignments, but there is no standardized means to remind students that they are behind in their coursework. Schools have begun using electronic progress monitoring programs. The district studied has an electronic system that students and parents can access that lists all assignments for the class and the grades associated with each assignment. These programs also give up-to-date grades for the course based upon completed assignments. This program is a vast improvement over the traditional method of communicating student progress—the report card at the end of the marking period. However, the system is dependent upon teachers entering assignments into the electronic grade book and grading students' work in a timely manner. The online credit recovery program does this automatically and provides up-to-the-minute progress monitoring to participants.

### **Distraction-Free Environment**

From the perspective of participants, the level of distraction in the learning environment was a primary difference between the online credit recovery course and courses in the traditional classroom. Participants consistently voiced the belief that they were successful in the online credit recovery course because they did not have the distractions present in a traditional classroom. Participants consistently talked about being in the zone in the online credit recovery program. The fact that participants used headphones to listen to course content contributed to

this feeling. Also, participants discussed the one-on-one nature of working solely with a computer program versus a class where 20 to 30 other individuals are present and involved in the learning environment. This feeling of being engaged in a one-on-one learning environment was expressed by John when he was asked about why he was successful in the online credit recovery program, “The one-on-one; not so much distractions. You just put your headphones on and you’re zoned into that computer. There’s nothing going on in the world when you’re just looking into the computer.”

This zoning in was in contrast to the traditional classroom that was described as being full of distractions. A high level of distraction was one of the primary reasons participants cited for failing courses in the traditional classroom. Whether it was losing focus and zoning out during a teacher lecture or being distracted by friends and other students in the class, participants believed that it was a contributing factor to their failure. As Patrise said when asked if she would have passed the class if she had retaken it in a traditional classroom:

I know I wouldn't have passed if I had to retake it in a regular class. I would have been laughing and playing with my friends in the class. It’s too distracting. With [online credit recovery program] it forces you to pay attention.

Not all distractions were caused by other students in the class. Participants also pointed to teachers who often veered off-subject as a distraction. Lectures and activities that were not clearly tied to course content and objectives were another source of distraction to participants.

### **Multiple Opportunities to Assess Learning**

Another difference between the online credit recovery program and the traditional classroom was the ability to demonstrate mastery of content. In a traditional high school

classroom students take a quiz or test at the end of a unit of study and if they fail that grade stays with them. The class moves on to the next unit of study and the cycle begins again. Students rarely have the opportunity to relearn the material and take a second assessment that accurately reflects the remedial work they have done. Part of the reason for this is the fast-paced nature of the high school curriculum. Another aspect is the traditional belief that a student has only one opportunity to demonstrate mastery because it is a true reflection of learning for all students. Teachers in traditional classrooms, particularly at the high school level, are resistant to providing students additional opportunities to demonstrate mastery of content on graded assessments.

Participants in this study disagree with this rationale. They were insightful enough to know that assessments are intended to demonstrate learning and that the traditional model does not always fit that intention. Terrance was one participant who expressed this belief articulately:

I like being able to retake quizzes. Sometimes you have a bad day and don't do your best. Instead of keeping that F, you have a chance to study, learn what you missed, and try it again. If the point is us learning this stuff, it works. Why don't we do that in regular classes?

The online credit recovery mandated that students who failed a quiz or topic test had to go back and review content prior to retaking the assessment. While there are some traditional classroom teachers who embrace this practice they are in a small minority of teachers.

Another aspect of the issue of demonstrating mastery of learning that participants embraced was the prescriptive pretest. The pretest identified content that participants already knew and removed it from the course. Participants recognized that this decreased the amount of content they had to complete because a certain percentage was taken out of the course. One

participant specifically remembered having 30% of the course content removed from the online program.

Participants knew that this is not an option the first time that you take a course in a traditional classroom. They also knew that without the online credit recovery course they would be retaking the class in a traditional classroom and have to sit through 100% of the content they had learned the previous time taking the course. Regulatory guidelines at the state and local level dictate a certain amount of time dedicated to a new subject at the high school level. The seat time requirement in the state of Virginia is 140 hours. Virginia only relaxed this requirement for online classes in the last 2 years, and this exception to the seat time requirement is only for narrow circumstances such as when a student repeats a course. Alayna expressed the belief that she wouldn't have passed the course she had to retake if it had been in a regular classroom for this reason.

In a classroom they're gonna go over everything, so even if I know it I'll be sitting there. While I'm sitting there I'll be missing important stuff I don't know. So at least with [online credit recovery program] I can take out what I do know and what I don't know and just have it so I can focus on the main things that I need to focus on. But if I'm in class, I'm most likely gonna zone out and I'm not gonna get exactly what I need.

The multiple opportunities to demonstrate mastery of content was a major theme that emerged from this study and one that separated a traditional classroom and the online credit recovery program. Participants perceived that the prescriptive pretest and the ability to retake summative assessments were factors in their success in the online credit recovery program. Participants also expressed a desire to see this practice instituted in their regular classes.



## **Implications and Recommendations**

Bridgeland et al. (2006) found in their study of high school dropouts that the undifferentiated approach of the traditional classroom did not meet the dropout's needs. They found that the "one size fits all" approach does not work for all students and that schools need to diversify offerings and practices to meet the needs of students. Participants in this study would agree with these findings. As potential dropouts, they expressed a lack of control in a traditional classroom where activities and pace of instruction are dictated by a teacher trying to meet the needs of a couple of dozen students. This lack of control led to disengagement on the part of several participants. Participants also experienced a traditional classroom that was distracting to the point of being unable to focus on the instruction that was occurring.

In contrast, the online credit recovery program was flexible and individualized to meet the needs of participants. Watson and Gemin (2008) stated that this was one of the potential benefits of an online credit recovery program. This individualized learning environment created a feeling of being in control for the participants. Being able to move at their own pace through instructional content and to complete it when and where they wanted to fostered this sense of control. Further, the ability to test out of certain content created an educational program that was flexible and modular. Christensen et al. (2008) predicted this "modularity" as an evolution in education created by online learning. Allowing students to test out of concepts they have mastered is more efficient and instructionally sound.

It is recommended that educators be more cognizant of these factors that create a sense of control for students. Students that fail a course in a traditional classroom should not have to repeat the entire course in the same setting. This will lead to frustration and disengagement. The

modular approach to learning inherent in the online credit recovery program is a favorable option for these students. An individualized summer or evening program that focuses on the material that students do not know would be another positive option as long as it incorporates a more flexible, self-paced instructional model that embraces progress monitoring and the ability to demonstrate mastery in multiple opportunities.

Further, the traditional classroom could incorporate some of these identified themes into its learning environment. Distractions in this environment impact all students. Teachers should focus on decreasing distracting behavior on their part by offering a clear, organized instructional program that students can follow. Creating a student-centered environment, where students are actively involved in the learning process could also decrease distractions and increase student focus. Utilizing electronic progress monitoring tools available to teachers can also increase student engagement and focus. Participants in this study wanted to know where they stood in the class and what to expect moving forward. Is it anticipated that this would hold true for other students. Finally, providing additional opportunities to demonstrate mastery of course content would motivate students to relearn material and would allow their grade in the course to more accurately reflect that learning.

Last, legislative and regulatory bodies need to look at the concept of seat time in the context of online learning in the 21<sup>st</sup> century. The notion that all students need 140 hours of direct instruction in a subject no longer holds true when students are able to access and complete content online from anywhere. This requirement is difficult to enforce when students are not sitting in a traditional classroom, but are moving at their own pace through an asynchronous online course. The researcher suggests that the focus should be on completion of course

objectives and content and demonstrated mastery of them, not a minimum amount of time designation.

### **Suggested Areas for Future Research**

Additional research is needed on the effectiveness of online credit recovery programs and their relationship to traditional classrooms. This qualitative study focused on student perceptions of their experience in the program. Experimental, quantitative studies would assist by quantifying the effect of online credit recovery programs on student learning. There is, of course, the danger of denying potentially positive benefits to students in a pure experimental design. A study with a small sample size may be justifiable considering the potential benefits in having experimental results to analyze for a program that is showing explosive growth. In lieu of a true experimental design, a quasi-experimental design using survey and performance data could yield significant results in this area.

Studies in this area can also be used to identify characteristics of students who are more likely to be successful in an online credit recovery program. From this study, the researcher theorizes that students who enjoy one-to-one learning environments and are easily distracted in group settings would be successful. Other identified characteristics would be a lack of confidence in a regular classroom, students who are truant, students who need multiple chances to learn material, and students resistant to doing rote assignments like homework. As stated earlier, online credit recovery is a growing phenomenon in secondary education in the United States. It is seen as a viable strategy to reduce high school dropouts, but without further study the education system will not be able to maximize this new resource. Being able to identify characteristics of students more likely to be successful in an online credit recovery program will

allow educators to efficiently identify students who will be successful. This will result in increased credit recovery rates and, by extension, increased on-time graduation rates.

### **Improved Chances of Graduating on Time**

Participants in this study were students who were repeating ninth grade as a result of failing course(s) the previous year. One theme that emerged was that participants realized that failing had placed them in a difficult situation with regard to graduating on time. Many participants expressed anxiety over being retained in the ninth grade. Constant reminders that they were still ninth graders included the homeroom they were assigned to and all student documentation they received such as their schedule, transcript, and report card. This reinforced the idea that they had fallen behind and that they had a difficult road to graduate on time.

Adding to this anxiety for many students was the knowledge that it would be difficult for them to earn the credit through traditional credit recovery options. Summer school was not an option for many high school students for a variety of reasons, including cost, work commitments, and family responsibilities. They were also very reluctant to repeat the course during the school year. Participants realized that they would be asked to sit through an entire year's worth of content that they had already learned to some extent. They were also cognizant of the social stigma of being identified by peers as someone repeating a class. Participants also expressed that the factors that were implicated in their failing the course the first time (for example, distractions, pace of instruction, and lack of motivation) would be present the second time they took the class.

As a result of this anxiety caused by falling behind and the lack of viable options to catch up, participants were all excited by the opportunity to participate in the online credit recovery

program. They saw it as something new and different—just for them. All participants valued earning the credit they had previously failed to acquire and they viewed the online credit recovery program as the best way to earn it back. The self-directed nature of the program also allowed participants to gain an awareness that they could complete the course and figure out challenging content on their own. Several participants noted that they felt more self-responsible as a result of completing the course and had increased confidence in their ability to be successful in future courses.

All participants said that they would like the chance to earn other credits through the online credit recovery program. Most participants associated the online credit recovery program with failing a course the first time. While they enjoyed and appreciated the experience, they knew that if they failed another class they would be back in the same situation of being at risk for graduating on time. Thus, half of the participants hesitated when asked if they wanted to take another course using the online credit recovery program. When the researcher probed to ask if they wanted to take another course in the online credit recovery program as long as it was the first time they were taking the course, every participant responded with an enthusiastic, “Yes.” Dave summed up the feelings of many when he said, “I'd be better off doing all my classes through [online credit recovery program]. I'd have a much better chance of graduating if I could do more classes this way.”

The likelihood of a student being able to take all of their high school courses using the online program is an interesting thought to consider. There is nothing to prevent a student or a school from doing this. The courses exist in the program, and as long as seat time could be documented there is no regulatory reason why it could not be done. While Dave believes that he

would be better off doing all his classes in this format, this researcher believes that Dave would ultimately regret that decision. Going to the extreme of never interacting with teachers and students in a regular class would have negative consequences for Dave's preparation for the future. Despite the proliferation of technology, students are still going to have to work together as adults. In fact, collaboration is one of the cornerstone 21<sup>st</sup> century skills. This collaboration can occur virtually, but face-to-face human relation skills will still be necessary. A better alternative would be for Dave to balance some regular classroom experiences with more online courses.

The online learning environment for these participants had become more successful than a regular classroom environment and it was one they were anxious to continue experiencing. When asked if they missed being in a regular class, most participants said no. They mentioned being able to see their friends, but for many they realized that the distraction of social interaction was a negative factor in a traditional classroom.

All participants also recognized that they had improved their chances of graduating on time. Some had the tangible reminder of being reclassified as a 10<sup>th</sup> grader in the middle of the school year. Others were able to schedule 11<sup>th</sup> grade classes as a result of earning credit through the online credit recovery program. They perceived the opportunity to participate as one that saved them from other unattractive options including everything from repeating yearlong classes to dropping out and getting a GED. Participants even expressed gratitude that the district had initiated a program like this to help them and others in their situation.

## Implications and Recommendations

It is clear that the participants in this study perceived that the online credit recovery program increased their chances of graduating on time. Every participant expressed this belief. Online learning is changing the face of public education. Ambient Insight, a research firm, found that over 2 million preK-12 students were enrolled in online courses in 2009. The firm also projected that the number of preK-12 students taking online courses in 2014 will jump to more than 10 million (Nagel, 2009). Online course enrollment has skyrocketed because students with myriad needs can be effectively served. According to Means et al. (2009), online courses are popular with students who are looking to accelerate their learning and for those who are looking to acquire course credits that they failed to pass in a traditional classroom setting.

One reason that online credit recovery programs are growing in popularity is because they offer an alternative to the regular classroom. Traditional credit recovery options use the same instructional strategies, the same resources, and the same structure. Online credit recovery programs leverage ICT to create an engaging and interactive 21<sup>st</sup> century learning environment. As one educator told Watson and Gemin (2008):

Because of the e-learning aspect of our credit-recovery program, it also seems that students have changed their attitudes toward credit recovery. They realize that credit recovery is not all worksheets, repetition and drudgery; it also means relearning the standards in engaging and interesting formats with lots of visuals and graphics to help students learn.” (p. 16)

With the increased accountability that comes with on-time graduation, it is imperative that high schools look for opportunities to identify potential dropouts early and offer them an

engaging and attractive route to get back on track to graduate on-time. For participants in this study the online credit recovery programs used by the district in this study definitely meets this criteria. The researcher predicts that enrollment in this program will increase in this district and in similar online credit recovery programs in districts across the country.

### **Suggested Studies for Future Research**

Since online credit recovery programs are a relatively new development that are already growing in popularity, future research is needed. This researcher suggests looking at students who are using the online credit recovery program for credit accrual. Credit accrual can be defined as earning credits by taking the course online the first time. Participants in this study asked for this opportunity and it would be interesting to compare their success rate using the program in accrual mode instead of recovery. Another area for research would be to follow a cohort of repeat ninth graders who took an online credit recovery course and follow them through to graduation. This longitudinal study could document their journey and see how many students who were successful in ultimately meeting their goal of graduating on time.

### **One-to-One Laptops and Online Credit Recovery**

As stated earlier, the district in which this study was conducted maintains one of the largest one-to-one laptop computing initiatives in the country. All students in grades 6 through 12 receive a laptop computer with wireless access to the Internet. Participants were asked about the impact of having a laptop on their performance in the online credit recovery program. Their answers shed some light on the relationship between participating in an online credit recovery program and participating in a one-to-one laptop computer program.



The most tangible result was having a laptop computer that could access the online credit recovery program anywhere there was wireless access to the Internet. Twenty percent of the participants did not have computer access at home. Without their school-issued laptop they would not have been able to complete online credit recovery content away from school. Further, all participants voiced that they worked on their course during school hours outside of class time dedicated to the online credit recovery course. Participants stated that they would access the online credit recovery course before school, after school, during lunch, in study halls, and when they had free time in other classes.

This anytime, anywhere access during the school day was a contributing factor to the success that participants experienced. Some participants spent hours over the weekend working on the class. Other preferred to maximize school time to complete course content. Participants even went so far as to use their iPod touch and to access the course through wireless access at McDonald's. The flexibility in access to the learning environment is a hallmark of 21<sup>st</sup> century learning and one that participants in this study exhibited. It is also one that contributed to their success on the course because it was defined by one class period during the school day.

Another theme voiced by participants was the idea that completing an online course using their laptop computer was preparing them for college and beyond. Participants were cognizant of the fact that learning at the higher education level is increasingly utilizing an online learning environment. They also recognized that they were learning in a different way that required a different set of skills including being an independent learner that solves problems on their own. Again, 21<sup>st</sup> century learning is defined by problem solving and critical thinking through the use of ICT. The fact that participants in this study recognized that they were learning differently

using technology, and that it would prepare them for the future, is a theme in the study that links the one-to-one laptop computing initiative to participant success in the online credit recovery program.

### **Implications and Recommendations**

Successful online credit recovery programs are not dependent on a one-to-one laptop computing initiative. However, the voices of participants in this study clearly indicate that taking part in a one-to-one laptop computing initiative was a contributing factor for their success in the online credit recovery program. Students who do not have one-to-one access to laptops can complete an online credit recovery course in a computer lab environment, but their access and ability to complete coursework is severely limited in this environment. Further, Schaumburg (2001) found that students participating in a one-to-one laptop initiative increased their technology literacy when compared to students who can only access computers in a traditional computer lab condition. Technology literacy improves efficiency in completing the online credit recovery course by knowing how to manipulate various components of the program.

Students participating in an asynchronous online course are often motivated by completing the course faster. This is especially true of a modular online credit recovery course where students can test out of material they already know. Having access to a laptop computer facilitates this ease of access and the ability to complete coursework at school and away from it. Students at risk of dropping out of school, who are participating in an online credit recovery course, can only be helped by having anytime, anywhere access to the course. School systems that do not have a one-to-one computer initiative could allow students to check out laptop computers and take them home when needed or open computer labs to participating students

before and after school. While this does not provide the 24/7 access of having a school-issued laptop it does increase access to the online credit recovery program.

### **Suggested Studies for Future Research**

Further research is needed on the relationship between a one-to-one laptop computer imitative and participation in an online credit recovery program. One suggested study would be to compare program usage for students who are taking an online credit recovery course in a traditional computer lab to students who are taking one using a school-issued laptop with wireless Internet access. Tracking statistics within the online credit recovery program could be gathered to look at the number of hours students are engaged in the program during class time, during the entire school day, and outside of school hours. Difference in amount of hours accessing the program could be gathered and correlated to course performance. Another area for study would be to give students who have not participated in a one-to-one laptop computing initiative a laptop to use 24/7 while in the online credit recovery class and compare them to a sample of students who have experience participating a one-to-one laptop computer initiative. It would be interesting to see if there were differences in performance between these two groups.

### **Conclusion**

Interviewing students who repeated ninth grade as a result of failing courses would be considered by many to be a daunting task. The researcher wishes that others could have sat in on the interviews to not only hear the participants' stories but to also see their faces. The pride and excitement in Olympia's voice and facial expression when she said, "I'm so glad I had this chance. I really feel that I will meet my goal of earning a diploma now" is impossible to convey. Witnessing the blunt assertion and matter of fact admission by Dave that he had already planned

on dropping out and getting his GED before being persuaded to give the online credit recovery program a chance was a powerful moment this researcher will not soon forget. All 20 participants had stories to tell and excitement, sadness, and, ultimately success to share.

These students are but a small representation of the repeat ninth graders across the country. The researcher does not claim that their stories mirror those of all of them. Nor does the researcher claim that online credit recovery programs are the singular answer to increasing on-time high school graduation rates. However, the current study shows that these students do want to share their story and that they want to be successful in earning their high school diploma. It is hoped that this study encourages other researchers to examine and analyze this growing phenomenon to help other students like Olympia and Dave receive a second chance to graduate on time.

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## APPENIDIX A

### RESEARCH SUBJECT INFORMATION AND PERMISSION FORM

**TITLE:** Students' Perceptions on Participating in an Online Credit Recovery Program

**VCU IRB NO.:** HM13860

This permission form may contain words that you do not understand. Please ask the study staff to explain any words that you do not clearly understand. You may take home an unsigned copy of this permission form to think about or discuss with family or friends before making your decision.

#### **PURPOSE OF THE STUDY**

The purpose of this study is to discover student's perceptions of participating in an Online Credit Recovery Program. The study is being conducted for a doctoral dissertation. Results from the study will be shared with school division staff to inform best practice around how to improve the Credit Recovery Program.

Your child was selected as a possible participant in this study because he/she has successfully completed at least one course through the Online Credit Recovery Program. The study is being conducted for a doctoral dissertation and is not being conducted by Henrico County Schools. However, results from the study will be shared with school division staff to inform best practice.

Examples of questions that may be asked during the interview include:

1. I understand that you have successfully completed a course in the credit recovery program. Congratulations! What course(s) have you completed?
2. Did you have to take an SOL test after completing the course? If yes, how did you do?
3. Tell me about your experience in the credit recovery program.
4. Did you take this class after not being successful in the class previously?
5. How is this experience different from a regular class you take with a teacher? How is it similar?
6. Why do you think you were successful this time?
7. Would you like to take additional classes in this format? If so, why?

## **DESCRIPTION OF THE STUDY AND YOUR (YOUR CHILD'S) INVOLVEMENT**

If your child decides to be in this research study, you will be asked to sign this permission form after you have had all your questions answered and understand what will happen to your child.

In this study your child will be asked to participate in one 20-30 minute interview. Snacks and drinks will be provided during the interview. The interviews will be electronically recorded so we are sure to get all of your child's ideas. I will not record names on the tape.

## **RISKS AND DISCOMFORTS**

Sometimes talking about school makes people upset. Your child does not have to talk about anything he/she does not want to talk about. Your child may choose not to answer specific questions and may leave the interview at any time. If your child does become upset, I will help your child and/or allow your child to speak to the school's guidance counselor.

## **BENEFITS TO YOU AND OTHERS**

Your child may not get any direct benefit from this study, but the information we learn from people in this study may help us design better programs for parents and schools.

## **COSTS**

**There are no costs for participating in this study other than the time your child will spend in the interviews, which will total between 20 and 30 minutes.**

## **CONFIDENTIALITY**

Potentially identifiable information about your child will consist of interview notes and recordings. Usage data from the Online Credit Recovery Program will also be collected. This usage data will include your child's grade, the amount of hours they worked on the program, and their SOL score if they took one after taking the class. Data is being collected only for research purposes. Your child's data will be identified by a false name. All personal identifying information and interview notes will be kept in password protected files deleted at the completion of the study." Interviews with identifiable information removed will be kept indefinitely. Access to all data will be limited to study personnel.

We will not tell anyone the answers your child give us; however, information from the study and the permission form signed by you and assent form signed by your child may be looked at or copied for research or legal purposes by Virginia Commonwealth University.

What we find from this study may be presented at conferences or published in papers, but your child's name will not ever be used in these presentations or papers.

**We will not tell anyone the answers your child gives us. But, if your child tells us that someone is hurting her or him, or that he/she might hurt themselves or someone else, the law says that we have to let people in authority know so they can protect your child.**

**The interviews will be electronically recorded, but no names will be recorded. The electronically recordings and the notes will be stored on a password protected hard drive and on a removable memory device which will be stored in a locked fire safe. After the information from the recordings is added to data analysis software and coded, the recordings will be destroyed.**

### **VOLUNTARY PARTICIPATION AND WITHDRAWAL**

Your child does not have to participate in this study. If your child chooses to participate, he/she may stop at any time without any penalty. Your child may also choose not to answer particular questions that are asked in the study. Your decision of whether or not to allow your child to take part in this study will not change their grade in any way.

Your child's participation in this study may be stopped at any time by me or the sponsor without your consent. The reasons might include:

- the study staff thinks it necessary for your health or safety;
- your child has not followed study instructions; or
- administrative reasons require your withdrawal.

Your decisions of whether or not to allow your child to take part in this study will not impact their academic standing with Henrico County Schools in any way.

### **QUESTIONS**

**In the future, you may have questions about your child's participation in this study. If you have any questions, complaints, or concerns about the research, contact:**

**Dr. Martin Reardon, VCU, School of Education, at (804) 828-9698 or**

**or**

**Eric L. Jones, VCU Student Investigator, jonesel2@vcu.edu (804) 640-2523**

**If you have any questions about your rights as a participant in this study, you may contact:**

**Office for Research  
Virginia Commonwealth University  
800 East Leigh Street, Suite 113  
P.O. Box 980568  
Richmond, VA 23298  
Telephone: 804-827-2157**

**You may also contact this number for general questions, concerns or complaints about the research. Please call this number if you cannot reach the research team or wish to talk to someone else. Additional information about participation in research studies can be found at <http://www.research.vcu.edu/irb/volunteers.htm>.**

## PERMISSION

I have been given the chance to read this permission form. I understand the information about this study. Questions that I wanted to ask about the study have been answered. My signature says that I am willing for my child to participate in this study. I will receive a copy of the permission form once I have agreed to participate.

---

Name of Child

---

Participant name printed

Participant signature

Date

---

Name of Parent or Legal Guardian (Printed)

---

Parent or Legal Guardian Signature

Date

---

Name of Parent or Legal Guardian (Printed)

---

Parent or Legal Guardian Signature

Date

---

Name of Person Conducting Informed Consent/Permission  
Discussion/Witness\* (Printed)

---

Signature of Person Conducting Informed Consent/Permission  
Discussion/Witness

Date

---

R. Martin Reardon, PH.D., Principal Investigator Signature\*\*

Date

\*A witness to the signature of a research participant is required by VA Code. If the witness is to be someone other than the person conducting the informed consent/permission discussion, include a line for the witness to print his/her name and lines for signature and date.

\*\*The purpose of this signature is to ensure that the principal investigator is aware of who has been enrolled in studies. The principal investigator's signature date need not correspond to that of subject or witness, but should be provided after both the subject and witness have signed.

## APPENDIX B

### YOUTH ASSENT FORM

**TITLE: Students' Perceptions on Participating in an Online Credit Recovery Program**

**VCU IRB NO.: HM13860**

This form may have some words that you do not know. Please ask someone to explain any words that you do not know. You may take home a copy of this form to think about and talk to your parents about before you decide if you want to be in this study.

**What is this study about?**

The purpose of this study is to discover your perceptions of participating in an online Credit Recovery Program. The study is being conducted for a doctoral dissertation. Results from the study will be shared with school division staff to inform best practice.

You are being asked to participate because you are in high school and are enrolled in the online credit recovery program.

If you agree to be in this study, we will sit down and talk about your experience in the online credit recovery program. I would like to ask you about participating in the program, your opinion of the experience and how you compare it to taking a course in a regular classroom setting. The conversation will be electronically recorded so I can listen what we talked about, and your name will be removed.

Usage data from the Online Credit Recovery Program will also be collected. This usage data will include your grade, the amount of hours you worked on the program, and your SOL score if you took one after taking the class. Data is being collected only for research purposes. Your data will be identified by a false name.

**What will happen to me if I choose to be in this study?**

In this study you will be asked to participate in one 20-30 minute interview. Snacks and drinks will be provided during the interview. You may also be asked to come to a 20 minute follow-up interview to clarify what we talked about. The interviews will be electronically recorded so we are sure to get all your ideas. I will not record names on the tape.

If you decide to be in this research study, you will be asked to sign this form. Do not sign the form until you have all your questions answered, and understand what will happen to you.

**What might happen if I am in this study?**

Sometimes talking about school makes people uncomfortable. You do not have to talk about anything you do not want to talk about. You may choose not to answer specific questions and may leave the interview at any time. If you do become uncomfortable, I will help you and/or allow you to speak to the school's guidance counselor.

**Will you tell anyone what I say?**

I will not tell anyone the answers you give us. I will not share your answers with your teachers, parents, or friends. If you tell me that someone is hurting you, or that you might hurt yourself or someone else, the law requires me to let people in authority know so they can help you.

If I talk about this study at conferences or in writing, I will never use your name.

**Do I have to be in this study?**

You do not have to be in this study. If you choose to be in the study you may stop at any time. No one will blame or criticize you if you drop out of the study. Your decision of whether or not to take part in this study will not impact your academic standing in any way.

**Questions**

If you have questions about being in this study, you can talk to the following persons or you can have your parent or another adult call:

**Eric Jones, VCU student researcher, at (804) 652-3767, and/or**

**Dr. Martin Reardon, VCU, School of Education, at (804) 828-9698.**

**Do not sign this form if you have any questions. Be sure someone answers your questions.**

## Assent

**I have read this form. I understand the information about this study. I am willing to be in this study.**

---

Youth name printed

Youth signature

Date

---

Name of Person Conducting Informed Assent  
Discussion /Witness\* (Printed)

---

Dr. Martin Reardon, Principal Investigator Signature \*\*

Date

*\* A witness to the signature of a research participant is required by VA Code. If the witness is to be someone other than the person conducting the informed assent discussion, include a line for the witness to print his/her name and lines for signature and date.*

*\*\* The purpose of this signature is to ensure that the principal investigator is aware of who has been enrolled in studies. The principal investigator's signature date need not correspond to that of subject or witness, but should be provided after both the subject and witness have signed.*

## APPENDIX C

### INTERVIEW PROTOCOL

#### INTRODUCTION AND SETUP – 5 min.

**GREETING:** Hi, my name is Eric. Thanks so much for talking with us today.

#### ASSENT FORM

Before we get started let's review these assent forms (thoroughly review assent form). Basically we're going to be audio recording this interview today. These recordings will only be listened to by me as part of this study. Your name or any other identifying information will not be recorded. By signing here, you're agreeing that's okay. We will only label the recording and report it out with an anonymous number and letter combination like A1. Your identity will be protected. No one will know what you have said or that you have participated. Do you have any questions?

#### PARTICIPANT SETUP

Great, let's talk a little about what we're going to be doing here today. We want to hear about your experience in the credit recovery class. This is a new program in the district and one that is only being used in a few districts in the state. We want to hear about your experience and perspective about the program. We will be using this information to help improve the program and determine future usage. Some of this data may also be used in graduate program paper.

#### ACT NATURAL SAY ANYTHING

Your job is really easy – you just have to be yourself and act as you would naturally and share your opinion. You aren't going to offend me and I'm here to hear about you and collect your feedback so nothing you say will hurt my feelings – I want to hear what you really think. As we talk and you answer questions, please be honest with your positive and negative thoughts. There are no right or wrong answers. You are not being tested and remember this is all confidential.



1. I understand that you have successfully completed a course in the credit recovery program. Congratulations! What course(s) have you completed?
2. Did you have to take an SOL test after completing the course? If yes, how did you do?
3. Tell me about your experience in the credit recovery program.

#### Probing Questions?

- Tell me about how the program works.
  - How was the work structured?
  - Where did you complete assignments? Home? In class? In other classes?
  - What role did having your own laptop play in completing the course?
  - What role did your teacher play? What did she do?
4. Did you take this class after not being successful in the class previously?
  5. How is this experience different from a regular class you take with a teacher? How is it similar?
  6. Why do you think you were successful this time?
  7. Would you like to take additional classes in this format? If so, why?
  8. Did your experience having a laptop computer in HCPS affect your success in this program?
  9. How does the credit recovery program compare to how you use your laptop in other classes?

10. You are in the credit recovery program because you were not gaining enough credits to stay on-track for graduation. How did you feel when you entered the program? What do you think about your chances of graduating with your class now?
11. In your opinion, did this experience in the credit recovery program change your prospects of earning a high school diploma?
12. What is your assessment of the program now?
13. What would you like to share about your experience in the program that was not covered in these questions?

#### **CONCLUSION AND FOLLOW-UP**

Thank participant for their assistance and insight. Remind them about confidentiality. Ask them if we can talk again if there is a need for follow-up. Conclude the interview.

## APPENDIX D

### EXAMPLE OF QUOTATION SPREADSHEET

Pseudonym	Quotation	Memo	Code	Research Question	Theme	Text
Bella	<b>4:6 B4</b>	Upset if I was blue or red	[progress monitoring]	1	Control of Learning	I would always get upset if I was blue or red.
Bella	<b>4:13 B4</b>	Self-pace quote	[self-pace]	1	Control of Learning	I can work at my own pace. It's easier to keep up with your grade cause you know where you are at and what you have to make up.
Bobby	<b>14:9 A8</b>	I felt like an adult	[in control]	1	Control of Learning	That was cool. I felt I was in control. I knew exactly what I had to do and it was up to me to decide when and for how long. It's like you feel like an adult. No one was telling me what to do all the time.
Bobby	<b>14:9 A8</b>	Progress monitoring	[progress monitoring]	1	Control of Learning	I liked that you knew where you were, you know. The colors on the bottom always kept you on track. If I got in the red, I knew I had to do some more work.
Carmen	<b>10:23 B10</b>	I'm in my own zone. I can go at my own pace.	[self-pace]	1	Control of Learning	I would say because, it's like quiet and your in you own zone and I can move you know I'm in my own state of my mind.

## VITA

Eric Jones was born on April 24, 1967 in Newport News, Va. He graduated from the University of Virginia in 1990 with a B.A. in History and a Masters in Teaching. Eric taught middle school social studies for 10 years in Gloucester and Henrico County, Virginia. After receiving a M.Ed. in Administration and Supervision from Virginia Commonwealth University in 2000, Eric moved into school leadership roles, first as a high school assistant principal at Douglas Freeman High School, followed by a high school assistant principal position at Varina High School. Eric served as the principal of Varina High School for 3 years before moving into central administration as the Director of High School Education for Henrico County Public Schools for 6 years. Eric currently serves as the Executive Director for Secondary Education for Henrico County.