AN EXAMINATION OF THE RELATIONSHIP BETWEEN STUDENTS' MOTIVATION TYPE AND ACHIEVEMENT IN ONLINE CREDIT RECOVERY PROGRAMS

by

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(Under the Direction of Myra N. Womble)

ABSTRACT

Online credit recovery programs are increasing in popularity as high schools face ongoing pressure to improve graduation rates and reduce dropout rates. Despite their exponential growth, there is little research regarding the effectiveness of online credit recovery programs, student success outcomes, student persistence into post-secondary education and student motivation in online credit recovery courses; moreover, there is no set model and regulatory oversight from district to district. The purpose of this descriptive study was to determine if there is a relationship between student motivation type (intrinsic, extrinsic motivation: identified regulation, extrinsic motivation: external regulation and amotivation) and grades earned among students enrolled in online credit recovery courses. The sample for this study was drawn from one school district in a southeastern state serving over 32,000 students in over 55 schools. The population for this study included all students aged 16 or over enrolled in an online credit recovery course at the research high school during the spring of 2019. From the population, the researcher used a convenience sample consisting of all students enrolled in the research high school's online credit recovery program. The primary data collection instrument used was the Situational Motivation Scale (SIMS), developed and validated by Guay,

Vallerand, and Blanchard (2000). This 16-item self-reported inventory contains four items per subscale, and it is designed to measure intrinsic motivation, extrinsic motivation: identified regulation, extrinsic motivation: external regulation, and amotivation in both laboratory and field settings. A one-way analysis of variance (ANOVA) and face-to-face semi-structured student interviews were conducted in order to answer the research questions. Results of the analysis indicated that there were no statistically significant differences between males and females regarding the grades they earned in online credit recovery courses. Additionally, there was no statistically significant impact of motivation type on student grades; however, there was a statistically significant impact of grade level on students' grades. Finally, most students were extrinsically motivated, specifically through external regulation followed by those who were extrinsically motivated with identified regulation.

INDEX WORDS: high school graduation rates, online credit recovery programs, student motivation, academic success, academic achievement

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DEDICATION

This page is dedicated to anyone who contemplates giving up on this windy road less traveled. Never give up. NEVER, ever give up. This journey is an arduous and brutal marathon, not a sprint. There will be many obstacles, challenges and life happenings that, if not laser focused, will deter you from your goal. Stay the course. Your voice and passion for your scholarship is needed to continually shape the landscape of education. We are at a pivotal moment in our nation's history to rewrite history and improve educational systems. Completing this body of work is less about *your* glory than it is for those you will serve. Never lose sight of that. Let that premise be your guiding light when the way becomes dim and your goal obscured. Run with confidence and finish strong. Slow and steady wins the race, my friends. Slow and steady wins the race. Stay the course and do not grow weary. God speed.

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To my mother, who remains my superhero, thank you for your never ending and unwavering belief in me. "We don't quit. Always finish what you start." Thank you for continuing to serve as a shining example of grace, excellence, and brilliance. When I grow up, I want to be just like you. To my sister, you have always been my biggest cheerleader. Thank you for your continued words of encouragement, love, and support. You are my rock and come a close second to Momma as my biggest cheerleader. To my amazing friend, Alicia Peralta, who continued to remind me of my brilliance and impact when I often was unsure, thank you. To my amazing colleagues who somehow always seem to see more in me than I see in myself, thank you for giving me the time, space, and grace to focus on my studies. To my coach, Coach Norton, it was the scorching hot track of the University of Georgia as a long and triple-jumper where you reinforced the discipline instilled in me at a young age by my mother. Twenty-seven years later, this inedible gift has been my foundation to achieving all of my goals. To Mr. Glenn, thank you for being instrumental during this process. I would not be here without you. To my sister friends near and far, thank you. You are the wind beneath my wings. You keep me grounded, yet you allow me to soar. To my Godmother and God sisters, I am who I am because of you. Finally, to my committee, Dr. Womble, Dr. Adams, and Dr. Mativo, thank you for your guidance along this journey.

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CHAPTER 1

INTRODUCTION

The daunting graduation rates in America's high schools have been an issue of concern and have given rise to a national movement to increase the number of high school graduates. Graduation rates are reported using the Averaged Freshman Graduation Rate (AFGR), which is calculated by identifying students entering into the 9th grade and subtracting students that transfer out, emigrate to another country, become deceased or transfer into the district (Stetser & Stillwell, 2014). Subsequently, graduation rates are a measure of the competency and competitiveness of America's schools and are, in fact, what the economy uses to predict the trajectory of the workforce. In theory, due to technological advances and access to quality education, each generation is expected to graduate at a higher rate than the preceding generations. However, the data produced by the GradNation campaign indicates while there has been significant progress in high school graduation rates since 2001, in order for the United States to meet its 90% graduation rate goal by the end of 2020, districts across the country will need to double down on their efforts, particularly in the area of underperforming groups (DePaoli, Balfanz, Atwell, & Bridgeland, 2018).

The rapid increase in high school graduation rates has caused both celebration and concern throughout the nation. Although graduation rates are increasing, one primary concern is centered around the use of online credit recovery programs, which are typically tethered to increased graduation rates and the purported lower standards for graduation. In fact, districts across the country are increasingly participating in online credit recovery courses as a cost-

effective alternative to brick and mortar, staffed, summer school as a pathway to increase graduation rates. In the 1990-1991 Academic School Year, the graduation rate of high school students in the United States was 73.7%. In 2009-2010 academic school year, the graduation rate of high school students in the United States increased to 78.2%. And, in the 2015-2016 academic school year, the high school graduation rate was an all-time high of 84% (Public High School 4-Year Adjusted Cohort Graduation Rate, 2018). Atlanta Public Schools, one of the largest districts in the nation, boasts of a 19% high school graduation increase from 2011-2015 (DePaoli et al, 2018). And in 2018, the graduation rate in Newburgh, New York improved from 66% to 78% over a five-year period. As such, it is evident districts across the nation have experienced exponential growth in graduation rates in recent years. How and why did online credit recovery programs become an integral component to the narrative of increased graduation rates?

Credit Recovery Programs

Credit recovery programs, sometimes coined as alternative high school programs, are not a newly adopted concept. Historically, the method in which a student can make up academic credit has been known as summer school; however, with the growth of online education, summer school has now transformed from credit recovery options strictly offered during the summer in brick and mortar fashion, to online, self-paced learning in the evening, on weekends, at home, at learning centers and through student-teacher correspondence (Murin, 2015). In response to the growing demand for the academic credit recovery option due to lackluster graduation rates, states across the country sought government funding.

According to the History of Georgia Virtual School (n.d.), when the Georgia Virtual School (GVS) was founded, it was originally created to resolve the curricular issues pertaining to

the teacher shortage, especially in foreign languages and advanced placement courses. In collaboration with South Carolina, Tennessee and APEX Learning, the Georgia State Board of Education approved a three-year federal grant in 2001 called the Advanced Placement Test Fee Program specifically designed to target low-income, disadvantaged students in need of advanced courses. Soon thereafter, knowledge of the program became widespread garnering interest throughout several school systems. Many of the school systems that were interested in the new program were ineligible because they did not meet the qualifying requirement; more than 50% of their students must qualify for free or reduced lunch. Consequently, the Georgia Department of Education began hearing more requests for online opportunities for those students who were not qualified for the Advanced Placement grant in addition to the need for regular courses (History of GAVS-Georgia Virtual School, n.d.). In May 2005, Georgia established its first virtual school offering courses to private, public, and homeschooled students (Gross, 2011). Consequently, the Georgia Virtual School became the springboard to offering online credit recovery programs in Georgia.

There are many states that have largely populated online programs within comprehensive virtual state programs similar to Georgia. Florida and North Carolina are two states, to name a few. The state of Florida has a sizable virtual school, Florida Virtual School (FLVS), that offers online credit recovery courses using various methods. In 1997, the United States established the Florida Virtual School through a state legislative allocation of $200,000 (Friend & Johnston, 2005; Pape, Adams, & Riberio, 2005). Florida Virtual School was Florida's first online public high school and currently offers more than 190 courses ranging from kindergarten through twelfth grade (Florida Virtual School Full Time, 2020). Enrollment in credit recovery grew significantly between the academic years of 2007-2008, 2010, and 2011 with enrollment starting

at 259 students in 2008 and ending with 4,062 students in three short years (Samantha, 2018). North Carolina also has a large virtual school, North Carolina Virtual Public Schools (NCVPS), and is the second largest statewide virtual school (Samantha, 2018). North Carolina's Official Virtual School (2020) was established in 2005. It launched in 2007, for the purpose of providing students enrolled in public schools in North Carolina, an opportunity to take online courses free of charge. Although North Carolina has the second largest district offering online courses, unlike Florida, its online credit recovery course offerings have been at a steady decline. In the 2016-2017 academic year, the district offered 1,292 online credit recovery courses, 862 online credit recovery courses in 2017-2018, and 358 online credit recovery courses were administered in the 2018-2019 academic year (North Carolina Official Virtual School, 2020).

As previously stated, online credit recovery programs are increasing and sustaining in popularity as high schools face pressure from their local districts and the federal government to improve graduation rates and reduce dropout rates. A report by the Center for Public Education in 2010 (McCabe & St. Andrie, 2012) provided data showing that online credit recovery programs made up approximately $500 million of the $2 billion digital education market. Yet regardless of their exponential growth, there is little research on the effectiveness of online credit recovery programs, student outcomes, academic success, and student persistence in post-secondary education. Moreover, there is also no set model nor regulatory oversight from district to district. Subsequently, school systems across the country are using online credit recovery programs as a solution to the disturbing graduation rate, which roughly a third of states have either developed or endorsed in recent years, according to the National Dropout Prevention Center at Clemson University (Gootman & Coutts, 2008).

However, despite reservations, online credit recovery programs offer students, that may not have the opportunity otherwise, a second chance at earning a high school diploma. O'Hanlon (2009) suggests that offering online credit recovery programs places students in a better position to achieve academic success when circumstances impede attaining a traditional high school education along the traditional timeline. According to Downing (2015, as cited in O'Hanlon, 2009).

When a student is told so many times, he's a failure, he starts to believe it. It takes a lot of intervention to see the success, but then you see a lot spill over into that student's life. With this, you get the unique opportunity to take students from wherever they are and get them to where they need to be. (p. 16).

Downing (2015, as cited in O'Hanlon, 2009), credit retrieval specialist at Volusia County School District in Florida, is an advocate for the online credit recovery option and suggests that online credit recovery courses is key to getting more students to comprehend subject matter they did not grasp the first time around. Comprehending subject matter in an online credit recovery course is achieved by allowing students to focus solely on their deficiency within a course as opposed to retaking the entire course.

On the other hand, although online education has grown tremendously throughout the decades, particularly in secondary education, in recent years, critics have expressed concern about online credit recovery options, suggesting they are merely a means for districts to boost graduation rates without improving student learning. In addition, there are financial incentives for districts that place students in online credit recovery courses. Districts typically pay $250 per student but this varies based on the size of the district (Loewenberg, 2020). The cost of offering online credit recovery courses creates financial incentives as districts are able to save significant

dollars by not paying the overhead cost when offering traditional face-to-face classes. This is especially attractive for schools that receive supplemental funding for their student demographic in order to meet educational goals. Research does not indicate how the cost savings are repurposed throughout districts. The International Association for K-12 Online Learning (iNACOL) noted that 88% of school districts offered some form of credit recovery during the 2009-2010 academic year and much of that was offered in an online format (Davis, 2015).

Finally, opponents of online credit recovery programs report abuse of the system, which includes awarding credits to students who failed to attend class, granting students unlimited opportunities to take quizzes and tests and even changing grades (Loewenberg, 2020). The controversy surrounding online credit recovery programs involves the need for school districts to provide greater regulatory oversight and potentially reimagine the use of these programs. Perhaps placing greater emphasis on mastering content as opposed seat time, incorporating greater face-to-face academic assistance, and strengthening accountability measures to ensure students who earn course credits in online credit recovery programs are showing post-secondary learning gains are excellent places to begin.

Definition of Credit Recovery

Credit recovery is defined using multiple parameters throughout the education system in the United States. The National Survey on High School Strategies Designed to Help At-Risk Students Graduate (HSS), is sponsored by the U. S. Department of Education, and defines credit recovery as " a strategy that encourages at-risk students to re-take a previously failed course required for high school graduation and earn credit if the student successfully completes the course requirements" (U.S Department of Education, 2018). According to the National Center for Education Statistics (NCES) in the Institute of Education Sciences (IES), in the Fast

Response Survey System (FRSS) conducted during the fall of 2010, credit recovery was defined as dropout prevention services or services and programs intended to increase the rate at which students are staying in school, progressing toward graduation, or earning a high school credential (Carver & Lewis, 2011). As stated by the Georgia Virtual School, credit recovery refers to a student whose seat time has been met but academic standards have not. Any student who attended a class during the semester, in its entirety, but failed the course, is eligible to enroll in an online credit recovery course (Georgia Department of Education, 2020). As such, credit recovery courses can be offered online using the state's virtual high school, local virtual school, computer software, or guided by a teacher instruction in small groups (Duffey, 2012).

In some instances, a credit recovery course is likened to a remedial course because students have previously experienced the content and are not new to the material as opposed to students taking a credit recovery course as an advanced course. However, Zinth (2011) argues that online credit recovery courses differ greatly from traditional remediation courses. Traditional remediation courses cater to any grade from kindergarten through 12th grade and target students who fail a state or local exam. Student completion is indicative of required seat time completion and desires to improve student proficiency in a specific subject. Whereas credit recovery courses are typically focused on high school students and students who have previously failed a course needed for high school graduation. Completion is denoted by demonstrated mastery of a subject and the goal is to improve students' career readiness and increase high school graduation rates (Zinth, 2011).

Credit recovery courses are unique and differ in their composition and facilitation in that a student is not required to retake an entire course for credit (Loewenberg, 2020). Additionally, most online credit recovery courses are developed and maintained by third-party, private for-

profit companies (Loewenberg, 2020). The assigned course begins with a pre-assessment based on the respective state's performance standards. The outcome of the pre-assessment signifies if the student has achieved mastery of the content or needs more time. The student is assigned a module accordingly to work at a pace that is feasible for the student's individual learning style. After the student reaches mastery, the student takes the end of unit test. Grades for the online credit recovery course consists of a combination of the final exam, test scores from each unit or the state mandated End of Course assessment, if applicable (Georgia Department of Education, 2020). The research conducted in this study focused solely on online credit recovery and not traditional modes of credit recovery.

Role of Motivation in Student Achievement

Student motivation, as it relates to student outcomes, is often driven by personal, social, or environmental factors. Students in online credit recovery programs may come from varied educational backgrounds and are an economically and socially diverse group. For example, some students may have failed a course due to personal or health issues whereas others may be doing well overall but have had trouble with the content of a specific course. Nevertheless, motivation is probably the most important factor that educators can target to improve learning (Olson, 1997). Students enrolled in online credit recovery programs have previously failed one or more courses in traditional academic settings and may ultimately choose to leave school (Murin, 2015). Therefore, one can imagine the potentially increased motivation necessary for traditional classroom students to retake a course, let alone in a different modality and learning environment. For many students, the motivation to retake a course may be dismal, discouraging at best. Additionally, perhaps students experience anxiety and apprehension around retaking a course in a different modality. Or, possibly on the contrary, the opportunity to retake a course in

a different format may motivate some students to achieve success. What role then, does intrinsic, extrinsic motivation: identified regulation, extrinsic motivation: external motivation, and amotivation play in the grades of students enrolled in online credit recovery programs? This study addressed this question.

Motivation: Intrinsic, Extrinsic and Amotivation

Some scholars define motivation as the meaningfulness, value, and benefits of academic tasks to the learner regardless of whether they are intrinsically interested (Pandey, 2005). Other scholars describe motivation as a long-term, quality involvement in learning and commitment to the process of learning (Shaibait, 2010). While these studies support the direct and indirect influence of motivation, other studies have revealed that motivation for learning, and approaches to learning, are both important predictors of student learning outcomes and competencies (Deci & Ryan, 2002). Harnett (2016) argues that motivation of online students is complex and dependent upon context citing various factors within the immediate learning environment have different effects on students' motivation. Guay, Ratelle, and Chanal (2008) define motivation as a multidimensional concept that varies according to high quality and low quality. Turner and Patrick (2008) believe viewing motivation solely as an effect of the learning environment or as an attribute of a learner does not acknowledge that students can be motivated in different ways. High quality motivation is primarily based on intrinsic, integrated and identified regulations and low quality motivation is based on external and introjected regulation. High quality motivation is often associated with optimal indices of functioning and low quality motivation is associated with negative indices of functioning. For this study, the researcher adopted Change, Sung, Lin, Chen and Cheng's (2014) definition of motivation: the willingness of students to learn, learning satisfaction, and the judgement of the student's ability to complete the course successfully.

Consequently, the researcher posited; student motivation may be a key aspect to the success of online credit recovery programs, particularly regarding promoting learning and student achievement.

Motivation, as it pertains to learning, relies on a student's desire to participate in the learning process; however, motivation in learning is also concerned with the reasons or goals that influence student involvement in academic activities (Hayes, 2007). Although students may be equally motivated to perform a task, the course of their motivation may vary based on the type of motivation–students may be either intrinsically or extrinsically motivated to perform tasks in the classroom. For example, a student intrinsically motivated becomes involved in an activity for enjoyment or the sense of accomplishment it may provide; however, an extrinsically motivated student is motivated to accomplish an academic assignment either to avoid punishment or to gain a reward (Lei, 2010). While student motivation involves one's desire to participate in the learning process, motivation also encompasses the underlying goals and reasons of their involvement. Although one may be motivated to complete an activity, the source of motivation in theory, differs (Pandey, 2005).

Intrinsic Motivation

Culatta (2011) supports and asserts that motivation is influenced by either intrinsic or extrinsic stimuli. Intrinsic motivation suggests that an individual is motivated by internal factors. In the context of education, when a student is motivated from within, it implies there is something that the student inherently enjoys about learning new information, thus inspiring the student to perform without encouragement from others (Culatta, 2011). Intrinsic motivation is also connected to relevance to the student's personal life or fascination with the subject matter. The greatest advantage of intrinsic motivation is that the effects have the potential to be long-

lasting, it promotes student learning, and it places less emphasis on rewards and punishments (Delong & Winter, 2002).

In the context of online credit recovery courses, Oliver and Kellogg (2015) report students are intrinsically motivated when they are less distracted. Less distractions allow students to focus and give more effort and attention in the class. Consequently, a greater sense of focus and attention given to content has led to a more disciplined experience for online credit recovery students than in their experiences in the traditional classroom environment. Additionally, students reported taking classes at their own pace, which is another form of intrinsic motivation, reduced the amount of stress in the online credit environment (Oliver & Kellogg, 2015).

Lastly, intrinsic motivation is often defined in contrast to extrinsic motivation. In fact, intrinsic motivation is often paralleled with internal motivation and extrinsic motivation is often paralleled with external motivation. According to Ryan and Deci (2000), intrinsic motivation is the doing of an activity for inherent satisfaction rather than for some separable consequence. Consequently, intrinsic motivation is triggered by rewards from within a person. Such rewards include personal satisfaction, a sense of achievement, or accomplishment. Whereas those who are driven by external stimuli, such as grades, outward recognition, and even a high school diploma, are extrinsically motivated.

Extrinsic Motivation

Extrinsic motivation, on the other hand, is the dynamic opposite of intrinsic motivation and relies on external factors as the sources of motivation. For example, students who are extrinsically motivated will complete classwork if they know they will receive money or approval from their parents (Culatta, 2011). Perhaps in the instance of online credit recovery,

students are extrinsically motivated by the desire to graduate and earn a diploma. The advantage of extrinsic motivators is that they require little effort, preparation, and knowledge about the individual student. One disadvantage of extrinsic motivators is that students are disconnected from the learning process and are influenced by the need to obtain rewards over time (Vanderbilt University, 2016). Sansone and Harackiewicz (2000) report that another disadvantage of extrinsic rewards is the potential to backfire when the activity is something that would have been done anyway. As such, the reward could have adverse consequences on the quality of performance and the activity after the reward was received.

Online credit recovery programs present two potential extrinsic motivating factors for students to successfully complete courses. First, using adaptive learning software facilitated by a third-party company, students can test out of content previously mastered. Students who test out of concepts previously mastered, do not have to retake the entire course, instead they focus solely on content areas in which they lack competency. Thus, the credit recovery option may be seen as incentivizing by requiring less time to earn credit for a course. Consequently, having less time to earn credit for a course may be perceived as providing an expedited pathway to recover course credit. Students who can recover course credit at a faster pace are able to get back on track towards graduation, which may, in turn, also serve as motivation.

A second extrinsic motivating factor for students is the online credit recovery course's leniency with retaking tests multiple times. The ability to revisit an assignment until mastery is gained creates a non-threatening learning environment that is potentially attractive to a struggling student. The opportunity for unlimited revisions may also motivate academically struggling students to achieve success in their online credit recovery course.

Amotivation

On the motivation continuum, amotivation represents the nonregulated extremity and is characterized by one's incompetence, lack of purpose or lack of control over events (Stover, de la Iglesia, Boubeta, & Liporace, 2012). When a student is experiencing amotivation, his or her behavior lacks intentionality and a sense of personal causation (Deci & Ryan, 2000). Amotivation results from not valuing an activity (Ryan, 1995), not feeling competent to do it (Deci, Cassio & Krusell, 1975), or not believing it will yield the desired outcome (Seligman, 1975). When students receive both intrinsic and extrinsic rewards, they will attribute their reasons to perform the behavior as a result of the extrinsic reward, not the intrinsic reward. And, when the extrinsic reward is obsolete, the intrinsic reward may not be strong enough to provoke movement for said behavior (Sansone & Harackiewicz, 2000). In the context of an online credit recovery course, a student who is amotivated is apathetic towards taking a course and is not remotely concerned with the academic outcome. Another illustration of amotivation in practice is a student who does not believe he or she possesses the competence to successfully complete the course and fails to place effort into his or her lessons.

Statement of the Problem

Secondary schools are faced with a growing problem of increased student attrition contributing to low graduation rates (D'Amico, 2013; Friend & Johnson, 2005; Pape et al., 2005). Thus, these schools are increasingly depending on online credit recovery programs, which offer cost-effective and flexible solutions to address pressure to improve graduation rates and reduce dropout rates (D'Amico, 2013; Dexter, 2011; O'Hanlon, 2009). However, concerns remain that online credit recovery options are merely a means of boosting graduation rates without improving student learning (Dexter, 2011). Despite exponential growth, online credit

recovery programs lack a set design model and there is limited research into their effectiveness (Dexter, 2011). Additionally, there is little research identifying the role motivation plays in students who take online credit recovery courses. Therefore, despite the ongoing debate regarding the efficacy of online credit recovery courses and the demonstrated importance of student motivation to student learning (Deci & Ryan, 2002; Shaibait, 2010), the specific problem is that there remains a lack of research exploring the relationship between student motivation and student grades in online credit recovery courses. More specifically, while researchers have studied the use of self-determination theory as the framework to analyze motivation, absent from the literature is an understanding of the influence of student motivation in online credit recovery courses. Moreover, the literature also does not identify and link distinct motivation types with student academic outcomes, specifically in online credit recovery courses. As a result, identifying a student's motivation type may be a pathway to gaining a better understanding of student achievement in online credit recovery courses.

Purpose

The primary purpose of this descriptive study was to determine if there was a relationship between independent variables defined as student motivation type (intrinsic, extrinsic motivation: identified regulation, extrinsic motivation: external regulation, and amotivation) and the dependent variable, achievement (grades), among students in online credit recovery courses. Successful completion of courses is identified as courses with a minimum grade of seventy percent, which is equivalent to a grade of C or better in the course. Online credit recovery courses taken by students in this study were identified as high school courses required to earn a high school diploma according to the state's department of education. All required high school courses, including those administered via online credit recovery programs, are categorized under

the following five core subject areas: English/Language Arts, Social Studies, Science, Math and Electives (Georgia Department of Education, 2020). Individual core classes taken by the participants in this study fall under the umbrella of the aforementioned five core subject areas and are as follows: Environmental Science, Speech, Sociology, Algebra, Psychology, Geometry, Biology, Economics, Physics, Literature, Algebra I, Health, 9th Grade Literature, Chemistry, Algebra 2, 10th Grade Literature, U.S. History and World Literature.

Understanding the relationship between a student's motivation type and his or her grades earned was expected to shed light on identifying individual motivation types for students and if said motivation type had a relationship with their grades earned in online credit recovery courses. The researcher used the highest situational motivation subscale score to determine each student's dominant motivation type. The use of the dominant motivation type as opposed to the composite self-determination index score allowed the researcher to analyze specific motivation types and its relationship to student grades as opposed to a generalized motivational score. The results revealed were expected to assist with creating new intervention strategies designed to properly motivate and support students to persist towards the goal of high school graduation. Furthermore, understanding the relationship between motivation types and student achievement were expected to identify way to improve current intervention strategies, inform intervention programs under consideration, and contribute to the ongoing success of online credit recovery programs.

Research Questions

The following research questions were constructed by an examination of the literature to identify existing gaps in the research pertaining to student motivation in online credit recovery programs. Based on the findings from the literature, the researcher formulated the following research questions and used them to guide this study.

1. What are the students' (a) intrinsic motivation, (b) extrinsic motivation: identified regulation, (c) extrinsic motivation: external regulation, and (d) amotivation levels on the highest motivational score?
2. Is there a statistically significant difference in students' grades in an online credit recovery course based on gender (male or female)?
3. Is there a statistically significant difference in students' grades in an online credit recovery course based on their highest motivational level (intrinsic motivation, extrinsic motivation: identified regulation, extrinsic motivation: external regulation, or amotivation)?
4. Is there a statically significant difference in students' grades in an online credit recovery course based on grade level (freshman, sophomore, junior, or senior)?
5. How do students describe their motivation for enrolling in an online credit recovery course?

Rationale for the Study

The framing and construction of research questions determine what study design is most appropriate (Omair, 2015). Based on the research questions formulated for this study, the appropriate design for this study was a descriptive study using both quantitative and qualitative measures. Kumar (2019) defines a descriptive study as an attempt to systematically describe a service or program, phenomenon, situation, or problem or provides information about the living conditions of a community. The main purpose of a descriptive study is to describe what is prevalent regarding the problem or issue being studied (Kumar, 2019). As stated by Omair (2105), descriptive study designs are simply used to describe the characteristics of a sample that is being studied and may also try to generalize findings from a representative sample to a larger

population Stoman (2010), believes one advantage of descriptive studies is the use of direct observation of behavior in its natural environment. As a result, descriptive analyses offer an opportunity to introduce baseline levels of behavior thereby strengthening the efficacy of determining treatment or intervention (Stoman 2010). Loeb, Dynarski, McFarland, Morris, Reardon and Reber (2017) affirm descriptive research is particularly useful when a basic understanding of a phenomenon has not occurred. Additionally, Loeb et. al., state when findings from research diagnose needs that require intervention, warrant policy, or identifies hidden patterns, descriptive research is notably beneficial and stands on its own as research. Therefore, descriptive research can be used to diagnose issues that merit immediate action by practitioners and policymakers in our educational system.

Descriptive studies have made profound impacts in educational research and greatly increased our understanding of various phenomena in our educational system. There are multiple examples where esteemed educational scholars have used descriptive studies as the impetus to their research. These elite scholars and their work include: *The Good School*, by Sara Lawrence Lightfoot, *Contemporary Issues in American Distance Education* by M.G. Moore, and *Teachers and Marching: The Classroom Use of Technology Since 1920* by Larry Cuban (Spector, Merrill, Elen, Bishop, 2014). These are unique examples of how descriptive studies were used to understand the depth and breadth of patterns within certain populations.

As stated by Kumar (2019), it is strongly recommended not to commit to becoming either solely a qualitative or quantitative researcher. Moreover, there is increasing recognition by most disciplines in the social sciences that both types of research are important for a good research study. As a result, the researcher of this study has chosen to utilize both quantitative and qualitative designs to add depth and breadth to this descriptive study. The most common

descriptive research method is the survey, which includes personal interviews, phone surveys, questionnaires, and normative surveys (Koh and Owen, 2000). As such, the researcher used a questionnaire to address the quantitative component of this study and semi-structured personal interviews to collect data for the qualitative component.

Theoretical Framework

There are several theories that address motivation as a fundamental component in achievement as related to education. Essentially, researchers have developed several theoretical frameworks for examining motivation. The basic tenants of theorists' frameworks of interest to this study and related to motivation are provided in the following paragraphs.

The 21st century is coined as the Freudian century due to Freud's contributions to developing new perspectives when understanding religion, childhood, love, hate, sexuality, family relations, civilization, and fantasy (Thurschwell, 2009). Subsequently, Freud's legacy and impact on the psychoanalysis of behavior and motivation is indelible. Freud's theory indicates that motivation is based on the *id*, the primary source of motivation. The *id* is the impulsive and unconscious part of our psyche which responds directly and immediately to basic urges, needs, and desires (McLeod, 2017). It is by which the ego and superego, the two components of the personality, are developed (Ray, 2015). The individual is not aware of his or her inherent drives; thus, the components of the i*d* are largely unconscious (Weiner, 2013, p. 14). There are six basic assumptions and principals of Freud's theory regarding behavior as presented next.

1. All behavior is determined by drive.
2. All behavior is released and controlled by psychological force.

3. Behavior is overdetermined. This means, behavior has both unconscious and conscious elements as well as the *id*, ego and super-ego, which are determinants to behavior.
4. Psychoanalytic theory is both behavior and thought, and also pathological and normal.
5. The ego can control the *id*, is responsible for inhibition of action and prevents immediate gratification of a goal.
6. Behavior is governed by reality and is socially determined (Freud, 1923, as cited in Weiner, 2013, p.22).

McDougall's theory supports the belief that students are motivated by instinct. McDougall encouraged others to regard people as living individuals striving towards goals where foresight, effort, and desire were effective (Heidbreder, 1939). Horney's theory bases motivation on anxiety as a driving force. In 1945, Horney identified three categories motivating general behavioral patterns: (1) moving against people (need for power); (2) moving towards people (need for love); and (3) moving away from people (need for isolation). According to Wolman (2018), Horney also believed in the principle of unconscious motivation. Horney's theory simply assumes one's activities are guided by forces that are unknown to him or her (Wolman, 2018).

Hull's (1943) drive reduction theory focuses on motivation by drive. He believed people acquire links between stimuli and responses when responses to given stimuli are reinforced (Ray, 2015). Hull's theory was based on his speculation to question about a particular species of rats. Hull never concretely attempted to answer questions pertaining to human behavior (Peters, 2015, p. 3). Jung, a close follower of Fried, focused on one's motivation by aspiring for future goals.

He believed the past had a great influence on the present (Ray, 2015). While Jung's greatest impact on psychology was from 1940-1960 and is not as influential as during those times, Jung's theory suggests behavior (B) is a function (*f)* of drive (D) multiplied by habit (H), represented in the equation as $B = f(D \times H)$. Drive is determined by factors such as hours of deprivation of a commodity necessary for survival and habit is determined by the number of times a response has been rewarded (Calfee & Berliner, 1996).

Finally, Maslow's theory supports the belief that when one's basic needs are satisfied, motivation increases. Abraham Maslow's needs theory is one of the most influential theories of motivation in organizational and management behavior. Maslow's psychological motivation theory postulates around five instinctive needs which range from "D-needs" or deficiency (safety and security, esteem, love and belongingness, and physiological) to "B-needs" or being (self-actualization) (Acevedo, 2018).

There are additional theories that affect how students learn and their motivation, particularly in online environments. Constructivism and connectivism are newly proposed theoretical frameworks that connect learning with a student's self-regulation. Goldie (2016) postulates connectivism is the most prominent learning theory developed for online environments. Conradie (2014), states connectivism can serve as a valuable framework for the development of personal learning environments and communities of practice. Self-regulation is essential and undergirds connectivism theory. Specifically, the role of the teacher as the regulator decreases as there is less face-to-face instruction and the role of the student as regulator increases. Kathleen Dunaway (2011), postulates that knowledge emerges from a student's learning network as the student recognizes connections between opinions, concepts, and perspectives assessed from using online information sources. As a result, self-regulated learning

is an essential component for a student to connect with online learning. Siemens (2005), constructed the following principles of connectivism:

1. The ability to visualize connections between concepts, ideas, and fields is a core skill.
2. Maintaining and nurturing connections is required for learning continuously.
3. Learning is a process of connecting information, sources or nodes.
4. What is currently known is not as important as the capacity to know more.
5. Learning may reside in innate objects.
6. Currency is the combination of learning activities.
7. Knowledge and learning depends on diverse opinions.
8. Decision making is a shifting reality (Siemens, 2005).

Connectivism claims that learning and knowledge consists of clusters of connections created from interactions and experiences between individuals, technologies, organizations, and societies that link them (Goldie, 2016). Simply, connectivism focuses on the student's ability to make connections; this is where learning takes place (Dunaway, 2011).

Constructivism, originally coined by Piaget, implicates motivation as a necessary precondition and co-condition for learning (Palmer, 2005). Learning is an active process that requires effort and students must be motivated when attempting to learn. Constructivism uses the term "situational interest" to describe a short-term interest motivated by aspects of a specific situation. Flynn, Mesibov, and Vermettle (2004) argue that constructivism is not a theory based on what people should learn, but how they learn. Teaching strategies using constructivism as the framework, promote intrinsic motivation and challenges students to use higher level thinking.

Finally, behaviorism, coined by Watson (1924, as cited in Graham, 2000), is an attitude, a doctrine; and supports the following claims:

1. Behavior can be explained without referring to internal or mental processes. Sources of behavior are not internal, but external.
2. Pertaining to psychological development, if mental concepts are used to describe behavior, they should be translated or replaced using behavioral concepts or eliminate the concepts altogether.
3. Psychology is not the science of the mind, it is the science of human behavior (Graham, 2000).

Behaviorists theory uses rewards and punishments to control students' behaviors and teach them new skills. Behaviorism was popular in the 20th Century but is now less respected as a learning theory than theories such as sociocultural theory and humanism.

Guay (2105) states self-determination theory measures situational intrinsic motivation, extrinsic motivation (identified and external) and amotivation. Self-determination theory has guided more than 200 empirical education studies focusing primarily on engagement, well-being and personal factors that facilitate optimal learning (Guay, Ratelle, & Chanal, 2008). Self-determination theory (SDT), developed by Deci and Ryan (2004), studies the quality of motivation for learning and is based on the premise that individuals are motivated by their natural or intrinsic inclinations to act in effective and healthy ways. It also accepts the premise supported by behaviorist that rewards are a powerful motive for behavior. Furthermore, self-determination theory also focuses on the social conditions that enable the natural processes of self-motivation and healthy psychological development and focuses on factors that enhance intrinsic motivation, self-regulation, and well-being. Hence, self-determination theory proposes that the psychological need for competence, autonomy, and relatedness enhances self-

motivation. The inter-relatedness between the extrinsic and intrinsic factors and their effect on an individual is the basis of the self-determination theory (Ryan, 2000).

There are three characteristics of self-determination theory (Otis, 2015). The first characteristic is that the theory does not view extrinsic motivation as only nonautonomous and the opposite of intrinsic motivation. Intrinsic motivation refers to an individual's instinctive ability to engage in tasks that are challenging and encourage personal growth. Students who are intrinsically motivated are high achievers and seek ways to continue their education growth (Cerasoli and Ford, 2014). Chanal and Guay (2015) assert self-determination theory presents three forms of extrinsic motivation, each with varying levels of self-determination. The lowest form, external regulation, then introjected regulation and the highest of the three, identified regulation. The second characteristic of self-determination theory is that motivation is easily influenced. Motivational changes naturally occur when an individual internalizes and adopts regulation of behaviors that are socially valued. Finally, self-determination is on a continuum of self-determination and is categorized as either autonomous or controlled or intrinsically and extrinsically motivated. As it pertains to self-determination theory, researchers predict outcomes by using an autonomy index where the scores for each type of motivation scale are combined algebraically into a single composite score or the use of each motivation subscale separately (Chanal & Guay, 2015).

De Naeghel, Van Keer, Vansteenkiste and Rosseel (2012) emphasize that self-determination theory describes two categories of regulation that influence behaviors: autonomous (behaviors performed due to enjoyment or interest or for their value) and controlled (behavior performed under external or internal pressure). Autonomous motivation consists of intrinsic motivation and internalized motivation, both indicative of self-determined behavior,

which is the ideal type of motivation (De Naeghel, Van Keer, Vansteenkiste, & Rosseel, 2012). Guay and Vallerand (1997) report that autonomous motivation predicted a greater achievement over a one year period and predictors of school satisfaction, achievement, graduation rates and attendance and persistence. In addition, studies that show when students are motivated by autonomous rather than controlled motivation, report they experience more positive outcomes (Guay and Vallerand, 1997).

Controlled motivation, the second category of self-determination theory, is categorized by introjected and external motivation (Chanal & Guay, 2015). Controlled motivation is also described by feeling pressured due to forceful demands or seductive offers and its distinction with autonomous motivation is representative of a continuum, not a dichotomy (Deci & Ryan, 2004). The pressures one experiences can be either internal or external. According to Guay et al., (2008), self-determination studies show the more students feel pressured, the worse they perform. Consequently, students who identify with autonomous motivation are more likely to perform better than those who identify with controlled motivation. In addition to the self-determination index and the individual use of motivation subscales, researchers have also used autonomous and controlled motivation to predict outcomes (Ratelle, Guay, Vallerand, Larose, & Senecal, 2007).

Teachers are constantly seeking various methods to motivate students, but often with little understanding and research on how individual students are motivated, particularly, in online credit recovery environments. The source of a student's motivation is multidimensional and varies based on emotions, incentives, and values (Green, Liem, Martin, Colmar, Marsh & McInerney, 2012). In addition, one must also consider social motivations, such as educational interventions and how parents raise their children as student influencers (Ray, 2015). For these

reasons, the core tenets of the self-determination theory assisted the researcher in addressing the findings of this study, particularly in terms of situational motivation and its relationship with grades in online credit recovery courses, and thus is the theoretical framework that guided this study.

Student motivation is a complex and multidimensional concept spanning across multiple disciplines. However, what researchers have affirmed is the proposition that in order for learning to occur, students must be motivated. This study sought to understand how students are motivated utilizing the four motivation subscales of self-determination theory: intrinsic motivation, extrinsic motivation: internal regulation, extrinsic motivation: external regulation and amotivation. Table 1 presents the aforementioned theories, how each aligns with self-determination theory, and demonstrates how each theory correlates with the four motivational subscales of the self-determination continuum.

Table 1

Motivation Theorists

Theorists	Motivation Theory	Self-Determination Continuum	Self- Regulation Category
Freud	The *id* is the primary source of motivation (McLeod, 2017). Behavior is determined by drive (Weiner, 2013, p. 22). The ego controls the *id* and is responsible for preventing immediate gratification of goal. (Weiner, 2013, p. 22).	Extrinsic motivation: introjected regulation	Controlled
McDougall	Students are motivated by instincts (Heidbreder, 1939).	Extrinsic motivation: Identified regulation	Autonomous
Horney	Motivation is driven by anxiety and forces unknown (Wolman, 2018).	Amotivation	Controlled

Motivation Theorists cont'd

Theorists	Motivation Theory	Self-Determination Continuum	Self- Regulation Category
Hull	Motivation is determined by drive (Ray, 2015).	Extrinsic motivation: Introjected regulation	Autonomous
Maslow	Motivation is influence by the satisfaction of instinctive needs (Acevedo, 2018).	Extrinsic motivation: Identified regulation	Autonomous
Watson	Behaviorism Sources of behavior are not internal, but external. (Graham, 2000).	Extrinsic Motivation	Controlled
Siemens	Connectivism Focuses on a student's ability to make connections between opinions, concepts and perspectives (Kathleen Dunaway, 2011).	Intrinsic Motivation	Autonomous
Piaget	Constructivism Learning will not occur if students are not motivated to try to reconstruct ideas according to their situational interests (Petroselli, 2008)	Intrinsic Motivation	Autonomous
De Naeghel, Van Keer, Vansteenkiste and Rosseel	Motivation is driven by enjoyment or interest (De Naeghel et. al., 2012). Motivation is driven by external or internal pressure (De Naeghel et. al., 2012).	Intrinsic Motivation Extrinsic Motivation	Autonomous Controlled

Importance of the Study

With increased student attrition and resultant low graduation rates (D'Amico, 2013) as well as budgetary cuts (O'Hanlon, 2009), secondary schools are depending more and more on the cost effective solutions offered using online credit recovery programs (D'Amico, 2013; Dexter, 2011; & O'Hanlon, 2009). Additionally, states and districts are seeking opportunities to

swiftly increase the high school graduation rates. The researcher expected this study to contribute to understanding how students who are enrolled in online credit recovery programs are motivated and to provide information useful to recommend effective motivation-based course completion and school retention strategies for students who are at risk of failing and/or dropping out. In terms of school retention strategies for students at risk of school failure, and still pertinent today, Womble and Jones' (1996) research found that teachers knew less about the grade level attained by most dropouts, when the highest incidence of dropping out occurs, and the number of grades failed by dropouts. This lack of knowledge persists today and suggests a need for classroom teachers to fully understand the dropout problems and for online credit recovery courses to be designed for addressing the needs of students headed toward school failure. Likewise, if cultivating certain types of student motivation supports student success, it may be possible to recommend the online credit recovery option as a probable and effective model for motivating students to successfully complete coursework outside of the traditional credit recovery pathway. Moreover, this study begins filling the incredible gap in educational research regarding successful outcomes in online credit recovery programs. It also initiates the scholastic conversation and consideration of how and why online credit recovery students are motivated. Chapter 2 presents a review of existing research on the intersection of motivation and students in high school online credit recovery courses.

CHAPTER 2

LITERATURE REVIEW

The purpose of this study was to examine the relationship between student intrinsic motivation, extrinsic motivation: identified regulation, extrinsic motivation: external regulation, and amotivation in an online credit recovery program. Self-determination theory is the framework used in this research study to understand student behavior in online credit recovery programs. Self-determination ranges on a continuum of amotivation to intrinsic motivation. On the far-left side of the self-determined continuum lies amotivation. In order from least determined to most determined, the self-determined continuum of motivation, from left to right, is defined as amotivation, extrinsic motivation: external regulation, extrinsic motivation: identified regulation and intrinsic motivation (Ryan and Deci, 2000).

Amotivation occurs when one does not understand how their behavior and the expected outcome connects or said person places little value on the activity. Students that experience amotivation are neither extrinsically nor intrinsically motivated and believe success is unlikely or unachievable (Standage, Treasure, Duda and Prusak, 2003). Additionally, amotivation is characterized when one does not understand how his or her behavior and the expected outcome connect or the person places little value on the activity.

Extrinsic motivation is described by behavior that is motivated by external stimuli. There are four distinct types of extrinsic motivation on the self-determination scale characterized by the degree to which they are self-determined. In order from lowest to highest, they are extrinsic motivation: external regulation, extrinsic motivation: introjected regulation; extrinsic motivation:

identified regulation and extrinsic motivation: integrated regulation (Vallerand and Robert, 1992). This study utilized two of the four extrinsic motivation subscales. From least to most self-determined, the two extrinsic motivation subscales used in this study are external regulation (behavior that is motivated by rewards or avoiding punishment) and identified regulation (i.e., behavior that believes the activity is important) (Ryan & Deci, 2000). To differentiate between the two more specifically, external regulation refers to doing an activity to obtain awards or avoid punishments and identified regulation is described by doing an activity due to internal pressures such as ego, shame, and guilt (Ryan and Cornell, 1989). (Gagne, 2014).

Intrinsic motivation is the strongest on the self-determination scale and is found on the far right of the continuum. When one is inspired by satisfaction and pleasure as a result of directly participating in a particular event, intrinsic motivation occurs (Ryan & Deci, 2003).

Understanding the relationship between student motivation and student achievement was expected to shed light on possible intervention strategies to support student success in the increasingly popular online credit recovery programs and ultimately support improved high school graduation rates. Achievement is defined as successful completion of courses pursued in the program illustrating learning gains as promoted in the International Association for K-12 Online Learning (iNACOL). More specifically, for the purposes of this study, achievement is defined as earning a passing grade of 70 or better. The following research questions formed the basis for this study:

1. What are the students' (a) intrinsic motivation, (b) extrinsic motivation: identified regulation, (c) extrinsic motivation: external regulation, and (d) amotivation levels on the highest motivational score?

2. Is there a statistically significant difference in students' grades in an online credit recovery course based on gender (male or female)?
3. Is there a statistically significant difference in students' grades in an online credit recovery course based on their highest motivational level (intrinsic motivation, extrinsic motivation: identified regulation, extrinsic motivation: external regulation, or amotivation)?
4. Is there a statically significant difference in students' grades in an online credit recovery course based on grade level (freshman, sophomore, junior, or senior)?
5. How do students describe their motivation for enrolling in an online credit recovery course?

The History of Online Credit Recovery Programs

Throughout history, there have been multiple strategies districts have deployed to address the subpar graduation rate. Strategies include building an early warning system, using a tiered prevention and intervention system, offering alternative schedules and school types, monitoring the effects of exit exams, and designing a dropout prevention agenda (Dianda, 2008). The No Child Left Behind Act of 2002 was created to bring resolve to a struggling educational system in need of an overhaul by instituting greater measures of accountability across districts concerning test scores and high school graduation rates.

Due to the escalating demand to increase graduation rates, districts became desperate to find creative pathways to meet the requirement of the No Child Left Behind Act. With the rise in popularity of online courses, districts no longer needed to rely on summer school or alternative schools for credit recovery to keep students on track for graduation. When compared to the online model, traditional credit recovery methods such as summer school lacked the flexibility

and support needed to keep students engaged and did not offer an encouraging solution towards increasing the graduation rate (No Child Left Behind, 2002).

Introduction to Online Credit Recovery Programs

Contrary to belief, the concept of credit recovery programs is not new. Specific to online credit recovery programs, alternative terms include dropout prevention programs, alternative education and grade forgiveness (Carr, 2014). Thus, years before the invention of the Internet, educators were exposing students to new ways of learning as well as opportunities to make up failed courses outside of the traditional classroom setting. Examples of these instances include afterschool programs, summer school, and mail-in correspondence courses (Carr, 2014).

Online credit recovery programs are often associated with alternative high schools or alternative programs because they share the same mission and structure, often prompting the two concepts to merge. One example of a program without a clear delineation between an alternative and a credit recovery program is in Colorado's Jeffco Public Schools district where seniors can enroll in the "Graduate on Time" program. This educational model allows the students to attend their home school and in addition, take up to one credit at an alternative school in the evening throughout the academic year (McCabe & St Andrie, 2012). According to the U.S. Department of Education and the National Center For Education Statistics (as cited in DePaoli, 2018), alternative programs are designed to (1) address the needs of students that typically cannot be met in regular schools, (2) provide nontraditional education, (3) serve as an adjunct to a regular school or (4) fall outside the categories of regular, special education or vocational education. The characteristics of students in alternative programs and online credit recovery programs are strikingly similar. Students typically have found themselves in a situation that may cause them to withdraw from school because they are at risk of failing. Situations that can cause withdrawal

include pregnancy, truancy, disruptive behavior, or students are academically challenged. While alternative schools are characteristically designed to create paths for a general education diploma (GED) and high school diplomas, and online credit recovery programs only the latter, each credit recovery option focuses on student completion as the primary mission (as cited in DePaoli, 2018).

Online Education for Credit Recovery: Opponent Perspectives

Despite the several advantages of online credit recovery programs, there yet remains skepticism surrounding online education, but more specifically, online credit recovery programs. Picianno and Seaman (2009) reported that some educators are concerned about the effectiveness of online education compared to traditional classroom instruction due to schools targeting the immature students for online credit recovery courses as well as those students who lack self-motivation to complete assignments. Consequently, Carr (2014) states there are apprehensions surrounding the burden placed on schools and educators to increase their retention and graduation rates and the financial incentives that schools receive per student that serve as contributing factors to the rapid growth of online credit recovery programs.

Although the numbers reported in the literature indicate that an increase in the nation's graduation rates has indeed taken place, there is skepticism around the authenticity of the progress. Opponents argue that graduation rates are variables easily manipulated as opposed to standardized test outcomes that have high-quality control. For example, school grades, forgiving unexcused absences, and pressuring teachers to overlook incomplete or unsatisfactory work are variables that can be manipulated through coercion in an online credit recovery class according to Malkus (2018). Additional skepticism includes the notion that the rise in graduation rates is

not correlated with increased enrollment in college or higher scores on the state exams (Levine, Johnson, Malave & Santaniello, 2017), which for many, causes grave concern.

Rigor of Online Credit Recovery Programs

Another major concern regarding online credit recovery programs is the rigor of the online credit recovery environment compared to that of the traditional summer school used for credit recovery. Rumberger, director of the California Dropout Research Project at the University of California at Santa Barbara (as cited in Mathews, 2012), speaks of a student who received a D in English, took an online course that required reading only one book, "To Kill a Mockingbird," and approximately twelve hours of work on a computer over one week. The student received an A for one semester worth of credit. According to Malkus, (2018), in Washington, DC, a state that has seen a recent surge in graduation rates, one-third of graduates who earned a diploma violated district policies with excessive absences and some students took online credit recovery courses who had never taken the original course. Malkus also suggests that while online credit recovery programs offer a student a quicker and more flexible way to earn failed high school credits, cases such as these certainly question the credibility of online credit recovery programs (Malkus, 2018). Heppen, Sorensen, Allensworth, Walters, Rickles, Taylor and Michelman (2017) found in a study conducted with 1,224 students that students benefit more from traditional courses than online credit recovery courses because students learn more and are more likely to recover the credit. Students in the study failed Algebra I in their second semester and were generally low academic performers. These students also showed signs of disengagement during their first year of high school. Forty percent were suspended at least once and on average missed a total of 30 days of school. In addition, the math scores of the student participants were 0.29 standard deviations below the district average (Heppen et al.,

2017). These studies reveal the traditional profile of an online credit recovery student, truant and academically at-risk, and the growing opposition around the rigor of online credit recovery courses in comparison to the traditional classroom.

Opponents of online credit recovery courses also maintain that a lack of rigor and district oversight justify why online credit recovery programs are not viable. In January 2013, the Department of Education in New York City (Carr, 2014) increased scrutiny of their online credit recovery programs due to concerns surrounding schools granting diplomas to students who did not meet the graduation criteria. As a result, there were conversations surrounding the need of some school districts to review their online credit recovery programs to ensure that the focus is on mastering the subject content and not just the actual seat time. Furthermore, Davis (2015) believes online credit recovery programs must address the ongoing concerns regarding both the academic quality and rigor as well as student accountability. Since the inception of online learning, there has been a perpetual debate regarding the quality of online education. Hence, it comes to no surprise that online credit recovery programs also have spawned concern regarding not only program quality, but course development as well.

In a U.S. Department of Education study (2018) schools with low graduation rates were more likely to recruit students for online credit recovery programs than high schools with a high graduation rate. Additionally, student groups recruited included those who performed below standards or grade level, those with behavioral or discipline issues, and those recommended by staff. Noble, Pelika and Coons (2017) believe at-risk students need additional resources, including increasing motivation in a fully online course. As a result, it is probable that online credit recovery students are not receiving the much needed additional academic support to be successful. In a recent study, Loewenberg (2020) discovered through classroom observations

and student interviews several plausible reasons for inconsistent learning gains by students in online credit recovery courses. These reasons include limited interaction with instructors and copying and pasting answers from Google.

Post-Secondary Evaluation

An additional concern regarding online credit recovery programs, as noted by Brownstein (2012), is that there is a failure to evaluate students post online credit recovery and assess their transition into future courses. Since online credit recovery programs are administered at the local levels, there is little aggregate data available on the rigor or effectiveness of the programs. As a result, opponents of the program question the program's authenticity to help a student learn as opposed to simply increasing the pipeline to high school graduation. Critics fear that online credit recovery options discourage students from initially working to their full potential at the onset of a course as in the traditional class and consider online credit recovery options as nothing more than a safety net. In fact, online credit recovery is slowly emerging as a "second" or "alternative' track to graduation (Brownstein, 2012). The emergence of these identifiers is a probable cause as to why online credit recovery programs are often conflated with alternative programs.

Compliance of Online Credit Recovery Programs

Perhaps one of the greatest concerns with online credit recovery programs is the lack of oversight to its policies. The policies, regulations and standards vary from district to district and state to state causing inconsistency when reporting data. There are minimal state guidelines, limited research and little knowledge disclosed on how schools adopt and implement online credit recovery programs (Loewenberg, 2020). In fact, a 2017 Slate investigation found that few state education departments ban districts from using third party companies from offering online

credit recovery courses that do not meet standards (Loewenberg, 2020). At a more granular level, teachers and administrators are given agency when deciding benchmarks for passing and how many attempts are acceptable. Additionally, attendance requirements, another component that is not regulated and varies in standards, are not always followed by the students (Loewenberg, 2020).

Lack of Research in Online Credit Recovery Programs

During the 2014-2105 academic year, 89% of high schools offered at least one online credit recovery course (U.S. Department of Education, 2018), yet there remains a dearth of research of online credit recovery programs at the district level. Research of online credit recovery programs is developing but limited. because few states have formalized and reported their program's data. Noble, Pelika, and Coons (2017) confirm the dearth of research and data that exists regarding online credit recovery programs but acknowledges most studies focus on the effectiveness of the program, instructional methods, and instructor certification.

Online Education for Credit Recovery: Proponent Perspectives

According to Watson, Gemin, and the North American Council for Online Education (2008), online education is advantageous because it offers a student personalized education, attention, and support. In addition, it offers any student, no matter their location, an opportunity to take the same class as other students around the world. On the spot academic support, digital notebooks, differentiated support for subgroups, formative assessments, support for motivation and self-management, attendance supports and socio-emotional and behavioral supports are all examples of additional support mechanisms incorporated in MassGrad Schools, a compilation of twenty schools within the Massachusetts Department of Elementary and Secondary Education.

MassGrad schools have found the variety of additional layers of student supports as benefits to the student learning experience. The benefit of real time academic support is that it allows students to request one-on-one meetings. Therefore, struggling students are able to overcome a challenging concept or work through a math problem at the time in which the challenge occurs as opposed to struggling through the concept while at home. This is facilitated by students approaching their teacher sitting at a desk but was most successful when teachers were seen walking around the room with their laptops (Levin, Johnson, Malave & Santaniello, 2017). As it pertains to online credit recovery programs, notably, the rapid growth of online learning has driven the propagation of online credit recovery programs (Allen & Seaman, 2010). Now with the reauthorization of the Elementary and Secondary Education Act, schools are continually searching for successful pathways towards high school graduation (Morrell, 2010). In fact, in 2016, President Obama acknowledged the rising graduation rates and the progress of high schools across the nation (The White House, Office of the Press Secretary, 2016).

Plummer (2012) argues, although critics claim that online credit recovery programs lack rigor, it is important to note that the online credit curriculum is based on a general education curriculum, not a "credit recovery" or redacted curriculum. "We wouldn't be able to offer enough courses for every student who needs to recover credit without an online option," states Kisha Kidan, Virtual Coordinator for online courses at Chicago Public Schools. It is also important to acknowledge that students must take the same state test and earn the same scores on those tests as their traditional counterparts. Online credit recovery programs do not preclude students from taking state tests and thus should not be seen as an abbreviated learning experience nor as a shortcut to graduation (Plummer, 2012).

Modality in Online Credit Recovery Programs

Online credit recovery programs include a variety of learning modalities within the curriculum to enhance the online learning experience. These learning modalities include the use of interactive multimedia, audio podcasts and videos (Plummer, 2012). The burden of teachers and districts continuously designing courses is alleviated as either third party vendors create the content for them, or districts use opensource content to create online credit recovery options. The worry and responsibility for prepping and implementing academic content for online credit recovery classes no longer rests on teachers, as in traditional classrooms. As a result, schools and districts are able to offer online credit recovery courses with little to no effort.

Finance in Online Credit Recovery Programs

Districts save dollars when offering online credit recovery courses in a myriad of ways. Loewenberg (2020) states most online credit recovery courses are developed and maintained by for-profit private companies. APEX, an educational technology company that offers online credit recovery courses, is currently contracted in 2,000 districts across the United States. Edgenuity, a competitor of APEX at the center of online credit recovery offerings, is managed in eight of the 10 largest districts (Loewenberg, 2020). Additionally, the National Repository of Online Courses allows districts to customize digital content as well as join a community of like-minded leaders across the nation to share best practices for a $3000 per-year subscription (Plummer, 2012). As a result, teachers across a district are able to curate academic content and create the online credit recovery experience for multiple courses at minimum cost. When one considers the number of teachers in a district that have access to the opensource content coupled with the fact that often additional teachers are not hired to facilitate online credit recovery courses, the financial savings for the district become more apparent (Plummer, 2012).

Supply and Demand in Online Credit Recovery Programs

When considering the number of high school students within a district, administrators must be mindful of the amount of resources needed to successfully deploy online credit recovery programs. For districts that have a low graduation rate, offering traditional credit recovery classes for a myriad of courses across the district is not resourceful nor financially sustainable. Keisha Kidan, virtual learning program coordinator of online courses for Chicago Public Schools states, " We wouldn't be able to offer enough courses for every student who needs to recover a credit without an online program" (as cited in Plummer, 2012, para. 3). Consequently, as a result of the online credit recovery option, graduation rates in Chicago Public Schools have increased from 52.5% in 1998 to 74.8% in 2014 (Allensworth, Healey, Gwynne, & Crespin, 2016).

Active Online Credit Recovery Programs in the United States

Despite the lack of data available related to online credit recovery outcomes, the influence of such programs is clearly visible throughout education. The United States Department of Education's Office of Civil Rights Data Collection (CRDC) publishes information on every public high school and has included whether online credit recovery programs are offered in the dataset for the first time three years ago. According to the CRDC, 73% of the nation's high schools report offering online credit recovery classes (Malkus, 2018). William R. Harper High School in Chicago, Illinois is one high school that currently utilizes online credit recovery programs as a pathway to increase graduation rates. The high school's online credit recovery program, Pathway to Accelerated Student Success (PASS), which began in February 2011, was designed to reinstate students immediately upon dropping out, by providing additional academic support needed to succeed. Additionally, the creation of the program was designed to address the school's probationary status with Chicago Public Schools

as well as address common issues experienced by many of their students. With that concern in mind, the PASS program pairs a student who has dropped out and re-enrolled, or who is more than a year behind in graduation requirements, with a student advocate. Additionally, PASS targets a specific set of credit deficient students and assists them with getting back on track to complete high school requirements. PASS receives financial assistance from a grant established by the United States Department of Education and is separated into three distinct programs designed to target the specific needs of the students as described in the following paragraphs.

First, the Daytime Aventa Program allows the student an opportunity to take online credit recovery courses during regular school hours by using two regular class periods to complete the failed classes. Exclusionary criteria include students who are on track or students who are behind more than one or two classes. A second program, the PASS Extended Day Program, on the other hand, allows the student to attend online credit recovery classes after school until 7:00 pm. Exclusionary criteria for PASS Extended Day include courses not offered at the high school such as foreign languages and music classes (Outcomes of Blended, 2016). The third program, the PASS Institute Drop-Out Reengagement, accepts students from throughout the city and offers students to attend one of three seven hour sessions. The greatest difference in the PASS Institute Drop-Out Reengagement program in comparison to its sister programs, the Daytime Aventa Program and the PASS Extended Day Program, is the addition to the attention given to the student's wellbeing and success. The PASS Institute Drop-Out Reengagement program offers social and emotional counseling, parental training, on-the-job training, resume writing and postsecondary preparation. Additionally, at least one teacher provides individual tutoring and support for each student (Outcomes of Blended, 2016).

Poudre School District's Global Academy (PGA) in Fort Collins, Colorado is an example of online credit recovery success. The model for Poudre is different than other models in that they have an integrated both the online and face-to-face model to develop strong relationships between the students and teachers. Students are on campus two days a week and are online the other three days of the week. Finally, parents play an integral role in the student's learning process as well. Parental involvement includes mentoring, tutoring, providing feedback to reviewing and signing off on homework. As a result of this model, PGA has experienced quite a bit of success to include a decline in the number of high school students who were retained. Additional successes include teachers reporting the highest passing rates in school history in English, Math, Social Studies and Science for grades ninth through 12th, 10% of PGA high school students were dual enrolled and earned a total of 50 college credits. Finally, one PGA student exceeded the performance of all college students enrolled in Chemistry II Lab (Outcomes of Blended, 2016).

Kronholz (2011), recounts the Performance Learning Center Project in Richmond, Virginia (there are four), another online credit recovery model that has experienced great success. Although it distinguishes itself as an alternative school and not what they consider a credit recovery diploma mill that many districts are using to increase their graduation rates, the design of the Performance Learning Centers imitate online credit recovery programs by allowing students the opportunity to make up failed courses using a blended approach. Most instruction is online, but a coach is available to answer questions, keep students on track and direct projects. In addition, while students quietly work on their lessons, teachers remotely monitor student progress using their electronic dashboard. Teachers are able to view specific lessons each student is working on and to ensure academic integrity, most student computer stations only

allow students to navigate within the online program or designated research sites. Furthermore, teachers use a pacing sheet created by the Virginia State Department of Education to ensure students are on track with their traditional counterparts. Finally, to help manage student tracking, students are grouped and placed in classrooms according to the subject matter (Kronholz, 2011).

Another distinction to the Performance Learning Center program by Kronholz, (2012), is its admittance policy. Students must test into 8th-grade reading and math, pass an interview and sign an achievement contract that commits them to attend a daily meeting called Morning Motivation. Once admitted, each student receives an individualized plan towards graduation as well as a plan to enter into college or trade school. Consequently, with these guidelines, it comes as no surprise that students experience a great level of success in the program. In fact, in 2009-2010, the Performance Learning Center reported 96 percent of their students passed Virginia's end of course algebra exam, 90 percent passed biology, 97 percent passed reading and 100 percent passed writing putting the Performance Learning Center ahead of the state's average in all four subjects. Whether or not the success of the program is due to the strict admissions policy and the fact that they do not admit English language learners, students with disabilities and students with discipline issues or the program itself, has not been identified. Perhaps what distinguishes the Performance Learning Center program from other credit recovery programs is their intentional outreach to school districts to identify at-risk students defined as students with social issues, previous academic failure, low motivation, poor attendance and challenges to success, such as pregnancy (Kronholz, 2011).

Third Party Vendors for Online Credit Recovery Programs

In order to expedite the district's requirements concerning student persistence towards graduation requirements and save money, most districts have outsourced their online credit recovery programs to third-party online platforms. Perhaps the greatest benefit to the district is that they are not responsible for creating the curriculum for their online credit recovery programs nor aligning the content to the state standards. Districts are primarily responsible for testing, execution, and managing student progress within the platform. In fact, the third party companies not only create the curriculum for numerous content areas, they also align each course with the district's respective state standards (Fuel Education, 2020). PLATO, APEX, AVENTA, and Edgenuity, although different in scope and course offerings, are the most popular online credit recovery platforms used for providing students across the nation the opportunity to matriculate through online credit recovery programs (Gemin, Pape, Vashaw & Watson, 2015). The following sections will examine each program, one of which is used by the school in this study, as well as their motivational strategies that support student persistence.

Programmed Logic for Automatic Teaching Operations (PLATO)

The PLATO platform uses three pathways for credit recovery: face-to-face, PLATO Online, and PLATO Hybrid. The curriculum is said to be rigorous and engaging and makes recovering credit attainable. Additionally, the platform targets specific issues that have been barriers to students progressing (Edmentum, 2014). In the face-to-face model, if a student has had previous problematic academic and disciplinary issues, parents and students must be interviewed and approved by the superintendent of schools and the board of education for admittance prior to using this platform (Dessoff, 2009). In addition, students in this program are usually quite deficient in reading and writing and require teachers to work alongside them, hence

the face-to-face model. To remain enrolled in the program, students must attend at least 80% of classes. On the contrary, students in the Plato Online pathway complete the course at their own pace and within 18 weeks. The 100% online model is open enrollment and students are able to contact teachers during designated times to seek assistance. In addition, Anderson (2016) states teachers are required to hold monthly calls to support students and parents to ensure students are on track. The third model, Plato Hybrid, is face-to-face with an online component. Students typically work in brick and mortar labs during the school day or shortly after school until the evening. Labs are staffed with teachers to help students engage with the material more thoughtfully and answer questions, again emphasizing the hybrid nature because students are not left alone with the content (Anderson, 2016).

PLATO's Motivational Strategies

Students are motivated in the PLATO platform due to the agency they have regarding the pace of their learning. By taking an active role with the digital content, tools and resources, students are able to create an individualized learning experience. Each lesson begins with an introduction and practice module that requires demonstration of mastery before progessing. Additionaly, each learning module focuses on one learning objective and includes interactve practice activities and academic support models, which include home mentors, tutoring and technical support (Edmentum, 2014). While the platform includes intstructional strategies and academic support systems, PLATO's model lacks details around specific motivational strategies.

APEX Learning

APEX Learning is a student-centered online credit recovery platform recognized for multiple awards due to its innovative and content-rich software fostering educational excellence. In addition, they are affiliated with educational behemoths such as the International Association

for K-12 Online Learning (iNACOL), Women's Business Enterprise National Council, Learning Forward, and the Association for Career and Technical Education. Perhaps one of the greatest distinctions of APEX Learning is its outreach to students identified as English Language Learners (ELL) to help master content, as many platforms avoid this particular student demographic. In addition, the company utilizes content specialists to align content for the district with academic standards as well as train district leaders on how to use the software (APEX Learning, 2018).

APEX Learning (2018) courses were originally only available for credit recovery in the Houston Independent School District (HSD) in 2010 to address the districts' dropout rate. From 2009-2010, the Houston Independent School District increased its online credit recovery class offerings from 2,032 classes to 12, 356 respectively (APEX Learning, 2018). Brenner (2019) states that APEX's digital curriculum was specifically designed to support struggling students by providing them with the tools necessary to master content and become active learners. The manner by which APEX achieves this goal is by presenting major themes multiple times using various modalities. Key ideas are reinforced and repeated. Additionally, students are presented content in multiple contexts so that they have numerous opportunities to connect with the content differently. When it comes to motivation, APEX has leveraged several academic provisions to inspire online credit recovery students in the online environment to master content by presenting content in an engaging manner, using real world connections to help students see themselves in the lessons, and providing frequent feedback to support student engagement (Brenner, 2019).

APEX Motivational Strategies

According to Brenner (2019), APEX uses eight research based reading strategies to help develop active reading and support students' developmental process. These strategies include

making and revising predictions, using visual cures and text features, accessing prior knowledge, making inferences, asking questions, monitoring, making mental images, and summarizing content. Literary supports include options to read aloud, chunked, and scaffolded learning opportunities to build on students' prior knowledge and guided reading, writing and layered vocabulary assistance. Finally, the approach to keeping students connected to the content is another strategy used by APEX to retain learning. Students have the ability to engage in one to 24 activities per topic, which is filled with variety, frequency, and designs for students to take an active role in their learning. As a result, retention is increased (APEX 2018).

APEX Learning (2018) reports if high school students find themselves trapped in a cycle of credit recovery (failing in the traditional classroom, recovering the credit, failing another course and recovery credit again), and possibly losing hope that they will graduate. In fact, some students view their academic failure or lack of motivation as part of their identity (APEX Learning, 2018). How, then does APEX keep academically struggling students motivated to successfully complete courses? APEX Learning (2018) believes allowing students to focus on short-term successes is the key to maintaining a student's motivation. Subsequently, passing a quiz or earning a credit is simply not enough to sustain motivation. Thus, APEX creates content that is meaningful and engaging, and that distinctly aligns with achieving long term goals. Meaningful and engaging content is achieved by allowing both students and teachers to remediate learning gaps. Reconciling learning gaps allows students to feel success rather than a sense of hopelessness in the cycle of credit recovery. Another motivational strategy is to allow students to learn and retain credit simultaneously at grade level. This approach allows students to build the confidence needed to maintain their efforts to persist. Consequently, when struggling students see they are able to pass a quiz, lesson, or course, an academic pathway

motivated by success is created (APEX Learning, 2018). Additional motivational strategies for on-time course completion include congratulating students who meet deadlines, conducting progress meetings, assigning due dates with timely course completion, and offering incentives such as free time or possibly earning a position on a Wall of Fame (APEX Learning, 2019).

AVENTA Learning

AVENTA Learning, currently known as Fuel Education, is based in Anthem, Arizona, and offers 19 online credit recovery courses. Similar to APEX Learning, AVENTA caters to English Language Learners (ELL) and English as Second Language Learners (ESL). In fact, the platform allows students to vacillate between reading in English or Spanish in each section of a course as students are reading a list of key terms and definitions. In addition, the courses are audio capable and afford students the opportunity to have the pages read to them in either language. With the use of a dynamic scheduler, students are able to enter the start and end date of their courses and the scheduler outlines milestones students must meet weekly to finish the course by the designated date. Additionally, Aventa uses a supervised model by assigning student mentors in the class (Davis, 2011).

AVENTA Learning's Motivational Strategies

AVENTA's motivational strategies begin with using a diagnostic driven model with concepts that relate to real world experiences. Fuel Education (2020) states that AVENTA courses create a motivational, self-paced learning environment using social-emotional learning to support and reframe academic struggling as learning opportunites. Similar to APEX, AVENTA caters to English Language Learners as well as students with special needs by embedding text-to-speech translation within the platform. More specific to a student's motivation, AVENTA uses a

digital rewards-based learning approach such as positive reinforcement, rewards, and prizes to motivate students (Fuel Education, 2020).

Futhermore, AVENTA uses a token reinforcement strategy using coins or tokens to encourage appropriate behavior, otherwise known as Stride (Fuel Education, 2020). Each student carries a virtual backpack in which he or she can use to collect coins or earn badges. Students earn virtual coins if they answer questions correctly, complete tasks, or achieve mastery in a subject. Students may either trade their coins or save them for online games. Coins or badges are applied to other positive behaviors outside the platform such as finishing homework or exhibiting leadership qualities (Rewards Based Learning Playbook, 2019). The incentive of earning coins or badges within the virtual platform potentially creates a friendly competitive environment which causes an increase in student motivation. An additional motivational strategy is students "racing" to the top of a virtual mountain based on skills or goals of the class. Students only advance when they obtain a certain benchmark. The latter motivational strategy is recommended for long term academic goals (Rewards Based Learning Playbook, 2019).

Edgenuity

According to Awards Recognition (2013), Edgenuity was founded in 1998 as EDUCATION 2000 and is based in Scottsdale, Arizona. The online pedagogy is self-paced and focuses on credit recovery for middle and high school students. The online credit recovery platform is one of the larger entities and is accredited by Advanced ED, the North Central Association Commission on Accreditation and School Improvement, the Southern Association of Colleges and Schools on Accreditation and School Improvement and the Northwest Accreditation Commission. In addition, Edgenuity was approved by the state of Georgia to provide instructional materials for ELA 6–12 and Math 6–12. Distinguished amongst its peers,

Edgenuity was recognized in 2018 by EdTech Digest, as a finalist for the Cool Tool Award; earned ComputED's 24th Annual Best Educational Software Award; and was the SIIA CODiE Award winner in the same year. Similar to PLATO and APEX, the curriculum is aligned to the district's Common Core and state standards. Edgenuity boasts of a platform that includes direct instruction videos with on-screen teachers and performance tasks. Additionally, the platform includes a dashboard with real-time student performance allowing teachers to create individualized intervention strategies (Awards Recognition, 2013).

Awards Recognition (2013) reported that Edgenuity's students take a pretest aligned with the district's achievement threshold. If the student passes the pre-test, they have tested out of the lesson. Subsequently, each lesson allows students to focus on areas of weakness and utilizes personalized intervention throughout the curriculum. There are cumulative exams which, collectively, serve as an additional safeguard for mastery. In addition to the pre-tests, teachers can customize courses according to the concept or sequence based on mastery and receive real-time reports of student data. As is, Edgenuity is quite the online powerhouse. In addition to credit recovery courses, Edgenuity has recently partnered with DriversEd.com to offer online Driver's Education in eight states and now has a fully online curriculum for grades K-5. They also offer professional development courses for educators and administrators (Awards Recognition, 2013).

Edgenuity Motivational Strategies

Unlike it's competitors, Edgenuity's motivational strategies are specifc and indvidualized; centered on each student's needs. Found in the the literature were five distinct approaches implemented based on specific student needs. The first approach, according to Intervention Strategies for Progress, Achievement, and Engagement (2018), if an online credit

recovery student is not on task during class, the student is redirected to the appropriate task. Other strategies include creating expectations around the student's behavior with incentives and consequences. Finally, if the student is not on task, there is the option of creating a contract for both the student and the parent outlining behavioral expectations.

Second, according to Intervention Strategies for Progress, Achievement and Engagement, (2018), if a student is not logging on the virtual platform to complete work, reasonable expectations are set for the student around the length of time required on each task. Incentives and consequences are again implemented as a motivational strategies. If the student is not performaing academically and there is a need to take quizzes multiple times, the student is paired with another student who is succeeding in the course to better prepare for lessons. Another option is to redirect the student's efforts by resetting practice, homework, or vocabulary. Remediating the lesson content is another alternative to motivating the student to complete work within a set timeframe. Lastly, if the student is not able to successfully complete assignments within a reasonable amount of time, the teacher can override in the gradebook after working with the student to correct the answers (Intervention Strategies for Progress, Achievement, and Engagement, 201820).

Intervention Strategies for Progress, Achievement, and Engagement (2018) reports that there may be times when an online credit recovery student may become overwhelmed by the length of the course. As noted earlier, students in online credit recovery courses only take components of the class in which they have not demonstrated mastery. However, if a student has not demonstrated mastery in multiple components in a traditional course, the online credit recovery course may appear to mirror the length and content of the traditonal course potentially causing a student's motivation level to decrease. As a result, Edgenuity allows the teacher to

extend the end date to accommodate the student's new expected date of completion. Also, Edgenuity offers both intrinsic and extrinsic rewards. For example, if a student completes work prior to the deadline, the student can choose to use the rest of the class time for another activity, thus receiving an intrinsic reward) When students pass a quiz, their names are entered into a drawing and they are given certificates of completion at the end of the course and, therefore; receiving an extrinsic reward (Intervention Strategies for Progress, Achievement and Engagement, 2018).

Finally, Intervention Strategies for Progress, Achievement, and Engagement (2018) indicate remaining on track in an online credit recovery course is essential to successful course completion If, by chance, the student is not aware of what is required to remain on target to complete the course, Edgenuity encourages the use of daily and weekly goals. As with their competitors, Edgenuity encourages using incentives and consequences as well as creating both a start and target date for each online credit recovery course. Finally, establishing course completion expectations for students is another approach to increasing student motivation (Intervention Strategies for Progress, Achievement, and Engagement, 2018).

Models Used for Online Credit Recovery

Currently, there is not a collective definition of "credit recovery" although the term has become associated with the remedy to the high school dropout epidemic. Credit recovery has been a response to identifying at-risk students for failing high school and the need for early intervention. As a result, dropout prevention programs are often synonymous with online credit recovery programs. Many initiatives exist to target improving the high school graduation rates of high schools across the nation. Three successful dropout prevention models include the early college program, the differential instruction model, and extending the school day method.

Although the mission of each program is comparable, their theoretical framework provides a distinct differentiation (Tromski-Klingshirn & Miru, 2017).

Early College Program

The early college program allows dual enrollment and provides comprehensive student support for those poorly represented in colleges. The University of Alabama offers an early college program which offers high school students the ability to earn up to 30 hours of college credit online. Students are paired with student mentors, peer coaches, and academic advisors to guide their studies as they prepare to transition to college. According to the American Institutes for Research, students in an early college program have a statistically significant positive effect on the likelihood of graduating from high school (Berger, Turk-Bicakci, Garet, Song, Knudson, Haxton & Keating, 2013).

Differentiation Model

Tomlinson and Allan (2000) state there is a wide range of academic variety in the online learning classroom to include learning styles, student needs, interests and preferences. As a result, teachers must find multiple strategies to successfully address each student's learning needs according to each student's individual level of readiness. Tomlinson and Allen (2000) define differentiation as a teacher's reacting responsively to a student's needs (Tomlinson and Allan, 2000, p.13). Essentially, the differentiation model treats each student as an individual learner accessing his or her individual needs as opposed to teaching all students in the same manner. As it relates to online credit recovery programs, the differentiation instruction model allows students to proceed at their own pace, face-to-face, online, and at an abbreviated or accelerated pace.

Extending the School Day

Migrant's Achieving Success, a third dropout prevention model, extending the school day, allows educators to provide additional assistance to students as needed. Migrant's Achieving Success conducted a study for migrant families who received laptops from their school district to extend the academic day for children of farm workers. While participants were in the program for varying reasons, the study found that the program motivated them to finish the courses needed to graduate or transition to the army (Levy, 2011). Unlike the previous two models, there is a cost associated with extending the school day due to the early and late hours of instruction required. Each of the three alternative programs discussed has a specific, targeted population, and has demonstrated levels of success.

Student Behavior in Online Courses

Darling and Heinrich (2018) provide details of a case study performed examining student behavior in online courses. Over the course of three years and 30,000 online instructional sessions, Darling and Heinrich identified four distinct student behaviors that impact student outcomes. Engaged users, moonlighters, nominal exerters and incompatible strugglers are the four behavioral themes that arose from the case study. Of the four groups, engaged users spent the least amount of time, as noted by clicks, and completed the most activities per day. Moonlighters were moderate producers as compared to engaged users, but most student activity occurred outside normal school-day hours. Nominal exerters logged on more than the moonlighters and engaged users; however, they completed fewer activities. Finally, the incompatible strugglers were mostly ninth and tenth graders, were taking an online course, and made the least amount of progress. Although the case study did not disclose how many students were in each group, it did reveal that the higher amount of idle time was associated with lower

grades and a decreased rate of completing courses. In addition, there were no positive correlations between taking the courses online and student achievement in math scores, credits earned or grade point averages (Darling & Heinrich, 2018).

Online credit recovery programs are primarily focused on students who are at-risk of not graduating on time. As a result, online credit recovery programs cater to students who have failed one or two courses, suffer from absenteeism, have dropped out, or lack motivation to persist. Pettyjohn and LaFrance (2014) conducted a case study of 10th and 12th graders enrolled in online credit recovery courses who had failed two or more courses in high school. Allensworth and Easton (2007, as cited in Pettyjohn and LaFrance, 2014), stated that one "F" in a course in the ninth grade decreases the probability of graduation on time by 30 percent; and, if a student receives two "F's" in the ninth grade, the probability of graduating is 50 percent. Pettyjohn and LaFrance (2014) recruited twelve students who had failed two or more courses in high school and were in jeopardy of not graduating high school in four years. The study sought to understand the relationship between students and their online credit recovery courses as well its challenges and benefits. Intangible behaviors that influenced students' performance were hope and encouragement. Hope and encouragement that students might graduate played a critical role in their success. Specific examples include their writing ability and mathematical understanding improved as well as their grammatical skills. These academic gains allowed students to complete assignments with confidence and less frustration (Pettyjohn & LaFrance, 2014).

Despite these triumphs, the twelve students in the Pettyjohn and LaFrance (2014) study also faced both internal and external struggles around their motivation for the work, technology, and coursework. These struggles were primarily due to the notion that the online learning

modality does not correspond with every student's learning style. At times, students perceived technology as a barrier, which led to poor interaction and communication with their online teachers. The greatest limitation of this study was referring to online credit recovery programs as supplemental online learning and under the traditional context of online credit recovery programs (Petty & LaFrance, 2014). The phrase supplemental online learning is a descriptor of online learning and is not consistent with traditional research studies centered on online credit recovery courses nor online credit recovery programs. While online credit recovery programs can be regarded as supplemental online learning programs, potentially there are other online programs that fall under the auspices of supplemental online learning programs but may not necessarily identify as credit recovery. For example, a hybrid learning model that incorporates both online and traditional pedagogy could be considered a supplemental online learning program. Additionally, many traditional courses offer supplemental online learning options vis-à-vis course textbooks or teacher recommendations. Neither example is equivalent to the online credit recovery learning model, which is a fundamental discrepancy.

Effectiveness of Online Credit Recovery—MassGrad

A study funded by the U.S. Department of Education (2011-2015), referred to as the MassGrad Initiative, was conducted to assess the effectiveness of online credit recovery in reducing dropout rates and increasing academic achievement, graduation rates, and college enrollment across 24 Massachusetts High Schools and 11 districts. The MassGrad Initiative, a five-year drop-out prevention and re-engagement program focused on 133 high schools in the Commonwealth that exceeded an annual dropout rate of 2.9 percent in 2008-2009. Massachusetts received $15 million to support high school dropout prevention efforts (Massachusetts Department of Education, 2010). The study included 14 schools using online

credit recovery and ten traditional face-to-face credit recovery programs and also sought to identify typical patterns of behavior of credit recovery students as well as provide strategies to improve online credit recovery programs (Levine, et al., 2017). The study used quasi-experimental methods which included interviews, student focus groups, courseware data and classroom observations to study student outcomes. The online course content was provided by third-party vendors Edmentum, Edgenuity, Compass, and APEX. Most students took one or two classes ether during school, after school, nights, weekends or during school vacation and the summer (Levine et al., 2017).

According to Levine et al., 2017, the program consisted of pre-assessments to determine students' degree of mastery. Then, the site customized the course based on the student's performance. While the courses were self-paced, students were expected to remain motivated and self-managed using a variety of strategies. The color-coded screen, bar charts, and metrics embedded in the platform were used to help students and teachers track performance goals and were frequently referenced to keep students on track. Additionally, some schools used blockers from games and social media websites in an attempt to keep students motivated, minimize distractions, keep students engaged and complete their courses (Levine et al., 2017).

Upon completion of the study, Levin et al., 2017 reported students in online credit recovery programs are more likely to graduate two years after participation, less likely to drop out after their final year and are also less likely to enroll in college the year after graduation. In addition, the pass rate for traditional credit recovery was 12% higher than in the online component; however, the pass rate for both online and traditional credit recovery was greater in the summer than during the school year. In addition, students who completed the course earned between the grade of 70 and 90, though not their final grade because some schools included

additional criteria when determining final grades (Levin et al, 2017). Across grade levels, the majority of online credit recovery courses were successfully completed. Sixty-four percent of all courses were taken by 9th graders, 55% by sophomores, 57% by juniors and 65% by seniors (Levin et al, 2017). Although the study provided excellent data regarding the profile of the students in online credit recovery programs as well as traditional credit recovery, it does not address if the students who take online credit recovery classes are more or less motivated than students who take traditional credit recovery courses. However, it does briefly suggest that one method for increasing motivation is to allow students to earn credits if they perform high enough on pretests. Being required to retake an entire course in which a student has demonstrated mastery may cause frustration or even boredom which can lead to disengagement.

Multiple factors contributed to the effectiveness of online credit recovery courses. According to Levin et al, 2017, a student's reading skills, confidence with taking an online credit recovery course, and learning style were contributing factors to the efficacy of online credit recovery courses. Additionally, grade level had a positive effect on the success of students in online credit recovery courses. Freshmen earned better grades in traditional face-to-face courses than students in higher grade levels. Also, a student who possessed intrinsic motivation, whose learning style complimented virtual learning and deemed online learning pleasurable, benefited from online credit recovery courses. Finally, including additional supports for at-risk students in online credit recovery courses increased the effectiveness of online credit recovery courses for those students. However, the literature suggested counselors, as additional supports, do not contribute to decreasing the dropout rate of online credit recovery students. In fact, there was no difference in the dropout rate of an online credit recovery student nor a traditional student as a result of the presence of a counselor. Lastly, controlled motivation and autonomous motivation

were both negative constructs in the online credit recovery environment resulting in lower grades, satisfaction, and progress(Levine, et al, 2017).

Factors Affecting Student Achievement in Online Credit Recovery

Motivation, as previously discussed, is a major factor in student achievement and success when undertaking online credit recovery programs. However, other factors contribute to student achievement or failure in online credit recovery programs Kemp (2011). Some of these factors are presented in the next section.

Kemp Study

Kemp (2011), of the University of North Florida, conducted a research study to examine possible relationships between student/teacher characteristics and success in an online credit recovery program. He wanted to know if student success in an online credit recovery program was related to a variety of student characteristics such as prior experience, student prior grade, student attitude, or student confidence. He also examined the possibility of a relationship between student success in an online credit recovery program and teacher characteristics including teacher prior experience, teacher's total training, and teacher confidence.

Kemp's (2011) purpose for exploring this topic was to bring an awareness to the behaviors and characteristics of teachers and their relationship to online credit recovery programs, as well as to obtain knowledge in an effort to assist credit recovery programs in their mission to increase high school graduation rates. Kemp also believed the more information education leaders have regarding student and teacher characteristics and their relationship with credit recovery program outcomes, the greater return on the resources of time, financial and human capital invested, and school success in meeting high-stakes accountability requirements (Kemp, 2011).

Using a dependent variable of online credit recovery program outcomes, Kemp (2011) compared independent variables of (a) students' prior experience, prior grade earned in the traditional class setting, attitude about online courses, and level of confidence in completing an online course; and (b) teachers' prior experience with online credit recovery programs, overall level of teacher training in the school with the use of credit recovery programs, and teacher confidence in facilitating courses. The study employed a purposive sample of secondary students and their teachers who participated in an online credit recovery program during the 2008-2009 school year. The sample produced student *N*=227 and teacher *N*=55 responses representing programs from six participating states: Arizona, Georgia, Michigan, New Mexico, Oklahoma, and Utah. The student survey yielded scores with an overall Cronbach alpha of .922 and the teacher survey yielded scores with an overall Cronbach alpha of .963 (Kemp, 2011).

Kemp's (2011) regression analysis indicated that the teachers' prior experience (TPE) in online teaching (ß = 1.07) was the strongest predictor of the course grade. The structure coefficient for teacher prior experience in online teaching (r = .198) confirmed the beta weight findings, illustrating the strongest correlation of the variables for the research question (Kemp, 2011). However, none of the predictor variables made a statistically significant positive contribution. Overall, the only significant relationships found included a weak, but significant correlation between teacher confidence in the school with the use of online credit recovery programs and student performance. Otherwise, the results of multiple regression demonstrated no statistical significance (Kemp, 2011).

In summary, the variable of teacher training total produced a β of -.238, which indicated that a negative relationship existed with online credit recovery program outcomes or numeric grade earned. Teacher prior experience using online programs yielded a β of .198, which

indicated a positive relationship exists with online credit recovery program outcomes or numeric grade earned. Teacher confidence produced a β of .027, which indicated a positive relationship exists with online credit recovery program outcomes or numeric grades earned. Student prior experience or online credit recovery courses taken previously by the student produced a β of -.036, which indicates a negative relationship exists with credit recovery program outcome or numeric grade earned. Student prior grade produced a β of .024, which indicates a positive relationship exists with credit recovery program outcome or numeric grade earned. Student attitude towards taking online credit recovery courses produced a β of -.189 which indicates a negative relationship exists with credit recovery program outcome or numeric grade earned. Also, student confidence produced a β of .117 which indicates a positive relationship exists with credit recovery program outcome or numeric grade earned (Kemp, 2011).

Palisoc Study

Palisoc (2013) examined reading proficiency as a possible factor affecting student achievement in online credit recovery courses. The purpose of Palisoc's (2013) research was to understand the impact of reading proficiency on student success in online credit recovery programs. His study also was designed to explore how high schools have designed their online credit recovery programs to increase student achievement as well as to explore students' experiences with taking online credit recovery courses. Furthermore, Palisoc sought to determine what specific criteria schools use to identify students for participation in credit recovery courses. Additionally, Palisoc considered the components of online credit recovery programs that schools feel either facilitate learning or make it more difficult for students to complete a course as well as how past reading achievement impacts student success in online credit recovery programs.

Palisoc's (2013) qualitative study sought to gain insight into how online credit recovery was used at various schools. Data were obtained through interviews with counselors, principals, and teachers who were responsible for designing or evaluating each school's online credit recovery program. In addition, Palisoc used field observations to provide triangulation of the results from the interviews. Furthermore, it is also important to mention, Palisoc conducted an additional study using an anonymous student survey to gain insight from students who were using online credit recovery programs.

The sample for the Palisoc's (2013) study consisted of five public charter high schools near South Los Angeles who readily adopted the use of online programs for their students in need of credit recovery. Due to the quick acceptance of online credit recovery, Palisoc thought it most beneficial to use public charter high schools as opposed to traditional high schools. Each of the five schools used for the study served an educationally disadvantaged population which included high poverty, high minority student populations, and had high populations of English language learners (Palisoc, 2013).

Palisoc (2013) identified *convenience* as a major construct that compelled schools to use online credit recovery. From the student's perspective, online credit recovery programs were found to be more convenient because they could complete courses faster. Further, these courses were convenient for the schools because they had greater access to resources, and they released their burden of spending time obtaining course approval. However, according to the data, not one participant mentioned "better learning" as a justification for online credit recovery (Palisoc, 2013).

In the Palisoc (2013) study, 92% of the participants reported that online learning was more difficult due to the lack of support from a live teacher. In addition, the teachers stated that

students needed to be self-regulated learners and possess basic foundational skills in order to reach success in an online credit recovery course. Teacher-participants felt reading proficiency affected student performance, particularly in the online environment. The students in the sample who were poor readers were those primarily impacted when they could not rely on the teacher (Palisoc, 2013). Additionally, interviews and observations revealed that reading skills impacted achievement during assessments as well as during the instruction (Polisac, 2013). In conclusion, the student data supported the notion that online credit recovery programs could be frustrating and overwhelming for students with deficits in reading (Polisac, 2013).

Bowling Study

Bowling (2013) sought to determine whether the addition of a high school graduate counselor and a credit recovery program were effective in helping at-risk ninth grade students achieve academic success and subsequently reduce the dropout rate. In all, 114 at-risk ninth grade students were represented in the study and 21% of the 114 at-risk students participated in a credit recovery program. Bowling used an ex post facto, quantitative design to determine the impact of a graduate counselor and a credit recovery program on the dropout rate of at-risk ninth grade students at School B (implementing the interventions) and to compare the findings with the dropout rate of at-risk ninth grade students at School A (implementing no interventions). The student participants in this study were between the ages of 14 and 17 years, typical ages of ninth grade students. Bowling expected the addition of the graduate counselor to support a decreased dropout rate and that both the addition of the counselors and the credit recovery course itself would have a significant impact on students. The findings ultimately rejected the significance and effectiveness of the graduate counselor initiative and the credit recovery program (Bowling, 2013).

The results of Bowling's (2103) study were not as predicted; the use of a graduate counselor actually increased the dropout rate at School B where interventions were implemented. Furthermore, the dropout rate was higher for those who were supported by a graduate counselor (1.8%) compared to those who were not supported by a graduate counselor (0.0%). In addition, the results indicated that there was no significant difference in the dropout rate of at-risk ninth grade students in an online credit recovery program and those not in an online credit recovery program (Bowling, 2013).

Dikkers, Lewis and Whiteside Study

Dikkers, Lewis, and Whiteside, (2015) conducted a study to explore the role of autonomy and responsibility in online learning success for high school students, specifically learning success in an online credit recovery course. They contended that at-risk students must have a strong foundation in online learning readiness to support success and that students need to feel *accepted* in the online community. The researchers recommended individualized instruction to support student success in online credit recovery courses. In addition, they recommended a careful strategy of intervention.

Dikkers et al., (2015) suggested that online coursework can support an increased sense of self-efficacy among at-risk students, which in turn can support student success. This balance between freedom, autonomy and the requisite time management skills are essential for success in the online credit recovery learning environment. At-risk students need additional support to continue to address challenges by transforming obstacles to online opportunities (Dikkers et al., 2015). The authors concluded that with the necessary supports in place, online and blended learning environments can serve the educational community as a solution for at-risk high school students.

Hughes, Zhou, and Petscher Study

Hughes, Zhou and Petscher (2015) conducted a study that examined whether students attending a high school in Florida, and taking online courses, earned a grade of C or better at different rates than students who were enrolled in the same courses face-to-face in the traditional classroom. They also sought to determine if there was a statistically significant difference in the likelihood of students earning a C or better between face-to-face courses and online credit recovery courses; and does the likelihood of earning a C or better differ according to subgroups of students? While a passing score in Florida is a D, in order to graduate from high school, students must also earn a 2.0 grade point average to graduate. Thus, a grade of C or better was used as the benchmark for success in each credit recovery course because it signifies a more rigorous standard. The samples were limited to the most common academic courses to ensure the grades used to determine success were from the same course grouping. Results of the study showed students in grades 9-11 were more likely to earn a grade of C or better when taking both a general online course as well as a credit recovery course rather than a traditional course in the classroom. The success rate was greatest for freshmen and lessened for sophomores, juniors, and seniors. For online credit recovery courses specifically, students were also more likely to earn a better grade than in face-to-face courses. Freshmen students showed the largest difference in success rates in grades earned, the rates narrowed in sophomores and juniors, and were almost nonexistent in seniors. Additional results indicated that students who independently chose to take online courses or were encouraged to take online courses performed slightly higher on the Florida Comprehensive Assessment Test (FCAT) than students who only took face-to-face courses (Hughes, Zhou & Petscher, 2015).

The limitations to the Hughes et al., (2015) study are numerous. It is difficult to determine from this study if the differences in the grades earned were due to greater student learning or other factors. Additionally, the study rarely differentiated between online courses and online credit recovery courses when reporting results. Placing online students and online credit recovery students in the same category when reporting results can be problematic for various reasons. First, students who are taking online credit recovery courses have been previously exposed to the academic content. This preexposure may serve as a motivator and potentially increase a student's academic performance the second time the course is taken. Secondly, online course offerings in high school are traditionally all encompassing and are not exclusive to credit recovery. As such, online course offerings may signal general courses, credit recovery courses, college preparatory courses, or advanced placement courses. Failing to distinguish between online courses and online credit recovery courses in research overlooks the opportunity to gain a greater understanding of the quality of online credit recovery content as well as student outcomes (Hughes, Zhou, & Petscher, 2015). After researching ten peer reviewed journal articles, Viano (2018) reports that the literature in online learning and distance education fail to consider credit recovery as a specific type of online learning. Of the ten peer reviewed journal articles used, as of July 2016, he discovered only 16 articles that mentioned online credit recovery. Finally, Hughes, Zhou, and Petscher (2015) suggested that their study did not consider motivation as an influencer or self-regulatory competences; nor did the study differentiate between the 20 common academic courses required of students to graduate.

Zhang and Chin Study

Zhang and Chin (2019) believe motivation is the key factor in predicting K-12 student's online learning success. Using the self-determination theory, Zhang and Chin (2019) identified

motivational profiles of students taking high school online language classes and sought to understand students' motivation profiles and its relationship with learning outcomes along with understanding the reason for enrollment. Additionally, Zhang and Chin (2019) sought to determine whether gender had an effect on motivational profiles. After analysis of data from 466 students, four motivational profiles emerged: high and low quality and good and poor quality. The researchers relied on the relative autonomy index (RAI) to identify motivational subscales. However, while the relative autonomy index works well to keep motivational subscales to a minimum, the composite score does not address fully why and how students favor some motivational categories and not others. Results of the study revealed autonomous motivation was moderately correlated with controlled motivation. Additionally, autonomous motivation was weakly correlated with grades and controlled motivation was weakly correlated with satisfaction and progress, but almost zero correlation with grades. Implications of this study indicate that when designing online courses, learning activities and content should promote autonomous motivation to maximize equitable learning outcomes with varied motivational profiles (Zhang and Chin, 2019). Since the study does not include online credit recovery courses, one cannot assume whether the autonomous motivation is the bridge builder to equitable learning outcomes in online credit recovery courses, as it is for online courses.

Chen, Rovai, Ponton, Wighting and Baker Study

Similar to the study by Zhang and Chen, Chen, Rovai, Ponton, Wighting and Baker (2007), sought to determine if there were differences in motivation between 353 students enrolled in 12 traditional and 12 online classes. Seven motivational measures were generated using the Academic Motivation Scale-College 28 (AMS-C 28). Three intrinsic motivation subscales, three extrinsic motivation subscales, and an amotivation were used. The goal was to

discover motivational characteristics of online students and detect discrepancies between online students and traditional students. Results indicated that online students were more intrinsically motivated than students in the traditional classroom and graduate students were more intrinsically motivated than undergraduate students. There was no indication of a difference in motivation based on ethnicity. Additionally, the results indicated that online students are more intrinsically motivated than traditional students. Students reported online courses were more pleasurable and their learning style is one that gives them greater pleasure taking courses online than in the traditional classroom (Chen, Rovai, Ponton, Wighting & Baker, 2007).

Variables of Interest

Variables in research can be straightforward and easy to measure, but they can also be complicated. The following discussion provides a brief introduction to the variables examined in this study.

Dependent Variable

The dependent variable of interest to this study, grades earned (student achievement), has been widely studied in relationship to high school graduation rates and dropout rates. Previous research has focused on accountability systems to improve students' grades (achievement) in high school (Bloom, Thompson & Unterman, 2010; Glennie, Bonneau, Vandellen & Dodge, 2012). However, there remains an opportunity to further explore grades earned (achievement) and a relationship with online credit recovery courses (Cokely, Bernard, Cunningham & Motoike, 2001; Fairchild, Horst, Finney & Barron, 2005; and Franco & Patel, 2011).

Independent Variable

There are six independent variables of interest in this study: (a) intrinsic motivation, (b) extrinsic motivation: identified regulation, (c) extrinsic motivation: external regulation, (d)

amotivation, (e) gender, and (f) grade level. These variables represent areas of interest with regard to their possible relationships to the dependent variable, grades earned (achievement) in the online credit recovery environment.

Previous research has focused on motivation in various learning environments (Chaiprasurt & Esichaikul, 2013; Chen & Jang, 2010; & Prensky, 2002; Kim & Frick, 2011; Ushida, 2005), in relationship to academic achievement (Amrai, Motlagh, Zalani & Parhon, 2011; Guay, Ratelle, Roy & Litalien, 2010; Meece, Anderman, & Anderman, 2006), in face-to-face and online courses (Jones, 2010; Pastore & Carr-Chellman, 2009; Wighting, Liu, Rovai, 2008), and in online learning environments (Aragon, Johnson, & Shaik, 2002; Beffa-Negrini, Cohen, & Miller, 2002; Kim & Frick, 2011; Ushida, 2005). However, there remains an opportunity to further expound on the previous research (Otis, 2005) to explore the four motivation types of self-determination theory, (a) intrinsic motivation, (b) extrinsic motivation: identified regulation, (c) extrinsic motivation: external regulation, and (d) amotivation in relationship specifically to online credit recovery courses.

The final two independent variables of interest in this study, gender and grade level, have also been researched extensively in various contexts. Zhang and Chin (2019) sought to determine if there was a relationship between gender and motivational profiles, Freeman (2004) sought to discover if gender impacted reading and writing achievement, and Boggiano, Main and Katz (1991) researched motivational levels across gender. Finally, grade level previously researched by Gomes, Monteiro, Mata, Peixoto, Santos & Sanches, 2019 and Otis, 2005 gave the researcher a unique perspective when considering variables for this study. While reviewing the literature in preparation for this work, it became clear that these variables were not only

important, but have been continuously studied in different capacities for many years; thus adding to what is known about ways to improve student learning in different environments

Summary

This literature review has examined some of the existing research related to online credit recovery programs and has addressed specific factors and variables of interest to this study. As a result, the importance of student achievement and motivation in online learning, as reported through selected research studies, has been revealed. Several of the research studies explored reported unmet expectations. The next chapter provides an overview of the methodology, including instrumentation, participants, data collection and data analysis.

CHAPTER 3

RESEARCH METHODOLOGY

This chapter provides a restatement of the purpose and research questions followed by a description of the research design employed in this study. Also included in this chapter is a description of the independent and dependent variables, the research questions, research design, instruments and procedures used, the data collection, and the data analysis

Purpose

The purpose of this study was to examine the relationship between students' highest situational scored motivation (intrinsic, extrinsic motivation: identified regulation, extrinsic motivation: external regulation, and amotivation) and students' achievement (grades earned) among those students enrolled in online credit recovery courses. Additional variables of interest were gender and grade level. The Situation Motivation Scale (SIMS), the survey instrument used in this study, was designed to assess student motivation in terms of the following motivation types: intrinsic, *Because I think that this activity is interesting;* extrinsic motivation: identified regulation, *Because I am doing it for my own good*; extrinsic motivation: external regulation, *Because I am supposed to do it*; and amotivation, *There may be good reasons to do this activity, but personally I don't see any* (Brooks & Young, 2011). Additional variables of interest were gender and course level. Achievement is defined as the successful completion of an online credit recovery course with a passing grade of C, represented by a grade average between 70 and 74 or better, as promoted by the district guidelines of the school system examined in this study. Understanding the relationship between student motivation and student

achievement of online credit recovery students was expected to shed light on possible intervention strategies to support student success in the increasingly popular online credit recovery programs, and ultimately, support improved high school graduation rates.

Research Questions

The following research questions were used to guide the quantitative and qualitative components of this descriptive study:

1. What are the students' (a) intrinsic motivation, (b) extrinsic motivation: identified regulation, (c) extrinsic motivation: external regulation, and (d) amotivation levels on the highest motivational score?
2. Is there a statistically significant difference in students' grades in an online credit recovery course based on gender (male or female)?
3. Is there a statistically significant difference in students' grades in an online credit recovery course based on their highest motivational level (intrinsic motivation, extrinsic motivation: identified regulation, extrinsic motivation: external regulation, or amotivation)?
4. Is there a statically significant difference in students' grades in an online credit recovery course based on grade level (freshman, sophomore, junior, or senior)?
5. How do students describe their motivation for enrolling in an online credit recovery course?

Independent Variables

This study employed three independent variables: (a) highest motivation level (intrinsic motivation, extrinsic motivation: identified regulation, extrinsic motivation: external regulation, and amotivation, (b) gender (male or female), and (c) grade level (freshman, sophomore, junior

or senior). The dependent variable used in all analyses was grade earned in an online credit recovery course. The first independent variable includes different types of motivation subscales that exist within the self-determination continuum. Intrinsic motivation, extrinsic motivation: identified regulation, extrinsic motivation: external regulation and amotivation are four theoretical types of motivation that fall along this continuum. Students become more self-determined as they gain awareness of their reasons for executing a certain behavior. A further examination of these motivation types follows.

Intrinsic Motivation

Intrinsic motivation is the most autonomous of the motivation types and is characterized by individuals freely choosing to perform an activity out of genuine interest. Additionally, intrinsic motivation is routinely associated with high educational achievement. Students are likely intrinsically motivated if they attribute their educational results to factors under their own control, believe they can be effective agents in reaching desired goals or are interested in mastering a topic (Tohidi & Jabbari, 2012). Subsequently, intrinsic motivation comes from the will within, also known as self-determination, and requires no external rewards to move a person to action. In the context of academia, students who are intrinsically motivated pursue their coursework because they simply like to learn. They are genuinely interested in the subject matter and are able to persist, not due to outcomes such as grades, but on account of the learning process alone. Examples of intrinsic behavior in the context of the classroom include a student reading the six chapters assigned for homework because he or she enjoys the content, not because there will be a quiz at the end of the week (Burton, Lydon, Alessandro, & Koestner, 2006). Another illustration of a student intrinsically motivated is one who journals because he or she really enjoys writing or reading a book and is interested in the topic (Burton et al., 2006).

Research shows praise can help increase intrinsic motivation whereas external rewards such as positive feedback and verbal reinforcement can decrease intrinsic motivation. The first research study to understand the negative effects of praise. as a form of reinforcement on intrinsic motivation. was conducted by Deci in 1971 (as cited in Cameron & Pierce, 1994). Deci's study provided researchers with a method to measure intrinsic motivation with a paradigm to investigate effects of the reward. The study supported the hypothesis that when money is used as an external reward for some activity, the subjects lose intrinsic motivation for the activity. However, when positive feedback and verbal reinforcement are used as the external awards, intrinsic motivation seemed to increase (Deci, 1971 as cited in Cameron & Pierce, 1994).

Extrinsic Motivation: Identified Regulation

Extrinsic motivation: identified regulation is the opposite of extrinsic motivation: external motivation. A behavior guided by identified regulation occurs when the behavior is valued and perceived as being chosen by oneself (Guay, Vallerand, & Blanchard, 2000). Oftentimes, these behaviors are driven by feelings of personal importance and the individual has accepted its regulation as his or her own (Shaikholeslami & Khayyer, 2006). Students who identify with extrinsic motivation: identified regulation perform behaviors out of choice because they deem the behavior to be important. Additionally, a student identifies with extrinsic motivation: identified regulation if the student perceives usefulness or value in doing so (Burton et al., 2006).

Extrinsic motivation: identified regulation is the extent to which a goal is important and meaningful. When one is faced with stressors, challenges and boredom, extrinsic motivation: identified regulation is what sustains one's effort in pursuit of a goal (Burton et al., 2006). An example of a student who identifies with extrinsic motivation: identified regulation is one who is

working hard in a particular class because the student believes it is important for continuing to succeed in that subject matter, as opposed to finding the subject interesting. The student believes the subject is important for his or her future studies. The regulation of the behavior is identified because the student is doing it for personal reasons (Waege, 2020).

Extrinsic Motivation: External Regulation

External regulation is the least self-determined form of extrinsic motivation. Extrinsic motivation: external regulation is behavior that is regulated by rewards to avoid negative consequences (Guay et al., 2000). The individual feels an obligation to act a certain way regardless if the behavior is driven by avoiding a consequence or obtaining a reward. Waege (2020) believes students who are externally regulated are also characterized by the desire to please others, or have a "if I do this, I will get that" mindset. An example of a student who identifies with the extrinsic motivation: external regulation subscale is one who is working well in with the lessons but does not feel competent in the subject. In this example, the student's behavior is externally regulated because the student's main focus is to get a good grade (Waege, 2020).

Amotivation

Amotivation is found on the extreme left of the self-motivation continuum as the behavior is the least self-determined of the motivation types. Amotivation behavior is neither extrinsically nor intrinsically motivated. Students whose behavior aligns with amotivation lacks intentionality and sense of personal causation (Shaikholeslami & Khayyer, 2006). Amotivation is the absence of motivation and can create feelings of discontentment and frustration and can also hamper activity. Amotivated students cannot pinpoint nor articulate the impetus of their behavior and the consequences; nor can they see the motive behind it. Amotivation is often

associated with boredom, non-attendance, or low engagement (Legault, Green-Demers, & Pelletier, 2006). Barkoukis, Tsorbatzoudis, Grouios and Sideridis (2008) confirm when students are amotivated, they typically act passively or simply do not act at all. In essence, they lack an intention to act. Amotivated individuals do not have specific goals nor purposes behind a behavior and are often associated with learned helplessness, where individuals remove efforts because of perceptions of incompetence (Barkoukis et al., 2008).

Gender.

Gender differences in the classroom and in reference to student achievement have been discussed and studied for many years. While the researcher would like to caution stereotyping, on average, girls are more motivated than boys to perform well in school, particularly in elementary school (Freeman, 2004). According to Freeman (2004), girls earn slightly higher grades than boys and consistently outperform boys in reading and writing; however, male students perform better in math and science. Furthermore, female high school students tend to have higher educational aspirations than their male counterparts and are more likely to enroll in college the fall immediately following graduation (Freeman, 2004).

According to the gender study conducted by Boggiano, Main, and Katz (1991), motivational measures, as measured by Harter's Scale (1981), are not distributed similarly across gender. Rather, girls in upper grade school are more likely to be extrinsically motivated (Boggiano, Main and Katz, 1991). Harter's Scale (1981), a self-reported scale, uses five dimensions to define intrinsic and extrinsic motivation and student's academic behavior in the classroom. The instrument's five subscales: a preference for challenging schoolwork versus assignments completed with little effort; to which degree behavior is motivated by curiosity versus the desire to please the teacher; and a preference for independent mastery as opposed to

teacher guidance, a student's independent judgment versus relying on the teacher's judgement and internal versus external criteria for failure and success, were used as determine if a student was intrinsically or extrinsically motivated (Harter, 1981). (Lepper, Iyengar, & Corpus, 2005). Boggiano et al. (1991) sought to test the assumption that the importance of adult approval and feedback for females relative to males would yield girls in elementary school age more likely to develop extrinsic motivation in comparison to boys. Recommendations from their study included conducting further research on identifying when differential gender patterns begin, what accounts for them; and what are the consequences for junior and senior high school students (Boggiano et al., 1991).

Grade Level.

A student's grade level is based on the number of credits earned as they matriculate through high school. Credits are awarded when students earn the minimum passing grade of 70 and promotion is based on total credits earned. According to the State Board Rule 160-4-2.11 Promotion, Placement and Retention; local boards of education develop and adopt procedures and policies for the retention and promotion of high school students (Department of Education, 2020). A common practice in the state regarding protocol is five credits are required to matriculate from the freshman to sophomore year, 11 credits from the sophomore to junior year, and 17 credits are required for a student to begin the senior year. Therefore, a student who has earned five or more credits is classified as a sophomore; a student who has earned 11 or more credits is categorized as a junior and a student who has earned 17 or more credits is classified as a senior (Gwinnett County Public Schools, 2020; Henry County Public Schools, 2020). Students that do not earn the required credits and matriculate to the next grade level typically are characterized by chronic absenteeism, unfavorable behavior, illnesses, pregnancy or struggle

academically and consistently earn low grades. However, there are multiple intervention strategies to support students who fall behind achievement levels. Strategies include increasing student engagement (Balfanz, Herzog, & Mac Iver, 2007) and creating early warning systems to identify at-risk students and provide supporting structures to give students the academic tools necessary to persist to graduation (Kennelly & Monrad, 2007; Heppen & Therriault, 2008).

Dependent Variable

The dependent variable in all analyses of this research study was grade earned. Grade earned was defined as the grades received across the different online credit recovery courses. A further explanation of each online credit recovery course taken as part of this study follows.

Although a national curriculum does not exist within the United States, most high schools follow a common categorization of compulsory subjects under which all students must be taught. High school credits are awarded for courses completed under the Quality Core Curriculum (QCC) which is approved by the State Board of Education. Education Commission of the States (2019), affirms twenty-three total credits and an exit exam are required for a standard high school diploma in the state in which the research was performed. Fifteen of the twenty-three total credits needed for graduation must be earned in courses categorized as required courses. According to Performing Learning Center (2012), required courses are English, Social Studies, Science, Math, Physical Education and Electives. Four credits must be earned in English/Language Arts, three credits in Social Studies, four credits in Science, one credit in Health and Physical Education, three credits in Career Technical and Agricultural Education (CTAE) and/or Modern Language/Latin and/or Fine Arts, and four credits in math. The remaining four credits are to be earned as electives (Graduation Requirements, 2012). Electives are courses that a student selects that fall outside of the required courses needed to

fulfill the compulsory credits for graduation. Courses that fall under the category of electives are typically foreign languages, physical education, fine arts and history, social sciences, or American government (Education Commission of the States, 2019). It is important to note, a course is only counted once towards satisfactorily meeting the credit requirement for graduation.

Students in this study were enrolled in a total of 20 unique high school online credit recovery courses. The high school online credit recovery courses are as follows: Environmental Science, Speech, Sociology, Algebra I, Algebra II, Psychology, Geometry, Biology, Economics, Physics, American Literature, Health, 9th Grade Literature, 10th grade Literature, Chemistry, U. S. History, World Literature, World Geography, Government, and Art.

For the purpose of this study, the 20 online credit recovery courses taken by online credit recovery students were combined to form one dependent variable, grades earned, based on courses. Combining the courses into one variable provided a more accurate description of the phenomenon measured ("Multiple Dependent Variables," 2010). All courses were necessary courses to earn a high school diploma and were delivered using the same strategy, instructional model, and support. The 20 high school courses were delivered using the same third-party platform, Edgenuity, which offered credit recovery courses in an online format. Additionally, all courses were delivered to enrolled high school students ranging from the ninth to twelfth grade, who previously failed a course in the traditional classroom environment and were seeking to recover credit. Finally, every online credit recovery course was taken by students within the traditional hours of a standard school day.

As such, these consistencies served as the rationale used by the researcher to combine the 20 online credit recovery courses as a multi-response measure of a single construct, grades earned based on courses. When combining variables, it is important to ensure individual

dependent variables are correlated. Calculating Cronbach's *a* measures internal consistency and confirms if the dependent variables are correlated ("Multiple Dependent Variables, 2010). Brief descriptions of the 20 individual online credit recovery courses used in this study are provided in Appendix A.

Dependent Variable

Educational reformers equate stringent curriculum standards to grades earned by students, the dependent variable of interest in this study. Grades earned in this study were specific to numerical grades such as 95, 85, or 75 as opposed to letter grades such as A, B, or C. Subsequently, academic achievement is a key measurement of a student's success. Students that perform higher academically have greater post-secondary educational opportunities as well as greater opportunities in the labor market. According to the Governor's Office of Student Achievement (2017), generally, student achievement is defined as the percentage of students at a school whose learning meets or exceeds their grade-level standards. Grade level standards are measured by state assessments which provide data on students' mastery on statewide standards. The data extrapolated from state assessments serve as a barometer to measure how students compare to their peers in respective areas of the district, state, and nation. Thus, academic achievement serves as a litmus test to the ongoing academic health of an individual student, groups of students, a district, or education system (Governor's Office of Student Achievement, 2017).

Additionally, the Governor's Office of Student Achievement (2017), reports that schools use the following numerical grading scale for high school students: A: average of 90-100, B: average of 80-89, C: average of 70-79 D: average of 60-69, and F: average below 60. The State Board of Education Rule 160-4-2.13 establishes a grade of 70 as the minimum passing

score in all courses for grades 4-12 in public schools ("High School Graduation Requirements, 2008). Passing grades count towards the total number of courses needed to earn a high school diploma (Governor's Office of Student Achievement, 2017).

The dependent variable in this study was student achievement defined as a student earning a grade of 70 or above in an online credit recovery course. *Education Week's* K-12 Achievement Index provides state rankings according to student achievement based on a quality metric that accounts for 18 total indicators which includes test scores and graduation rates (Harwin, 2018). In 2018, this study's research school earned a grade of C on the Quality Counts 2018: K-12 Achievement State Report Card. The researcher chose a grade of 70 or higher, which is slightly lower than the reported national average, as the benchmark to use for students' grades for the purposes of this study. A grade of 70 or higher is indicative of a student's average academic achievement and is suitable for the population's demographic.

Quantitative Research Design: Descriptive

The research design for this study was a descriptive study with quantitative and qualitative components. The researcher used a one-way Analysis of Variance (ANOVA) to understand the differences between the dependent variable, grade earned, and the independent variables intrinsic motivation, extrinsic motivation: identified regulation, extrinsic motivation: external regulation, amotivation, gender, and grade level. There are several advantages and disadvantages to conducting a descriptive research study. Quantitative research tends to fall into two categories, studies aimed at discovering causal relationships or inferences or studies that describe events (Spector, Merrill, Elen, & Bishop, 2014). The goal of quantitative research is to establish relationships between variables, describe current situations or try to provide an explanation of relationships between variables (Mertler, 2019). Throughout the quantitative

phase, the dependent variable, grades earned, was defined as a passing grade of 70 or better, in an online credit recovery course. Secondary data were collected from the guidance counselor that included the following student demographic information: gender (male or female), grade level (Freshman, Sophomore, Junior or Senior), course taken (subject name), and the student's numerical grade in the course. Descriptive statistics such as means, standard deviations and correlations between continuous variables were computed and summarized to answer the first research question: Research Question 1: What are the students' (a) intrinsic motivation, (b) extrinsic motivation: identified regulation, (c) extrinsic motivation: external regulation, and (d) amotivation levels on the highest motivational score, sought to understand the student motivation levels based on the four motivation subscales (a) intrinsic motivation (b) extrinsic motivation: identified regulation (c) extrinsic motivation: external regulation and (d) amotivation.

The one-way ANOVA is the most commonly used statistical model used to determine if two or more independent variables have the same mean values (Raykov and Marcoulides, 2013). Herzog, Francis, and Clarke (2109) attested that a one-way Analysis of Variance (ANOVA) avoids the use of multiple t-tests, which could increase the Type I error rate as the number of mean comparisons increase with each independent variable. With this evidence in mind, the fact that there were more than two independent variables of interest in this study, the one-way ANOVA was the most suitable and appropriate data analysis to use for this study (Herzog, Francis, and Clarke, 2019).

Six assumptions must be met for ANOVA. Samples must be independent, there must be no outliers, all groups must have the same variance, the population must be normally distributed, dependent variable must be continuous and the independent variable must have two or more categorical independent groups are the six assumptions according to Herzog et. al., (2019). The

first assumption is independence of observations. Consequently, there should be no relationship between the groups. Second, there should be no outliers detected when using statistical software due to their negative impact on the two-way ANOVA. Outliers are a result of data entry errors and participant response errors (Kwak & Kim, 2017). Third, there should be homogeneity of variance. This assumption can be tested using Levene's test for homogeneity of variance. In instances where Leven's test of homogeneity were not met, the researcher ran a non-parametric substitute, Kruskal-Wallis test. The Kruskal-Wallis test does not assume the data from a distribution can be described by the standard deviation and mean. The Kruskal-Wallis test also does not assume data are normal; it does assume different groups have the different distributions and groups with standard deviations that are different also have different distributions (McDonald, 2009). The fourth assumption is that the dependent variable is normally distributed for each category of the independent variable. If this assumption is failed, the researcher may test the assumption using the Shapiro-Wilk test of normality. If the Shapiro-Wilk test is run, it often means the researcher does not have evidence to say that the population is not normally distributed (McDonald, 2019). The fifth and sixth assumptions, the dependent variable must be continuous, and the independent variable must have two or more categorial independent variables, are examined before the analysis begins (Herzog et. al., 2019). The dependent variable, grades earned is a continuous variable and there are three independent categorical variables: gender (male or female), highest motivational level (intrinsic motivation, extrinsic motivation: identified regulation, extrinsic motivation: external regulation, or amotivation) and grade level (freshman, sophomore, junior and senior). Both the fifth and sixth assumptions were assessed and met prior to the analyses.

The researcher used semi-structured interviews to collect the qualitative data for this research study. There are multiple advantages for conducting interviews in a qualitative research design. Kumar (2019) suggests that interviews are useful for collecting in-depth information since the researcher can probe to gain a deeper understanding. During an interview, questions are less likely to be misunderstood by the interviewer because the question can be repeated for deeper explanation and the question can be asked in a way that is understood by interviewee. Additionally, the researcher is able to gather include supplemental information, such as non-verbal communication, that may inform the interviewee's response (Kumar, 2019).

A disadvantage for the interviewing process is that, depending on the depth and breadth of an interview, it can be time consuming. Additionally, the quality of the data depends on the quality of the interaction between the researcher and interviewer. Subsequently, the quality of the data also depends on the quality of the interview. One final disadvantage of using interviews as a qualitative approach to research design is researcher bias may be introduced based on the framing of questions and interpreting responses (Kumar 2019).

Qualitative Research Design: Interview Data

The qualitative analysis of this descriptive study was conducted after the quantitative analysis. A qualitative methodology was appropriate for conducting an open-ended exploration of participants' experiences and perceptions, where participants were asked to describe, in their own words, the contexts of their own lives and cultures (Creswell, 2013). A qualitative analysis can be included in a descriptive study to augment numerical data with rich descriptions of context that would not be captured by quantitative instruments (Creswell, 2013). The qualitative component of this study involved a generic qualitative inquiry approach, which is suitable when the researcher has a set of pre-existing categories with which to understand the experience of

interest and wants to describe these categories more fully from the participants' perspectives (Percy, Kostere, & Kostere, 2015). Therefore, a generic qualitative inquiry was added to describe the categories of motivation more fully from the participants' point of view.

In this study, the pre-existing categories for understanding motivation were the four motivation types previously identified as described by the SIMS motivational scale. A generic qualitative inquiry approach is appropriate for a descriptive study design because the results of deductive qualitative data analysis, using pre-existing categories of understanding as preliminary codes, are easily coordinated with quantitative data to provide a more robust description of the experience of interest (Percy et al., 2015). The qualitative component of this study involved data collection through semi-structured interviews, followed by deductive thematic analysis of the data, as recommended by Percy et al. (2015). Semi-structured interviews typically start with a pre-determined set of questions. However, they allow some breadth of expansion in relation to how the interviewee is pursued (Freebody, 2003). Additionally, according to Freebody (2003), semi-structured interviews have the agency to uncover or establish a core set of issues covered while also allowing the relevance and sequencing to vary from the interviewee. These procedures are described in the relevant sections of this chapter. The fifth research question: *Research Question 5:* How do students explain their motivations for enrolling in an online credit recovery course*?* was answered using the qualitative component of this study as described.

Population

The sample for this study was drawn from an urban school district in a southern state. Important background information is provided for clarity.

Population.

The school system used for this study was in a large southern state serving over 32,000 students in over 55 schools. There were 11 high schools in the district. Seven of the 11 high schools offered online credit recovery programs and 55 of the 57 schools are Title I, which equates to 96.8% free and reduced lunch. The researcher was only able to gain access to one of the 7 high schools that offered online credit recovery programs.

Based on the mathematics and reading proficiency testing, the district was ranked in the bottom 50% of 198 school districts in its state for the 2015–2016 academic school year ("Public School Review, n.d."). However, according to the 2018 College and Career Readiness Performance Index (CCRPI), the graduation rate of this southern state is reported at 83%, a six percent difference as reported by the Public School Review (Department of Education 2019). The difference in scores was possibly due to the updated, approved calculation as part of this southern school's Every Student Succeeds Act (ESSA). Additionally, the score reported by the Department of Education aligns with the K-12 Public Schools' Report Card which reported a graduation rate of 79.4% in 2015-2016, 80.6% graduation rate in 2016-2017 and 81.6% graduation rate in 2017-2018 (K-12 Public Schools Report Card, 2019). These improvements in the graduation rate may be due, in part, to the use of online credit recovery courses. The high school used in this study, which I will refer to as the research high school, hereafter; to preserve anonymity.

Sample.

The sample for this study was drawn from an urban school district in a southern state. Important background information is provided for clarity. The sample for this study was a convenience sample that included all students aged 16 or over who were enrolled in an online

credit recovery course at the research high school during the spring of 2019. The actual number of participants in this study depended on enrollment, voluntary participation, and parental consent. The researcher used G-Power analysis to determine an adequate sample size for the analysis. G-Power is a program used for many statistical tests used in biomedical, social, and behavioral sciences pertaining to correlation analyses (Faul, Erdfelder, Lang, & Buchner, 2007). In addition, G-Power computes power values for sample sizes, effect sizes, and alpha levels (post hoc power analyses), sample sizes for given effect sizes, alpha levels, and power values (a prior power analyses), and alpha and beta values for given sample sizes, effect sizes, and beta-alpha ratios (compromise power analyses) (Cunningham & McCrum-Gardner, 2007).

The one-way ANOVA analysis with a total of six tested independent variables (amotivation, extrinsic motivation: identified regulation, extrinsic motivation: external regulation and intrinsic motivation) gender and grade level, and the dependent variable, achievement (students' *grade earned* in the course), yielded a requisite 87 participants to gain a G-Power of 0.85 and a medium effect size. The researcher had set these parameters as a goal for the study. However, due to the limited number of participants, a final sample size of 60 was utilized for the analysis. As a result, the G-Power was reduced to 0.80, which according to Cohen (1988), is generally an accepted minimum level of power based on the significance criterion ($\alpha = 0.05$).

Instrumentation

The researcher used two measurement tools to collect data and measure the variables of this descriptive research study. The Situational Motivation Scale (SIMS) questionnaire and a researcher designed interview guide used in semi-structured interviews were the two measurement tools used to examine students' motivation.

Quantitative Instrument

Data were collected in the quantitative component of this study through the face-to-face distribution of a hard copy of the Situational Motivation Scale (SIMS) survey to the convenience sample (see Appendix B). The data were collected during the first ten minutes of each participant's respective online credit recovery class or during another time and location agreed upon between the researcher and the counselor. The primary data collection instrument was the SIMS survey developed and validated by Guay, Vallerand, and Blanchard (2000). This 16-item self-reported inventory contains four items per subscale, and is designed to measure intrinsic motivation, extrinsic motivation: identified regulation, extrinsic motivation: external regulation, and amotivation in both laboratory and field settings (Standage, Duda, Treasure and Prusak, 2003). According to the developers of the SIMS survey, situational intrinsic motivational measures were developed for the purpose of assessing immediate or current motivational reactions toward an activity. Situational motivation refers to when one is motivated by the activity in which he or she is engaged, in real time. According to Guay et al (2000), situational motivation provides a useful understanding of a person's current state. Items for each of the four subscales were summed to provide composite scores for each motivation type. The SIMS instrument is based on a seven-point scale ranging from *1 Corresponds not at all* to 7 *Corresponds exactly*. Each subscale score was used to calculate a motivation score known as the self-determination index (SDI). Self-determination scores range from a minimum of 4.00 to a maximum 28.00. A positive SDI score indicates more self-determined forms of motivation whereas negative SDI scores indicate an overall experience of less self-determined forms of motivation (Brooks & Young, 2011).

The researcher chose to use the Situational Motivation Scale instrument to evaluate students' motivation scores in this study. According to Guay, Ratelle, & Chanal (2008), the Academic Motivation Scale and the Self-Regulation Questionnaire–Academic, are the main motivation scales used to evaluate self-determination constructs in the education field. The Academic Motivation Scale, consisting of 28 items, was originally developed by Vallerand, Blais, Briere, & Pelletier, 1989) and assesses three types of intrinsic motivation (knowledge, accomplishment, and stimulation), three types of extrinsic motivation (identified, introjected, and external), and amotivation. According to Cokely, Bernard, Cunningham and Motoike (2001), the Academic Motivation Scale consists of seven subscales, each consisting of four items. The seven subscales are Intrinsic Motivation To Know (IMTK), Intrinsic Motivation To Accomplish (IMTA), Intrinsic Motivation to Experience Stimulation (IMTES), Extrinsic Motivation External Regulation (EMER), Extrinsic Motivation Introjected Regulation (EMIN), Extrinsic Motivation Identified Regulation (EMID) and Amotivation (AM). The Academic Motivation Scale was designed to assess the intrinsic motivation, extrinsic motivation and amotivation of college students (Cokely, Bernard, Cunningham, & Motoike, 2001). While the Academic Motivation Scale is designed to assess motivation in post-secondary students (Gomes, Monteriero, Mata, Peixoto, Santos, Sanches, 2019), it has also occasionally been used with high school students. Noteworthy of mentioning, Stover, de la Iglesia, Boubeta and Liporace (2012) reported the reliability and internal consistency of the Academic Motivation Scale is questionable due to the cultural differences fundamental to diverse populations for its intended use. As a result, researchers recommend reviewing both the wording and the interpretation of survey items in the instrument prior to use (Stover, de la Iglesia, Boubeta, & Liporace, 2012). The researcher

reviewed the wording and interpretation of the survey items and also found them questionable due to cultural differences.

The Self-Regulation Questionnaire–Academic, developed by Ryan and Connell (1989), is a self-reported scale that assesses three types of extrinsic motivation (external, introjected, and identified) and intrinsic motivation. The Self-Regulation Questionnaire–Academic instrument is used to analyze late elementary and middle school students and assess the degree to which an individual's motivation for a particular behavior is autonomous or controlled (Ryan and Connell, 1989). The Self-Regulation Questionnaire contains four subscales on the self-determination scale identified as extrinsic motivation (identified, introjected and external) and intrinsic motivation (Gomes et al., 2019). The inclusion of amotivation, proposed by Deci and Ryan (1985) as a third motivational subscale in order to fully understand how humans behave, is not included as a subscale for motivation in the Self-Regulation Questionnaire–Academic survey. Furthermore, researchers concluded the need for adjustments to the instrument by conducting additional analysis citing concerns with different ages, cultural contexts, and ages (Gomes, Monteiro, Mata, Peixoto, Santos & Sanches, 2019).

Although the Academic Motivational Scale and the Self- Regulated Questionnaire were noted by some researchers as the most commonly used when assessing motivation in education, the researcher of this study opted to forgo the use of either instrument. While the Academic Motivation Survey was found used on occasion to assess high school students, its primary use was designed to assess the motivation of post-secondary students. Additionally, due to the lack of cultural sensitivity and inclusive wording towards diverse populations, the researcher of this study concluded that the Academic Motivation Survey was not best suited for the sample population. Moreover, the Academic Motivation Scale and the Self-Regulated Questionnaire

assess motivation types in education generally, or in school subjects specifically without account for the interaction between different school courses and motivation type (Guay, et al., 2008). Gomes et al., (2019) examined the construct validity of the Situational Motivation Survey by conducting correlations between the Situational Motivation Survey and the Academic Motivation Scale. They discovered that the Academic Motivation Scale measured school context, (i.e., describes possible reasons why students attend schools) whereas the Situational Motivational Survey measured school activities and perceived competence. Specific and positive interrelations were found between the Situational Motivation Survey and the Academic Motivation Survey subscales (Guay, Vallerand, & Blanchard, 2000). Due to the problematic discoveries of both instruments, the Academic Motivation Scale and the Self-Regulated Questionnaire, the Situational Motivation Scale was chosen as the preferred instrument for this study.

The Situational Motivation Scale is a multidimensional instrument that assesses situational motivation, the motivation one experiences when they are involved in a particular activity (Guay, et al., 2000). Situational motivation refers to the motivation that appears as a result of a particular activity at a given point in time and evaluates intrinsic motivation, extrinsic motivation: identified regulation, extrinsic motivation: external regulation and amotivation. Experiences such as competition (Reeve & Deci, 1996), deadlines (Amabile, Dejong, & Lepper, 1976) and limits (Koestner, Ryan, Bernieri, & Holt, 1984) can have an effect on one's situational motivation. Motivation in an online environment generally, and in online credit recovery settings specifically, is complex and dependent upon context (Harnett, 2016).

Various factors within the immediate online credit recovery learning environment may have different influences on a student's motivation. For example, online credit recovery students

may feel a sense of competition with their peers to earn better grades in an effort to finish and graduate with their class. A student's sense of competition may also be internally influenced as they feel the need to earn a better grade than previously earned. Additionally, online credit recovery students must meet strict course completion deadlines in order to stay on track towards graduation. A senior that has failed a course has a stricter timeline to complete a course needed for graduation as opposed to a freshman who has failed a course. Nevertheless, the use of deadlines potentially drives students to successfully completing online credit recovery courses. Finally, consider the notion that in many online credit recovery models there are no limits to the number of times an online credit recovery student may take a lesson before passing. Consequently, competition, deadlines, and limits each potentially play a unique and significant role in an online credit recovery student's motivation for completing courses. These are additional reasons as to why the researcher chose to use the Situational Motivation Scale as the instrument to measure students' situational motivation in online credit recovery classes. Similarly, the researcher believed that this SIMS would provide a greater understanding of a student's real-time motivational state and self-regulatory process.

As mentioned, the SIMS was developed as an assessment tool for the constructs of intrinsic motivation, extrinsic motivation: identified regulation, extrinsic motivation: external regulation, and amotivation based on self-determination theory (Guay et al., as cited by Deci & Ryan, 1985, 1991). To validate the instrument, Guay et al. (2000) conducted a total of five studies which showed the SIMS to be comprised of four internally consistent factors. Construct validity was supported through correlation analysis with other constructs. Guay et al. (2000) concluded that the SIMS represented a valid self-report measure of situational intrinsic motivation, extrinsic motivation: identified regulation, extrinsic motivation: external regulation

and amotivation, as expected. Questions 1, 5, 9 and 13 on the instrument represent intrinsic motivation; questions 2, 6, 10 and 14 on the instrument represent extrinsic motivation: identified regulation; questions 3, 7, 11 and 15 on the instrument represent extrinsic motivation: external regulation and questions 4, 8, 12 and 16 on the instrument represent amotivation.

Similarly, Standage, Treasure, Duda and Prusak (2003) examined the reliability, explored the factorial validity of the SIMS, and tested the invariance of SIMS across three diverse physical contexts. Based on their findings, the internal consistency of the SIMS subscales aligned with the findings of Guay et al. (2000) which reported Cronbach's α values for the SIMS subscales for intrinsic motivation = .86, extrinsic motivation: identified regulation = .65, extrinsic motivation: external regulation = .73 and amotivation =.62. Tudor, Kumburic and Novak (2017), designed a questionnaire to estimate the intensity and quality of motivation of tennis players based on the model of Deci and Ryan (1985). The subscales showed Cronbach alpha reliability $a = 0.74$ for intrinsic motivation, $a = 0.563$ for extrinsic motivation: identified regulation, $a = 0.628$ for extrinsic motivation: external regulation and $a = 0.582$ for the amotivation subscale (Tudor et al., 2017). Subsequently, the conclusions of Standage et al. (2003) were consistent with the educational findings of Guay et al. (2000), confirming the SIMS as a prior model producing a marginal fit of data.

The developers of the SIMS, Guay et al. (2000), also found that the internal consistency of the four subscales was supported after calculation of Cronbach's alpha (Guay et al., 2000). According to Guay et al. (2000), the results of the analysis revealed all four constructs to have Cronbach's alpha of 0.77 to 0.95, aligning with Nunnally's 1978 contention that self-report scales with internal consistencies in the 0.70 to 0.80 range are acceptable for research (Nunnally, 1978). Thus, the SIMS subscales met Nunnally's criterion.

The SIMS survey overcomes two traditional limitations typically associated with situational motivation (Guay et al., 2000). First, the SIMS is an instrument that measures motivation multidimensionally, allowing researchers the opportunity to measure more than intrinsic behavior. As opposed to the traditional method, SIMS not only considers intrinsic motivation, but extrinsic and amotivation as well (Guay et al, 2000). Secondly, SIMS clarifies the assessment of motivation by equating the operational and psychological definition of motivation (Guay et al., 2000). SIMS focuses on the nature of the motivation as opposed to how the participants feel, which can be problematic. Guay et al. (2000) proposed that by distinguishing motivation from its consequences, it then becomes possible to determine when intrinsic as well as extrinsic motivation will produce cognitive, affective, and behavioral consequences.

Quantitative Instrument Motivation Subscale Score

According to Guay (2015), the SIMS scale uses either the Relative Autonomy Index (RAI) or the Self-Determination Index (SDI) to report a composite score for motivation subscales. Guay (2015) argues there are distinct differences in the manner in which the two scores are calculated and reported. The RAI contrasts the amount of autonomous motivation to controlled motivation and combines various types of motivation under a single construct. The RAI formula is based on the level of self-determination associated with each motivation subscale. For example, +2 is assigned to intrinsic motivation, +1 is assigned to identified regulation, -1 is assigned to introjected regulation and -2 to external regulation. A positive score equates to individuals who have more autonomous motives than controlled and a negative score equates to individuals whose motives are more controlled than autonomous (Guay, 2015).

The Self-Determination Index (SDI) is typically chosen in complex models because it allows the researcher to simplify by summarizing all motivation subscales in one index as stated by Muller and Palekcic (2015). Muller and Palekcic (2015) assert that the self-determination index is calculated as follows: SDI = (2 x intrinsic motivation) + identified regulation – introjected regulation – (2 x external regulation). The maximum score is +12 and the minimum score is -12. Positive scores reflect an individual who has self-determined motivation, and negative scores indicate controlled regulation (Muller and Palekcic, 2005). However, combining motivation subscales does not allow the researcher to examine each motivation subscale individually thereby creating an inability to provide a distinction between each motivation subscale (Guay, 2015). Otis (2005) believes the investigation of each motivation subscale makes an important and distinct contribution to existing research on self-determination theory. While many researchers predict outcomes by using an autonomy index where the scores for each motivation subscale are combined algebraically into a single composite score, researchers have also used each motivation score separately. Additionally, researchers have also utilized autonomous (intrinsic and identified) and controlled (introjected and external) to predict motivation outcomes (Chanal and Guay, 2015).

Although the Self-Determination Index is often used to measure self-determination, research reveals there are many concerns cited when using this index. The major concern is the that self-determination index is a composite score and overlooks the dominant motivation type (Vallerand, Pelletier, & Koestner, 2008). Failing to identify the dominant motivation type creates difficulty for the researcher when attempting to understand how to create motivational intervention strategies specific to a motivation type. As such, the self-determination index lacks interpretability (Muller and Palekcic, 2005).

Another concern with using the Self-Determination Index is that it only assesses intrinsic motivation, extrinsic motivation: identified regulation and extrinsic motivation: introjected regulation. The index and composite score overlook extrinsic motivation: integrated regulation as well as amotivation. It is important to note, amotivation is one of the motivation subscales of the Situational Motivational Scale the instrument used in this study. A final concern with the self-determination index is the inconsistency with how the maximum and minimum composite scores are reported. Muller and Palekcic (2015) report the minimum and maximum scores are -12 and +12 respectively, whereas Hartnett, George, and Dron (2011) report self-determination scores range from a minimum -71 to a maximum +72. Similarly, the Relative Autonomy Index and the Self Determination Index are calculated differently, making it difficult to interpret and compare one study to another when different indices are used.

Muller and Palekcic (2015) agree the Self-Determination Index is useful for assessing overall motivation; however, it is not a useful indicator of the dominant motivation type with the context of the activity. As calculated, the Self-Determination Index does not take into consideration that identified and introjected regulation are combinations of internal and external motivation. Therefore, the results may be confusing and making inferences could be difficult. As a result, there is an adjusted self-determination index or relative autonomy index which is weighted according to the degree to which motivation regulation types are internal and external. The adjusted score is as follows: $RAI_{adj} \equiv SDI_{adj}$= mean internal motivation–mean external motivation. The discrepancy with the self-determination index is that non-self determined motivation subscales can positively contribute to motivation quality and potentially cause positive outcomes (Muller and Palekcic, 2015). The Self-Determination Index does reflect the

concept that non-self determined motivation subscales can positively contribute to motivation quality and potentially cause positive outcomes.

Based on the numerous concerns cited when using the Self-Determination Index and the Relative Autonomy Index, the researcher has used an adjusted scoring protocol to the Situational Motivational Scale to support the framework of self-determined theory for the purpose of this study. Motivation is multidimensional and individuals are motivated differently and in different ways within the same context. The Self-Determination Index conceals personal confirmations for specific types of motivation. As a result, the researcher used individual motivational subscale scores for the purpose of this study to definitively align students with a specific motivation subscale. Using such specificity as opposed to a composite score adds to the research gap pertaining to understanding how students are motivated, specifically in online credit recovery programs. As it stands, research only focuses on intrinsic and extrinsic motivation within the context of online education. Moving forward with this protocol allows teachers, administrators, and third party vendors of online credit recovery courses to build algorithms within their programs based on motivation type and design activities influenced by a learner's motivation, which will cultivate a greater dimension of individualized and personalized learning opportunities for students. This could not only increase students' grades in online credit recovery courses but could also allow students to eventually gain skills to become more self-determined, an attribute needed to be successful in post-secondary studies.

Qualitative Instruments

Data were collected in the qualitative component of this study through one-on-one, face-to-face, semi structured interviews with five participants. Interviews were guided by a researcher-developed protocol, which consisted of an introduction to remind the participants of

the nature of the study, followed by asking students to answer four closed-ended questions to gather relevant demographic information (i.e., student's current grade level, student's overall grade in the online course, subject of online credit recovery course taken, and a multiple-choice item where students answered to identify his or her incentives for taking the online credit recovery course). The purpose of collecting data using the multiple-choice item was to compare how students perceived themselves with the results of the quantitative analysis. The interview protocol also included four open-ended questions (interview guide) designed to engage students in open discussion and to gather a description of the nature of their motivation for enrolling in the online credit recovery program (see Appendix C). Interviews were audio-recorded using a digital recording device. Recorded interviews were transcribed into Microsoft Word documents by the researcher and analyzed in NVivo 12, a qualitative data analysis software, as described in the data analysis section of this chapter. NVivo 12 provided the researcher with tools for searching, coding, and exploring patterns in the data.

After the quantitative data analysis was completed, the researcher met individually with five randomly selected students from those who had previously provided data for the quantitative component to conduct semi-structured interviews. The researcher met with each student participant in a private room, reviewed the purpose and nature of the study and the interview, asked if there were any questions, responded to question as needed, and then requested permission to begin the interview by turning on the audio-recording device. Each interview took approximately 15 minutes to complete. At the end of each interview, the researcher asked the participant if he or she had anything else to add or any questions. The participants did not have additional questions nor anything to add to their interview responses. The researcher then turned off the audio-recorder and thanked the participant.

Data Collection

The researcher verbally requested and received verbal approval from the guidance counselor at the research high school to use their online credit recovery student population for this study. The researcher collaborated with the guidance counselor to identify all courses that were offered using online credit recovery during the spring of 2019 as well as all students that were 16 years or older and had taken online credit recovery courses during that time. Once the students who met these criteria were identified, the researcher sent a recruitment letter to both students (see Appendix D) and parents (see Appendix F). Students who agreed to participate in the study signed the Student Consent Form (see Appendix E) and became the sample $n = 60$ for this research study. Secondary data for each student who agreed to participate was provided to the researcher by the counselor at the research high school. These secondary data included the following independent variables: gender, grade level, grade in the online credit recovery course and subject of the online credit recovery course taken. The next section provides the procedures that were used for data collection.

Quantitative Data Collection Procedure

Approval from the Institutional Review Board (IRB) was sought by the researcher to conduct this research and approval was granted in January 2019 (see Appendix G). Primary and secondary data were extracted for the purposes of this research study. Secondary data were extracted from the student's educational record. Student names were also extracted but randomized by the guidance counselor using a number alpha sequence. It took approximately 15 minutes to randomly assign numbers to students to maintain confidentiality. The following coding system was used by the researcher to link each survey to each student participant:

Student 1 = A01 Student 2 = B02 Student 3 = C03

Student 4 = D04 Student 27 = A02 Student 28 = B03

The primary data were collected during the first ten minutes of each online credit recovery class, during homeroom or another agreed upon location and time predetermined by the researcher and counselor. Students who were not participating in the study were asked to remain quiet until participants completed the survey. The researcher administered the SIMS survey to students previously identified as study participants using the collective administrative method. First, using the collective administrative method, to make sure the survey was completed by the correct respondents, the guidance counselor used a spreadsheet that contained the first and last names of each student who volunteered to participate. The spreadsheet contained the name of the participants, in addition to their randomly assigned numerical sequence. Each student's survey was identified by an alpha character which was placed on the respective student's survey prior to distribution.

Prior to circulating the surveys, the researcher warmly invited the students to participate and explained the importance as well as the purpose of the study. The personal contact and time allotted by the researcher during this process allowed students to ask clarifying questions. Sample clarifying questions asked by the participants include, "Are we the only students taking the survey?" and "Why do you need to know our grades?" Students who did not wish to take the survey were able to opt out at any time without penalty.

After clarifying questions were answered about the survey by participants, the researcher distributed the surveys to confirmed participants and allowed the students ten minutes to complete the survey. If students needed more time to complete the survey, the researcher was prepared to grant additional time. However, all surveys were completed before the ten-minute

threshold. After all participants signaled that they had completed the survey, the researcher immediately collected participant surveys and secured them in a sealed envelope. Securing student's responses within ten minutes upon completion preserved the integrity and confidentiality of the survey results. The direct identifiers, students' names, and random numeric assignments were retained for only as long as needed to enter and analyze the data, which was no more than two weeks. After two weeks, the surveys were discarded.

Qualitative Data Collection Procedure

After the quantitative data analysis was completed, the researcher met individually with five randomly selected students from those who had previously provided data for the quantitative component to conduct semi structured interviews. The researcher met with each student participant in a private room, reviewed the purpose and nature of the study and the interview, and then requested permission to turn on the audio-recording device. Each interview took approximately 15 minutes to complete. At the end of each interview, the researcher asked the participant if he or she had anything else to add or any questions. Each participant responded they had no questions nor anything to add and a few thanked the researcher. The researcher then turned off the audio-recorder and thanked the participant. Notes were taken during the interview and compared to the transcripts. Upon review, the researcher found no discrepancies between the transcripts and notes taken and determined follow up interviews were not needed.

Qualitative data analysis began by transcribing the recorded interviews to answer *Research Question 5*, which was: How do students describe their motivation for enrolling in an online credit recovery program? Recorded interviews were transcribed verbatim by the researcher into Microsoft Word documents. During transcription, the researcher omitted potentially identifying details to protect the anonymity of participants. Transcripts were read by

the researcher while listening to the recorded interviews to verify accuracy. Verified transcripts were uploaded into NVivo 12 software and analyzed deductively, using the six-step procedure for thematic analysis developed by Braun and Clarke (2006). A second interview was not conducted to verify data due to the level of insight provided in the first interview.

In accordance with the generic qualitative inquiry approach used in the qualitative component of this descriptive study (Braun & Clarke, 2006), a deductive procedure was used to analyze the qualitative data. The deductive approach involved using the four categories of motivation (i.e., intrinsic motivation, extrinsic motivation: identified regulation, extrinsic motivation: external regulation, and amotivation, as described by the SIMS motivational scale). More specifically, nodes were created by categorizing data from the open-ended interview questions according to the categories that the nodes described (Percy et al., 2015). Nodes were generated in order to identify a location in NVivo for references so that specific themes could be reported (Wiltshier, 2011). Data that could not be appropriately categorized into one of the four categories of motivation would have been coded inductively by creating a new unanticipated category, but this did not occur. Data that described more than one deductive category were coded into both. The steps of the thematic analysis procedure as described by Braun and Clarke (2006) were as follows:

1. Uploading the interview transcripts into NVivo software, and then reading and rereading the data to gain familiarity with it,
2. Initial coding, in which one node, or emerging patterns, were created in NVivo for each of the four categories of motivation, and excerpts from the interview transcripts that described the category were placed in the appropriate node,

3. After initial coding, data were reviewed to determine whether any inductive categories were needed, or whether creating inductive sub-categories under any of the four categories of motivation would provide additional insight into participants' descriptions of their motivations. No inductive categories were needed,
4. The researcher reviewed and refined the categories by ensuring that all transcript excerpts were appropriately grouped. If a data excerpt would have been more appropriately placed in a category different from the one in which it was initially placed, it was moved,
5. The deductive categories were renamed and defined as themes to indicate how participants described the different types of motivation they had experienced, and
6. A presentation of results was created. This presentation is provided in Chapter 4 and Table 2 provides a summary of the data analysis approach.

Table 2

Data Analysis Approach

Research Question	Independent Variable(s)	Dependent Variable	Data Analysis
1. What were students' (a) intrinsic motivation (b) extrinsic motivation: identified regulation (c) extrinsic motivation: external regulation and (d) amotivation levels on the highest motivational score?			Highest Situational Motivation Survey (SIMS) Score
2. Is there a statistically significant difference in students' grades in an online credit recovery course based on gender (male or female)?	Gender (male or female)	Gender	One-way ANOVA
3. Is there a statistically significant difference in students' grades in an online credit recovery course based on their highest motivational level	Motivational categories (intrinsic, extrinsic motivation: identified regulation, extrinsic motivation: external	Grades	One-way ANOVA

Data Analysis Approach cont'd

Research Question	Independent Variable(s)	Dependent Variable	Data Analysis
(intrinsic motivation, extrinsic motivation: identified regulation, extrinsic motivation: external regulation, or amotivation)?	motivation, and amotivation)		
4. Is there a statistically significant difference in students' grades in an online credit recovery course based on grade level (freshman, sophomore, junior or senior)?	Grade level (freshman, sophomore, junior or senior)	Grades	One-way ANOVA
5. How do students describe their motivation for enrolling in an online credit recovery course?		Gender	Semi-structured Interviews

CHAPTER 4

FINDINGS

This descriptive study used quantitative and qualitative measures. The research questions that guided the quantitative and qualitative components of the study are restated first, followed by the results of the quantitative component, and then the qualitative component.

Research Questions

1. What are the students' (a) intrinsic motivation, (b) extrinsic motivation: identified regulation, (c) extrinsic motivation: external regulation, and (d) amotivation levels on the highest motivational score?
2. Is there a statistically significant difference in students' grades in an online credit recovery course based on gender (male or female)?
3. Is there a statistically significant difference in students' grades in an online credit recovery course based on their highest motivational level (intrinsic motivation, extrinsic motivation: identified regulation, extrinsic motivation: external regulation, or amotivation)?
4. Is there a statically significant difference in students' grades in an online credit recovery course based on grade level (freshman, sophomore, junior, or senior)?
5. How do students describe their motivation for enrolling in an online credit recovery course?

Quantitative Results

To examine the research questions, a one-way ANOVA was conducted to test the effect of the independent variables on the dependent variable. For this study, an alpha level of 0.05 was adopted. The four motivation types, intrinsic motivation, extrinsic motivation: identified regulation; extrinsic motivation: external regulation; and amotivation as described by the SIMS motivational scale, served as independent variables. Student achievement, or grade earned, served as the dependent variable. Grade level (freshman, sophomore, junior or senior) and gender (male or female) served as additional independent variables (See Table 2).

A one-way ANOVA was best suited for analyzing collective and separate effects of two independent variables on a dependent variable (Two-Way Anova, 2018). To analyze the quantitative component of this descriptive study, the researcher used a one-way Analysis of Variance (ANOVA) to understand the relationship between the dependent variable grade earned and the highest motivation level (intrinsic motivation, extrinsic motivation: identified regulation, extrinsic motivation: external regulation, amotivation), gender (male or female) and grade level (freshman, sophomore, junior or senior). Throughout the quantitative phase, the independent variable, grades earned, was defined as a passing grade of 70 or better earned in an online credit recovery course. Secondary data were collected from the guidance counselor that included the following student demographic information: gender (male or female), grade level (freshman, sophomore, junior or senior), course taken (subject name), and the student's numerical grade in the course. Each of these covariates served as independent variables critical to this study. Descriptive statistics such as means and standard deviations between continuous study variables were computed and summarized to answer the first research question which sought to identify the students' motivation levels based on the four motivation subscales: *Research Question 1.*

What are students' (a) intrinsic motivation (b) extrinsic motivation: identified regulation (c) extrinsic motivation: external regulation and (d) amotivation levels.

Several preliminary statistical procedures were performed before data analysis for the study was done in order to test the null hypotheses for the four research questions. Such procedures involved a check for missing data, reliability analysis on the motivation subscale scores, testing assumptions for ANOVA and calculating statistics for demographic data. Details of the first three procedures are presented in the following paragraphs and calculation of summary statistics for the demographic data is described in the section titled Demographic Data.

Check for Missing Data

The data were assessed for missing data through a frequency count procedure. While missing data can affect the generalizability of results and likely decrease the amount of usable data in a data set as well as decrease the power of a statistical test (Harris, 2013; Mertler & Reinhart, 2017). Due to the small population, it was imperative to maintain as much data as possible (Newman, 2014). A visual scan was conducted to determine the amount of missing data. The results showed there were three participants who were missing data for one item. The means imputation procedure was used to calculate the item means for the series of items and the missing values were replaced with series means. The means imputation process is defined as "the estimation of a missing value and the subsequent use of the estimate in statistical analyses" (Allision & Gorman, 1993, p.85).

Reliability Analysis

The central approach was taken in order to calculate the reliability estimates for the subscales of the SIMS using the SPSS software. Cronbach's alpha was used to determine the reliability of data collected by the survey items (Harris, 2013; Trochim & Donnelly, 2007).

Westhuis and Thayer (1989) indicated that Cronbach's alpha is the best measure of determining the consistency of data collected by an instrument because it provides a good measurement estimate of the source of measurement error, sets the upper limits of reliability, [and] provides the most stable estimate of reliability (p. 157). The significance of the obtained coefficients was compared against the test value of .70, because past researchers have accepted coefficients of .70 or higher to indicate a scale that is internally consistent (Kaplan & Sacuzzo, 2009; Mertler & Reinhart, 2017). Table 3 presents a summary of the results. The data revealed that all subscales obtained coefficient alphas that exceeded the test value of .70, indicating an appropriate level of internal consistency between survey items. Three of the subscales had values that were significantly higher than the test value, which indicated that the subscales had excellent reliability estimates.

Table 3

Summary of Results from Reliability Analysis (n = 60 for all subscales)

		95% Confidence Interval		F Test with True Value .7			
	A	Lower Bound	Upper Bound	Value	df1	df2	Sig
Intrinsic Motivation	.78[c]	.67	.86	1.36	57	171	.07
Identified Regulation	.85[c]	.77	.90	1.99	57	171	.00
External Regulation	.83[c]	.74	.85	1.74	57	171	.00
Amotivation	.82[c]	.73	.88	1.65	57	171	.01

Testing Assumptions for ANOVA

The assumptions for ANOVA are as follows: the dependent variable must be continuous, there must be independence of observations and there must be two or more categorical; independent groups. Additionally, to meet the assumptions for ANOVA, the dependent variable should be normally distributed, there must be homogeneity of variance, and there should be no

outliers (Real Statistics, 2020) Review of the first three assumptions was conducted and met prior to running statistical tests. The dependent variable, numeric grade earned, is continuous. Second there is no relationship between observations in each group or between groups. Students in this study are comprised of different grade levels to include freshman, sophomore, juniors and seniors. As a result, students in this study were of different academic levels and did not have the identical intellectual experience. Therefore, they met the ANOVA assumption of independent observations. Finally, the independent variables, gender, motivation subscales, and grade level, are also categorical and independent groups.

The last three assumptions were assessed using statistical analyses in the Statistical Package for Social Sciences (SPSS) software. The fourth assumption, normality, was tested using Shapiro-Wilk test of normality and homogeneity of variance, the fifth assumption, was tested using Levene's test. In instances where normality was violated, the researcher checked visually by using box and whisker plots. There are many options to check normality such as histograms, stem-and-leaf plots, PP plots and QQ plots (Driscoll, Lecky, & Crosby, 2000). However, the box and whisker plot is generally favored. Scores greater than 1.5 times the interquartile range are out of the box and whiskers plot and are considered outliers and those greater than three times the interquartile range are extreme outliers (Barton, 2005). There were no extreme outliers found. In instances where homogeneity of variances were violated, the researcher explored the relationship with the non-parametric Kruskal-Wallis Test. The researcher found the results of the Kruskal-Wallis Test were consistent with the results of each ANOVA analysis. The final and sixth assumption, outliers, was also assessed using statistical software. There were no outliers present for any of the variables.

Demographic Data

Frequency counts and descriptive statistics were used to summarize the demographic data collected on the participant sample. The sample consisted of more female students (57%) compared to males (43%). In terms of grade level, the sample consisted of more seniors (33%) and sophomores (32%) compared to juniors (17%) and freshman (18%). Most students identified with the Extrinsic Motivation: External Regulation motivation type (50%), followed by Extrinsic Motivation: Identified Regulation (28%), followed by Intrinsic Motivation (12%) and lastly, Amotivation (10%). Each student had grades for two courses. Students were enrolled in the following courses: Environmental Science, Speech, Sociology, Algebra I, Algebra II, Psychology, Geometry, Biology, Economics, Physics, Literature, Health, 9th Grade Literature, 10th Grade Literature, Chemistry, and U.S. History. Table 4 provides additional demographic data.

Table 4

Frequency of Gender, Grade Level, and Course Groupings (n = 60)

	N	%
Gender		
Female	34	56.67%
Male	26	43.33%
Grade Level		
Freshman	11	18.33%
Sophomore	19	31.67%
Junior	10	16.67%
Senior	20	33.33%
Motivation Group		
Intrinsic Motivation	7	11.67%
Extrinsic Motivation: Identified Regulation	17	28.33%
Extrinsic Motivation: External Regulation	30	50.00%
Amotivation	6	10.00%

Results for Research Questions

The results for the research questions are provided in the following paragraphs. Each question is restated, and results are provided.

Research Question 1

What are the students' (a) intrinsic motivation, (b) extrinsic motivation: identified regulation, (c) extrinsic motivation: external regulation, and (d) amotivation levels on the highest motivational score? See Appendix H. Of the students who were assessed, according to the four motivation subscales, most students were extrinsically motivated, specifically through external regulation (n=30), followed by those who were extrinsically motivated with identified regulation (n=17). Seven students reported being intrinsically motivated, and finally, only six students identified as amotivated (Figure 1). Thus, students were extrinsically motivated under the subscale external regulation to take online classes due to either obtaining rewards or avoiding punishments. Such rewards could possibly include a good grade or earning credit for the class; whereas avoiding punishment could be interpreted as an unwillingness to fail the class again or not graduate with peers.

Research Question 2

Is there a statistically significant difference in students' grades in an online credit recovery course based on gender (male or female)? A one-way ANOVA was run to assess the impact of gender on student grades. Normality was assessed with the Shapiro–Wilk test. Females ($W = .91$, $df = 68$, $p < .001$) and males ($W = .89$, $df = 52$, $p = .006$) showed a violation of normality. The researcher tested outliers with the box and whiskers plot, and although there were some outliers due to the small sample, no extreme values as indicated in Figure 1. The results from the ANOVA found there was no statically significant impact of gender on grades, *F*

(1, 119) = 0.330, p = .567). Data from the ANOVA are reported in Table 5. The researcher assessed the equality of error variances through Levene's test and found there were no violations (F = .047, p = .493). To be extra cautious because normality was violated, the researcher also explored the relationship using the non-parametric Mann-Whitney U test. The researcher wanted to assess the impact of gender (male of female) on grades earned using a one-way ANOVA and the Mann-Whitney U test: results confirmed what was found with the one-way ANOVA (U=1695, p = .70).

Figure 1

Box and Whisker Plot of Grades by Gender

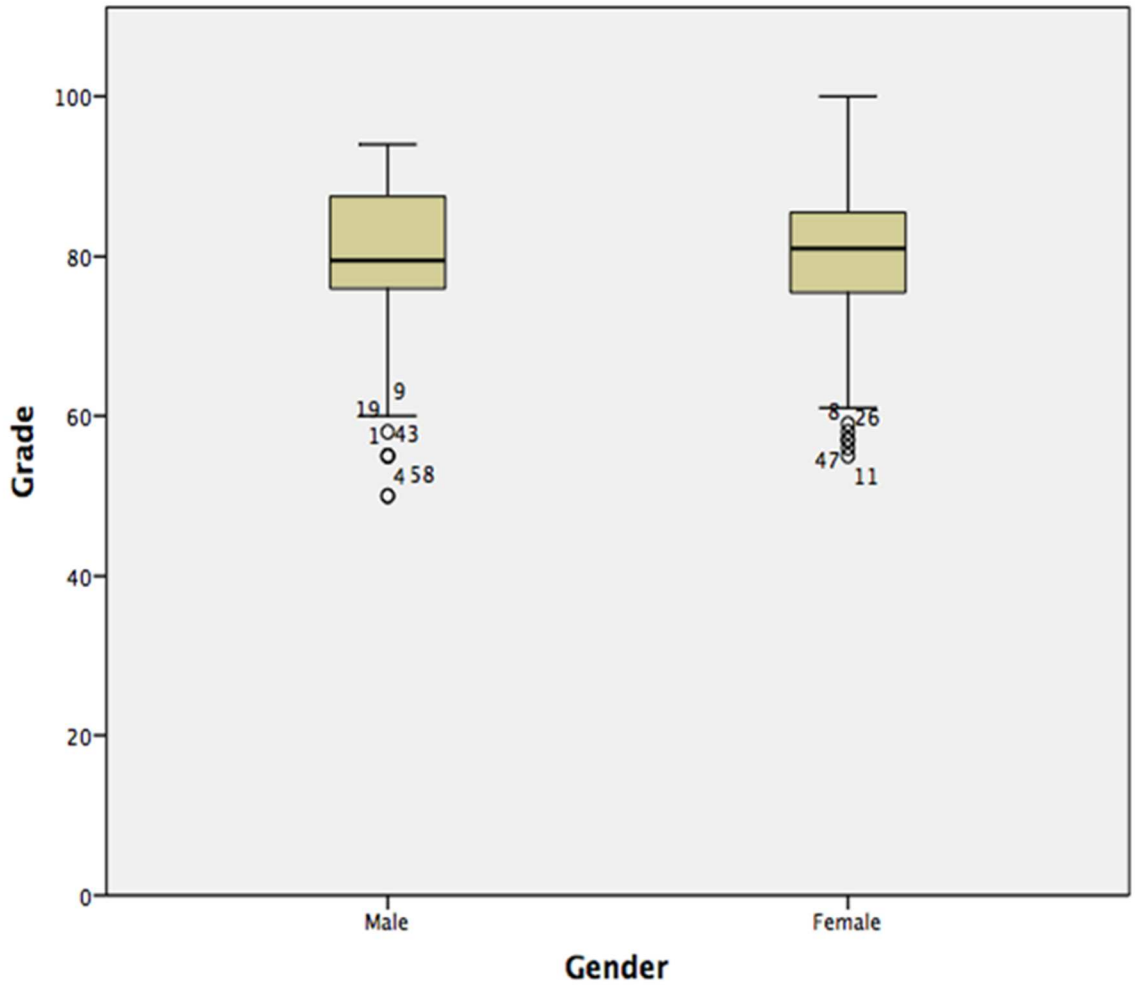

Table 5

Results of ANOVA for Students' Grades and Gender

	SS	df	MS	F	Sig.
Between Groups	38.123	1	38.123	.330	.567
Within Groups	13620.275	118	115.426		
Total	13658.398	119			

Note. SS = sums of square, df = degrees of freedom, MS = mean square, Sig. = significance.

Research Question 3

Is there a statistically significant difference in students' grades in an online credit recovery course based on their highest motivational level (intrinsic motivation, extrinsic motivation: identified regulation, extrinsic motivation: external regulation, or amotivation)?

A one-way ANOVA was run to assess the third research question. The researcher wanted to determine if there was a significant difference in students' grades in an online credit recovery course based on their highest motivational level (intrinsic motivation, extrinsic motivation: identified regulation, extrinsic motivation: external regulation, or amotivation). Normality was assessed with Shapiro-Wilk's test. The results indicated extrinsic motivation; identified regulation (W = .87, df = 34, p = .001) and extrinsic motivation: external regulation (W = .93, df =60, p = .003) showed a violation of normality. The presence of extreme values, as assessed with a box and whisper plot, (Figure 2) were nonexistent. There was no statically significant impact of motivation type on student grades F (3, 119) = 1.56, p = .203. Data from ANOVA table are reported in Table 6. The researcher assessed the quality of error of variances through Leven's test and found a violation (F = 3.02, p = .003). Because normality and homogeneity of variances were violated, the researcher also explored the relationship with non-parametric

Kruskal-Wallis Test. The result confirmed what was found with the one-way ANOVA where there were no significant differences (p = .491).

Figure 2

Box and Whisker Plot of Grades by Motivation Type

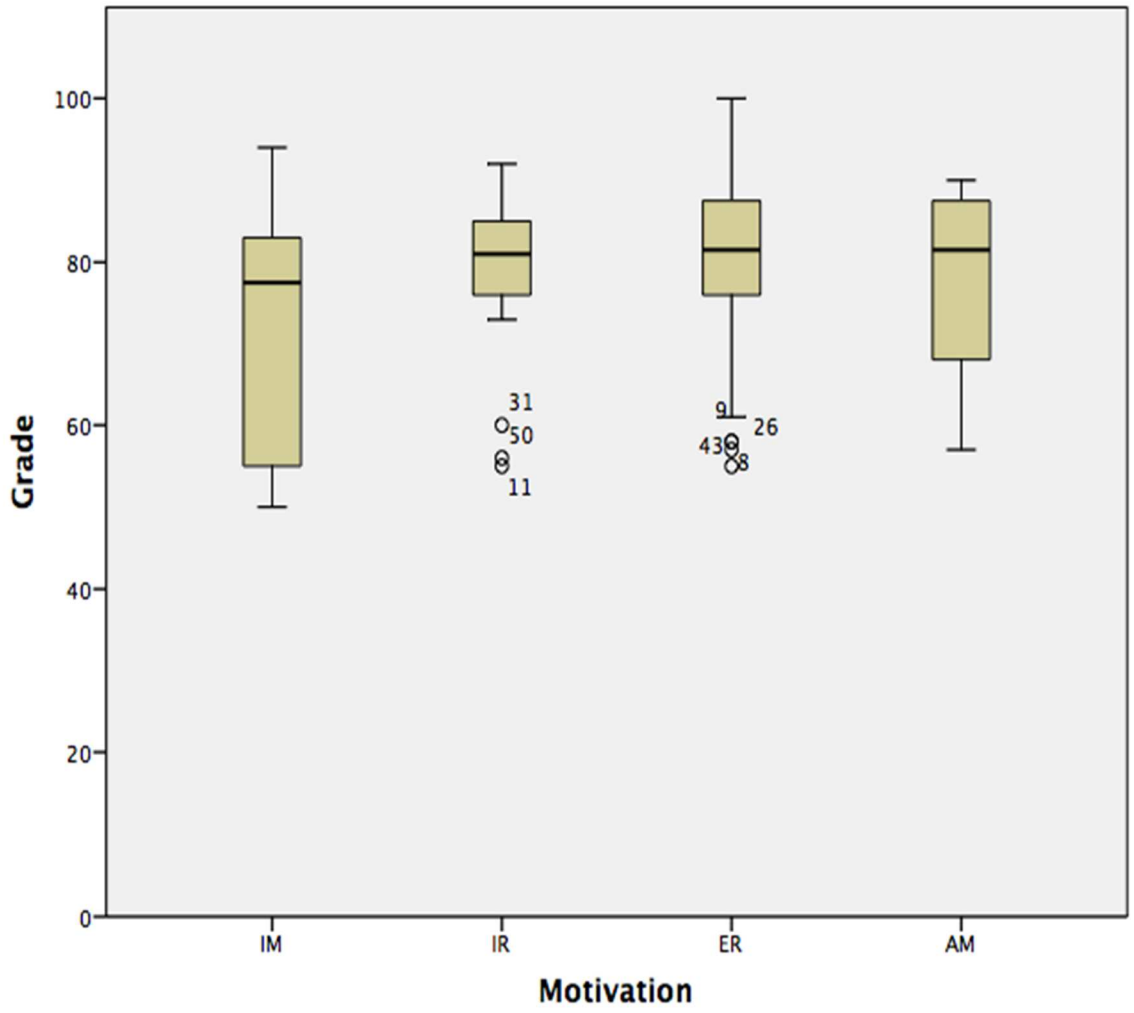

Table 6

Results of ANOVA for Students' Grades and Motivation Type

	SS	df	MS	F	Sig.
Between Groups	529.892	3	176.631	1.561	.203
Within Groups	13128.506	116	113.177		
Total	13658.398	119			

Note. SS = sums of square, df = degrees of freedom, MS = mean square, Sig. = significance

Research Question 4

Is there a statically significant difference in students' grades in an online credit recovery course based on grade level (freshman, sophomore, junior, or senior)? A one-way ANOVA was run to assess the fourth research question. The researcher wanted to assess if there was a significant difference in students' grades in an online credit recovery course based on grade level (freshman, sophomore, junior, or senior). Normality was assessed with Shapiro-Wilk test. Freshman (W = .91, df = 22, p = .049), Sophomores (W = .85, df = 38, p < .001) and Seniors (W = .93, df = 40, p = .022) showed a violation of normality. There were no extreme values which was assessed with a box and whisker plot (Figure 3). There was a statistically significant impact of grade level on student grades, F (3, 119) = 5.20, p = .002. The researcher assessed the equality of error variances through Leven's test and found a violation (F = 3.3.4, p = .022). Data from the ANOVA are reported in Table 7.

Figure 3

Box and Whisker Plot of Grades by Grade Level

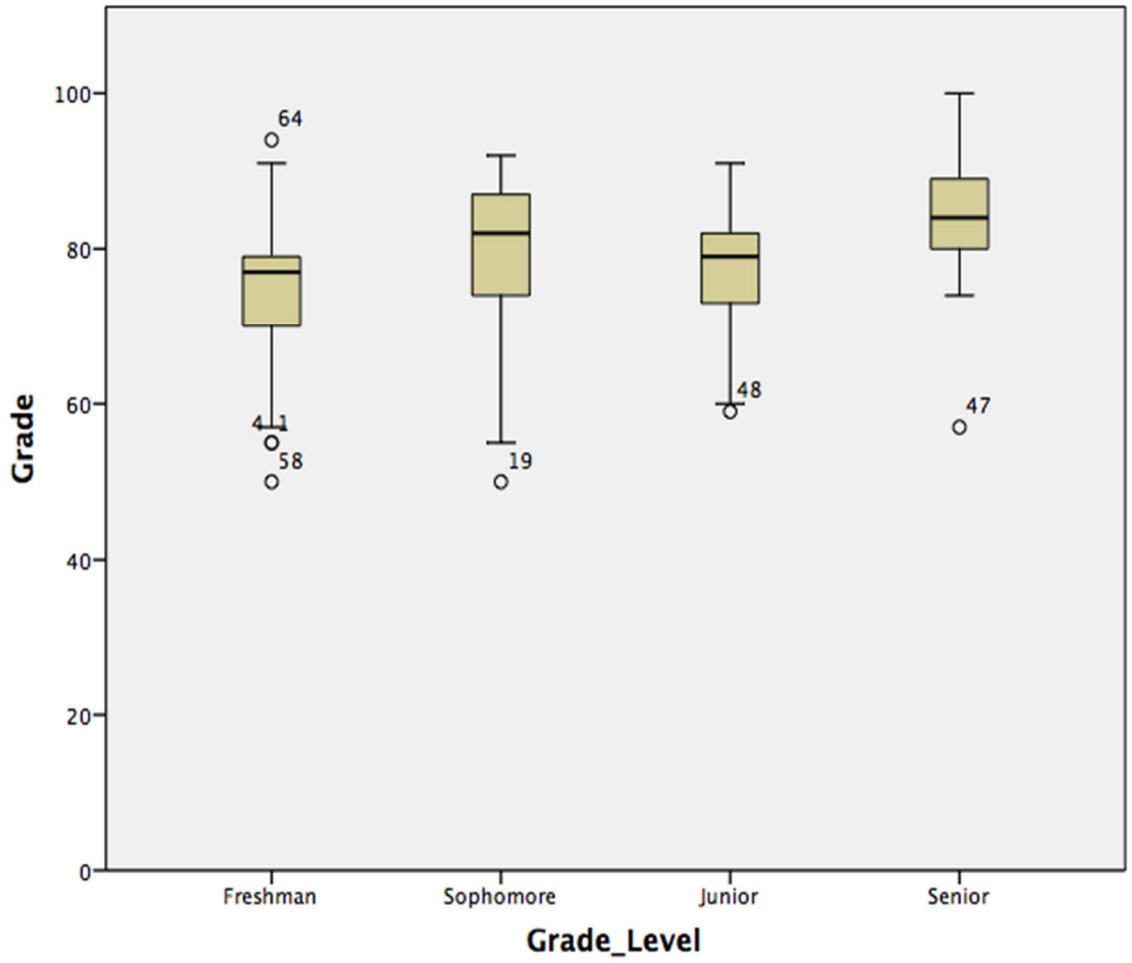

Table 7

Results of ANOVA for Students' Grades Based on Grade Level

	SS	df	MS	F	Sig.
Between Groups	1619.857	3	539.952	5.203	.002
Within Groups	12038.541	116	103.781		
Total	13658.398	119			

Note. SS = sums of square, df = degrees of freedom, MS = mean square, Sig. = significance.

Qualitative Findings

Qualitative data were collected through one-on-one, semi-structured interviews with five of the participants randomly selected from the quantitative component of this descriptive study. Through these interviews, the researcher was able to answer the fifth research question.

Research Question 5

How do students describe their motivation for enrolling in an online credit recovery program? Participants were interviewed individually; the interviews included four close-ended questions to gather demographic information and four open-ended questions to elicit participants' descriptions of their motivations for enrolling in the online credit recovery course.

Relevant demographic information for interview participants is indicated in Table 8. Included in the demographic data is each student's response to the open-ended items they were asked during the one-on-one interview. These questions helped the researcher to understand their incentive for taking the online credit recovery course.

Use of Demographic Data

Demographic data from the closed-ended questionnaire items were compiled and electronically reported to the researcher to provide context to responses during the interview. Qualitative data from audio recordings of the interviews that used open-ended questions were transcribed verbatim. The researcher verified the data by listening to the recordings while rereading the transcripts and uploaded into NVivo 12 software for analysis. Data were analyzed using the thematic procedure developed by Braun and Clarke (2006). In the first step of the analysis, the transcripts were read and reread in NVivo to gain familiarity with the data.

Table 8

Interview Participant Demographics and Identified Incentive to Enroll in an Online Course

Student	Current grade level	Online program taken	Grade in online program	Incentive for taking a course in an online program (with four follow up options)
1	11	11th Grade Literature	Pending	"I wanted to stay on track to graduate on time."
2	11	Environmental Science	Pending	"I wanted to stay on track to graduate on time."
3	10	US History	>80%	"I wanted to stay on track to graduate on time."
4	10	World History and Algebra	>80%	"I wanted to stay on track to graduate on time."
5	10	Environmental Science, American Government, World History	Passed	"I wanted to stay on track to graduate on time."

Note. The researcher posed one follow up question during the interview which was: "Which one(s) of these incentives, if any, motivated you to take an online credit recovery course?" The four choices were: 1) You needed the course to graduate, 2) You were not given an option, 3) You wanted to stay on track to graduate on time, and 4) The course was not offered face-to-face.

In the second step of the thematic analysis, initial coding was conducted using a deductive procedure. Deductive codes were drawn from Deci and Ryan's (2004) self-determination theory (SDT), which was the conceptual framework for this descriptive study. The four deductive codes included: intrinsic motivation, extrinsic motivation: identified regulation, extrinsic motivation: external regulation, and amotivation. Coding was conducted by categorizing students' descriptions of their motivations into the categories that best described them. In NVivo, this involved creating a parent node for each of the four deductive codes and labeling it accordingly. All excerpts from the transcripts were then placed in the appropriate node.

In the third step of the thematic analysis, coded data were reviewed to determine whether significant inductive subcategories had emerged within any of the four deductive codes. No significant subcategories emerged. Additionally, transcripts were reread to identify any data that did not fit appropriately into one of the deductive codes. No data were found to support an inductive theme.

The fourth step of the thematic analysis involved reviewing the coded data to ensure all excerpts were appropriately clustered and they were. Finally, in the fifth step of the thematic analysis, themes were defined and renamed to indicate patterns in the participants' descriptions of the types of motivation indicated by the deductive codes. The sixth step of the analysis involved developing the following results narrative.

Results for Qualitative Component

As discussed previously, the four deductive codes used in analyzing the qualitative data were drawn from self-determination theory, and included intrinsic motivation, extrinsic motivation: external regulation; extrinsic motivation: identified regulation; and amotivation. Themes are described and supported with evidence in the following subsections. Table 9 indicates how these themes were renamed and defined to express patterns in participants' descriptions of each type of motivation.

Table 9

Deductive Codes and Corresponding Themes

Deductive code	Corresponding theme	*n* of participants that identify with motivation type (*n* = times theme mentioned across the 5 student interview data transcripts)
Intrinsic motivation	Preference for online learning over traditional classroom	4 (10)
Extrinsic Motivation: Identified regulation	Ignoring derision from peers by focusing on long-term goals	1 (1)
Extrinsic Motivation: External regulation	The reward of graduating on time	5 (8)
Amotivation	Lacking control over classroom performance	2 (3)

Note: Results indicated students identified with more than one motivation type.

Theme 1: The reward of graduating on time. Theme 1 was derived from the pattern in participants' description of the type of motivation indicated in the deductive code Extrinsic motivation: external regulation. Extrinsic motivation: external regulation was defined as being motivated to perform an activity in order to obtain awards or avoid punishments (Gagne, 2014). Participants described their extrinsic motivation: external regulation as a desire to obtain the reward of graduating on time by completing the online program for credit recovery. The reward of graduating on time was the theme mentioned by all five participants, and this was consistent with all participants' statement of choice, "I wanted to stay on track to graduate on time" as the best description of their incentive to the follow up verbal question.

Student 1's extrinsic motivation: external regulation was described as follows: "11th grade year I failed 11th grade lit. I had to make up for it [by completing the online credit recovery program] to graduate on time." Student 2 stated, "I am more motivated [to take the online credit recovery program] because it's important to graduate." Student 3 stated, "I failed

U.S. History and needed to bring up my grade [to graduate on time]. I had a 50[%] or 60[%] and needed to take [the online credit recovery program] to bring up my grade." Student 4 said, "If I am taking an online credit recovery class and I know I need it in order to graduate, then I will take it more seriously... I took it seriously because I knew it would help me graduate." Student 5's response did not place him or her in Theme 1.

Theme 2: Preference for online credit recovery over traditional classroom. Theme 2 was derived from the pattern in participants' descriptions of the type of motivation indicated in the deductive code Intrinsic Motivation. Intrinsic motivation was defined as satisfaction and pleasure derived from participating in an activity (Deci & Ryan, 2003). Participants described their intrinsic motivation in comparative terms, describing online credit recovery classes as more pleasant, satisfying, and engaging than the traditional classroom setting. Based on the researcher's results, intrinsic motivation was not cited by all participants (the exception was Student 3, who reported disliking the online credit recovery course), but intrinsic motivation was the form of motivation that 4 of the 5 participants reported most frequently in their responses.

Student 1 was intrinsically motivated to take online credit recovery classes because they were perceived as a more congenial content delivery format and, therefore; more pleasant and satisfying than traditional classroom instruction. He or she stated, "[The online credit recovery program] is better than the classroom because you can understand it better." Student 1 indicated why the online credit recovery course was more satisfying and easier to learn from than traditional classroom instruction, despite being more time-consuming and involving more work stating, "[The online credit recovery program] takes more time than a classroom. But it's easier because you get chance after chance. In the [traditional] classroom you only get one chance."

Student 2 offered a similar response, describing intrinsic motivation as a preference for the greater pleasure, ease, and satisfaction of a more congenial course format stating, "I am more motivated to take [the online credit recovery course] because it's easier. The videos tell you what to do. Then they explain what you do, and they tell you what to do." Student 2 offered an elaboration of this response, clarifying that the online credit recovery format was easier because it was more compatible with what may be Student 2's learning style, and because it was enjoyable, despite involving more work than the traditional classroom. Student 2 stated:

> It's easier than pencil and paper, and easy to understand and they teach you more things in the [online credit recovery] class. I enjoy it, but other students won't like to do the work required. It requires more reading and writing, and some students will not like the extra work. (Student 2)

Student 4 also described the online format as better suited to what may be Student 4's learning style, making the online credit recovery course more pleasant and satisfying than the traditional classroom stating: "[The online credit recovery course] explains [content] much better, and the lesson helps by starting you off slowly and then graduating to higher levels, which is easier to learn for me." Student 4 also said of the traditional classroom environment: "in class, the lesson is not engaging enough for me."

Student 5 perceived the online credit recovery course's feature of providing reinforcement and remedial instruction until the learner had thoroughly understood the content as more effective than the traditional classroom experience stating:

> I like this class [online credit recovery courses] because you go at your own pace. You know what you are doing, and what you don't know, if you don't catch on, [the application used at the school for delivery of instruction] gives it to you again until you

get it. In the class[room], sometimes you know the stuff and you have to stay with the pace of the class. You can't move on. (Student 5)

Theme 3: Lacking control over classroom performance. Theme 3 was derived from the pattern in two participants' descriptions of the type of motivation indicated in the deductive code Amotivation. Amotivation occurs when one's activity and the outcome of the activity do not seem connected, or when the activity is neither extrinsically nor intrinsically motivated (Standage, Treasure, Duda and Prusak, 2003). Results showed that two participants provided descriptions of amotivation in relation to their performance in traditional classrooms, but no participants described amotivation in relation to the online credit recovery course. Student 4 described effort in the traditional classroom as futile because content delivery was ineffective, and expectations were impossible to meet and stated:

> In class, social studies, they usually give us a PowerPoint to look at and then have us do a worksheet, and that's not helping us learn. Most kids, we take notes, but we cannot retain all that information. We are just supposed to regurgitate information. (Student 4)

Student 3 reported making a reasonable effort to learn in a traditional classroom but being unable to raise quiz scores above a failing 50% and stated: I wasn't playing around in class. I had little jokes here and there in the classroom, but I was paying attention. When it came to the quizzes on Fridays, I didn't know the information on the quiz. But I would try my best. I knew half of the questions and the other questions I didn't know. (Student 3)

Theme 4: Ignoring derision from peers by focusing on long-term goals. Theme 4 was derived from the pattern in one participant's description (Student 3) of the type of motivation indicated in the deductive code extrinsic motivation: identified regulation. Extrinsic motivation:

identified regulation was defined as doing an activity due to internal pressures such as ego, shame, and guilt (Ryan and Cornell, 1989). Results for Student 3 show that identified regulation is likely a reason for ignoring peers' disapproval of taking the online credit recovery course seriously. Specifically, based on descriptions provided during the interview, identified regulation allowed Student 3 to perform in online credit recovery courses because he or she identified with the personal importance of his or her behavior and accepted it as his or her own. Therefore, Student 3 perceived peers as disapproving of taking the online credit recovery course and was motivated intrinsically to ignore peers' expressions of disapproval and succeed in the online credit recovery course.

Student 3 continued in the online credit recovery course despite peer pressure to drop out, and this required Student 3 to ignore peers' opinions and continue to focus on long-term goals. Accordingly, Student 3 advised future online credit recovery learners to:

> Do your best and try to remember to do the best you can, and don't play around, just go in there and do your work and don't even worry about the people that call you a nerd or say you're lame, because people that call you those names are not going to get anywhere in life. And you will get somewhere in life they won't. (Student 3)

Table 10 presents a summary of research questions, findings, discussions, and conclusions from this study. In addition to the information provided in Table 10, the next chapter, Chapter 5, provides recommendations for practice and recommendations for research.

Table 10

Summary of Findings

Research Question	**Findings**	**Conclusion/Implication**
1.What are the students' (a) intrinsic motivation, (b) extrinsic motivation: identified regulation, (c) extrinsic motivation: external regulation, and (d) amotivation levels on the highest motivational score?	Data from the survey items indicated most students are extrinsically motivated through external regulation.	This finding suggests that a majority of the students were enrolled in online credit recovery courses primarily because they were told to do so, or for some type of reward, perhaps passing the class, earning credit for the class in a less amount of time or graduating on time.
2. Is there a statistically significant difference in students' grades in an online credit recovery course based on gender (male or female)?	There was no statistically significant impact of gender on student grades, F (1, 119) = 0.330, p = .567.	Student grades in an online credit recovery course did not differ based on gender.
3. Is there a statistically significant difference in students' grades in an online credit recovery course based on their highest motivational level (intrinsic motivation, extrinsic motivation: identified regulation, extrinsic motivation: external regulation, or amotivation)?	There was no statistically significant impact of motivation type on student grades, F (3, 119) = 1.56, p = .203.	A student's motivational subscale score does not impact the grades earned in an online credit recovery course.
4. Is there a statically significant difference in students' grades in an online credit recovery course based on grade level (freshman, sophomore, junior, or senior)?	There was a statistically significant impact of grade level on student grades, F (3, 119) = 5.20, p = .002.	Freshmen, sophomores and juniors earned lower grades than seniors.
5. How do students describe their motivation for enrolling in an online credit recovery course?	Interview data indicated all five students were motivated by the reward of graduating on time (extrinsic motivation: identified regulation).	This finding suggests students, regardless of their grade level, are enrolled in online credit recovery courses because they wish to graduate on time.

CHAPTER 5

DISCUSSION, CONCLUSIONS, AND RECOMMENDATIONS

Online credit recovery programs have become the bridge between courses failed in the traditional classroom and high school graduation. High school students who fail a class in traditional face-to-face classrooms are no longer limited to recovering credits during predefined months during summer school or the following academic year. Presently, high school students are able to recover credits in an online setting and at an accelerated rate. With the increasing rise of online credit recovery programs, students have the option to recover failed course credits in parallel with the traditional face-to-face courses. This strategy allows students to stay on track towards graduation and recover credit for a failed course at an accelerated rate. As such, online credit recovery programs are a promising intervention for decreasing the high school drop-out rate and increasing high school graduation rates.

Additionally, online credit recovery programs are seen as viable pathways to graduation for under-performing students. Students who may have been unmotivated in the traditional classroom may become motivated when taking an online credit recovery course. Consequently, the online credit recovery option gives students who struggle academically, behaviorally, or who are truant, hope of earning a high school diploma. Otherwise, students that fall into the aforementioned categories may elect to drop out indefinitely or dropout and pursue a General Education Diploma (GED). The allure of taking online credit recovery courses for students is not only the ability to quickly progress through the course materials and earn failed credits, but also a personalized learning experience as well as a higher grade point average in a short amount

of time, depending on the district. Consequently, online credit recovery courses have become a lifeline to graduation for many students. The next section provides an introduction to the study which includes a review of the research questions and methodology used to complete this work.

Study Introduction

Using self-determination theory as a framework, this study examined the relationship between student intrinsic motivation, extrinsic motivation: identified regulation; extrinsic motivation: external regulation; and amotivation in an online credit recovery program and grades earned. Additional independent variables included grade level (freshman, sophomore, junior and senior) and gender (male or female). Self-determination theory supports the premise that individuals are motivated by their natural inclinations and the use of rewards are a motive for behavior. Previous research has focused on the distinctions between intrinsic and extrinsic motivation and has identified intrinsic motivation as an important phenomenon resulting in high quality learning and achievement (Ryan and Deci, 2000).

According to Reiss (2102), when examining intrinsic-extrinsic motivation, researchers should focus only on self-reported results (p. 153). To support this theory, the quantitative component of this study looked at interview and survey data in which students were asked to self-report their motivational influences using the SIMS Motivational Scale and respond to interview questions designed for their particular levels of motivation as it relates to taking an online credit recovery course. The researcher analyzed the data for intrinsic motivation, extrinsic motivation: identified regulation, extrinsic motivation: external regulation and amotivation levels to answer five research questions:

1. What are the students' (a) intrinsic motivation, (b) extrinsic motivation: identified regulation, (c) extrinsic motivation: external regulation, and (d) amotivation levels on the highest motivational score?
2. Is there a statistically significant difference in students' grades in an online credit recovery course based on gender (male or female)?
3. Is there a statistically significant difference in students' grades in an online credit recovery course based on their highest motivational level (intrinsic motivation, extrinsic motivation: identified regulation, extrinsic motivation: external regulation, or amotivation)?
4. Is there a statically significant difference in students' grades in an online credit recovery course based on grade level (freshman, sophomore, junior, or senior)?
5. How do students describe their motivation for enrolling in an online credit recovery course?

This chapter provides discussion of the primary results related to the four motivation types: intrinsic motivation, extrinsic motivation: identified regulation, extrinsic motivation: external regulation and amotivation. Discussion, conclusions, and recommendations are also provided in this chapter following a review of the methods used. Although not included in the chapter title, limitations and a delimitation are also part of this final chapter.

Method

The purpose of any dissertation's method section is to describe what the researcher has investigated and how he or she conducted the investigation. The method section of this work consists of several specific sub-sections and is intended to allow the readers of this work to

replicate the study as well as to provide clarity. Afterwards**,** a detailed discussion of the study findings begins.

Design

A descriptive study with quantitative and qualitative components was the design used in this study. Although the quantitative method offers an unbiased method of reality, the qualitative method allows the researcher to better understand and explore the complexity of the phenomenon (Williams, 2007). Qualitative research is often used in many disciplines, including social sciences, psychology, and education. Descriptive studies are best suited for complex phenomena, such as motivation, by providing a more comprehensive understanding and examination of various motivation types of online credit recovery students (Nassaji, 2015).

Participants

For this study, high school students in a large urban district and enrolled in online credit recovery courses during the spring of 2019 academic year were the sample population. Students in the sample population ranged from freshmen, sophomores, juniors and seniors, were ages 16 or over, and had previously failed one or more courses in the traditional classroom. Surveys were distributed to 60 online credit recovery students. Face-to-face interviews were conducted with a random sample of 5 from those 60 students enrolled in the online credit recovery courses.

Instrument

The instrument used in this study was the Situational Motivational Scale (SIMS) (see Appendix B). The survey contains 16 items evaluated using a 7-point Likert scale (i.e., from 1: *corresponds not at all* to 7: *corresponds exactly*) and offers a Cronbach's α of .85. Four items were included in the instrument to measure each motivational subscale (intrinsic motivation, extrinsic motivation: identified regulation, extrinsic motivation: external regulation, and

amotivation). For each participant, the highest mean motivational subscale score was used to calculate a single motivation score resulting in scores that ranged from 4 to 28. Following the quantitative analysis, the researcher conducted five face-to-face, semi-structured interviews, and one follow up question for each interview. The follow up question was, "Which one of these incentives, if any, motivated you to take an online credit recovery course?" The four choices for the follow up and discussion question were: (a) You needed the course to graduate, (b) You were not given an option, (c) You wanted to stay on track to graduate on time, and (d) The course was not offered face-to-face.

Procedure

Prior to administering the survey, permission was granted by the IRB at the University of Georgia. To ensure confidentiality of participants, a randomized coding string was assigned to each participant. The survey was administered at the beginning of each student's online credit recovery course.

Data Analysis

The Statistical Package for the Social Sciences (SPSS, Version 25) was used for data analysis. Descriptive measures regarding students' motivational subscales were calculated to answer the first research question. Three separate one-way ANOVAs were performed to determine if there was a difference between students' numerical grades (0-100), if there was a difference between student's numerical grades (0-100) and gender (male or female), and if there was a difference between students' numerical grades (0-100) and highest motivational score (intrinsic motivation, extrinsic motivation: external regulation, extrinsic motivation; internal regulation, and amotivation), answering research questions two, three and four. The dependent variable, grades earned, was treated as a continuous variable. Gender (male or female), highest

motivational score (intrinsic motivation, extrinsic motivation: external regulation, extrinsic motivation: internal regulation, and amotivation) were treated as independent variables. The fifth research question was answered face-to-face using five semi-structured interview questions and one follow up question.

Discussion of Findings

This section provides discussion of the primary findings related to four motivation types: (a) intrinsic motivation (b) extrinsic motivation: identified regulation (c) extrinsic motivation: external regulation and (d) amotivation. The quantitative findings begin this section with discussion addressing each of the first four research questions. A detailed discussion of the qualitative findings related to the fifth research question concludes this section.

Quantitative Findings

The first research question addressed determining the type of motivation with which each student identified with the options being either intrinsic motivation, extrinsic motivation: identified regulation, extrinsic motivation: external regulation and amotivation. The determination of motivation type was based on the highest motivational mean score. Results revealed extrinsic motivation: external regulation was the dominant motivation subscale for students enrolled in online credit recovery courses in this study (n = 30). Extrinsic motivation: external regulation was followed by extrinsic motivation: identified regulation (n = 17), intrinsic motivation (n = 7) and amotivation (n = 6). Subsequently, these findings support the premise that an online credit recovery student is first, primarily motivated through extrinsic motivation: external regulation; or the ability to obtain awards or avoid punishments. Closely following the previously mentioned findings is extrinsic motivation: identified regulation, (n = 17) or motivation due to internal pressure or ego.

According to the self-determination continuum, extrinsic motivation: external regulation is the least autonomous type of motivation. Extrinsic motivation: external regulation can be observed when students take some action in order to satisfy an external demand (i.e. being told they must take an online credit recovery course to graduate on time or an action such as receiving some other type of reward). Students that fall in the category of extrinsic motivation: external regulation perform out obligation and try to obtain a reward or positive consequence, which is, in this case, graduating on time. This finding suggests that a majority of the students were enrolled in the courses primarily because they were encouraged to take the online credit recovery course in order to gain some type of reward such as a high school diploma, credit for the course with less seat time than a traditional credit recovery option, or to graduate on time with their peers. The finding also suggests students took the course because they wanted to earn a high school diploma as opposed to earning a General Education Diploma (GED), an educational marker that signifies dropping out of high school.

The findings for research question one of this study were consistent with literature that defines the motivation type, extrinsic motivation: external regulation as one who is motivated by deadlines, rewards, directives, or punishment (Legault, 2016, Guay et al., 2000, Ryan & Deci, 2000). However, this finding could be interpreted as positive or negative depending on who is examining it. The counselor of the online credit recovery program might perceive external motivation: external regulation, the dominant motivation subscale, as positive because the student did as he or she was advised and even more so if the student passed the online credit recovery course. Conversely, a parent and student might see encouraging a student to take an online credit recovery course negatively, especially if the student failed the course again. Finally, extrinsic motivation: external regulation may have emerged as the highest motivation

score due to the fact that students are motivated by some components within the online credit recovery learning environment that were beyond their control.

Students in this study, who were extrinsically motivated through identified regulation (n = 17), emerged as the second largest motivation subscale group. Student who were extrinsically motivated through identified regulation were motivated because they deemed taking online credit recovery courses as worthwhile. By testing out of content already mastered, online credit recovery students were allowed to work within an abbreviated deadline; and only focus on the content that was needed to pass the course. For these students, it was motivating to not have to repeat content already mastered but to spend their time only on deficit areas. As a result, students who fell into the type, extrinsically motivated: identified regulation. were motivated by less time on task when they did not have to repeat the class in its entirety as they would have in the traditional classroom setting. Additionally, the students within the motivation type, extrinsic motivation: external regulation, were motivated by working at their own pace, unlike the traditional classroom where students are often unable to do so and may fear some form of social or academic stigma if they fall behind their classmates as a result. In fact, as determined from findings in the qualitative data, online credit recovery courses became a means to an end and thus, were personally important. Finally, some students who identify with extrinsic motivation: identified regulation found working independently less threatening and more meaningful than in the traditional classroom setting. When the need rose to ask questions, vulnerable students were not perceived as incompetent and did not fear asking the wrong questions in their online credit recovery class.

Only seven out of 60 students, or 12% of students in this study, identified with intrinsic motivation. This small number of students (n = 7) in this study who had personal satisfaction

with taking an online credit recovery course and were intrinsically motivated, may have been motivated by their opposing feelings (i.e., shame or guilt), about taking online credit recovery courses. Perhaps the sometimes negative perception of online credit recovery courses served to limit the amount of intrinsic motivation felt or exhibited by a majority of the students in this study.

Legault (2016) affirms intrinsic motivation is a natural human tendency, one which causes people to enthusiastically gravitate towards things they find interesting or enjoyable. However, the findings in this study were not consistent with literature that supports intrinsic motivation as the dominate source of motivation for student learning in an online environment (Afzal, Ali, Aslam & Hamid, 2010). Instead, very few of these students were intrinsically motivated which refutes the premise that online credit recovery students are more likely to be extrinsically motivated, which is contrary to previous research.

Finally, students characterized as amotivated (n = 6) in this study simply were not motivated. As it relates to the self-determination continuum, amotivation falls to the far left of the continuum. Students in this category are unwilling to do the work required to be successful in their online credit recovery courses. Regardless of the opportunity to retake the course and the advantages that being in an online credit recovery course presents, amotivated students are neither intrinsically motivated, nor extrinsically motivated through identified regulation or external regulation. This result shows amotivation as the least identified of the four motivational subscales. This finding could be due to the lack of commitment of online credit recovery students to complete their courses, the fear of failure, or perhaps they are simply demonstrating avoidant behavior.

First, demographic data showed that the largest group of participants were females (n = 34). Second, results from a one-way ANOVA procedure revealed that there was no statistically significant difference in grades earned in an online credit recovery course, based on gender (p = .493) thus answering the second research question. This finding establishes that student achievement (grade earned) in an online credit recovery course is not based upon whether a student is a male or female.

This finding was consistent with some studies in the literature that have found no differences between student achievement and gender (Boggiano et al., 1991). Yukselturk Bulut (2009) found there was no statistically significant difference between motivation-type and gender. However, the results were not consistent with literature that supports differences in grades based on gender (Amor, Munday, & Kupczynski, 2015, Chung & Chang, 2017, Sporran & Young, 2001). In fact, gender differences in the classroom have been an ongoing topic of discussion and widely studied. Many scholars argue that female students, in general, are more motivated than male students. For example, Volchok's study (2018), concluded that females are more likely to earn higher grade point averages, have higher final adjusted averages, and complete more extra credit assignments than their male counterparts. Sporran and Young (2009) found college females are more motivated, better at communicating online, and in scheduling their learning. With that said, this study does not support Volchok's study because no significant differences were found in achievement based on gender even though some of the literature suggests that females often earn better outcomes in school.

The third research question investigated the difference between students' grades (grades of 70 C or higher defined as student achievement) in an online recovery course and student's highest motivation scores (intrinsic motivation, extrinsic motivation: identified regulation,

extrinsic motivation: external regulation or amotivation). Results from the one-way ANOVA found there was no statistically significant impact of motivation type on grades (p = .203). This finding suggests that a student's motivational subscale score, and what that score represents (the students' highest motivation score as a result of completing the Situational Motivation Scale (SIMS), does not impact the grades that student earns in an online credit recovery course.

Although 86% of students enrolled in online credit recovery courses in this study earned a grade of 70 or higher, the results indicated there is no important difference between students' grades and students' motivation scores. Research continuously supports the relationship between student motivation, particularly intrinsic motivation, and achievement, or grades earned, in the classroom. More specifically, research speaks to the relationship of intrinsic motivation in the online learning environment and its association with positive outcomes (grades) (Shroff, Vogel, Coombes, & Lee, 2007). However, only 11.67% (n = 7) of the students in this study identified with intrinsic motivation, a stark contradiction to previous findings in the literature. Fifty-percent (n = 30) of students enrolled in online credit recovery courses in this study identified with extrinsic motivation: external regulation and another 28.33% (n = 17) identified with extrinsic motivation: identified regulation, another distinct contraction to traditional findings in literature. Subsequently, a student's motivation type had no impact on grades earned in the online credit recovery course. Since these findings are inconsistent with the literature, additional research is needed to examine and either refute or support them and add to the body of knowledge related to motivation type and achievement. Note that 10% or (n = 6) students in this study identified with the amotivation type.

As for grade level, the fourth research question, seniors were the largest group of students enrolled in online credit recovery courses in this research study (n = 20) followed by sophomores

(n = 19), freshmen (n = 11) and juniors (n = 10) respectively. Results from the one-way ANOVA found there was a statistically significant difference in student grades (p = .002) in an online credit recovery course based on grade level. More specifically, results found a significant difference between freshman and seniors (p = .001, sophomore and seniors (p = .038) and juniors and seniors (p = .001). The findings of this study show freshman, sophomore and juniors earned lower grades than seniors in online credit recovery courses.

With the rise of graduation rates across the nation and the pressure for districts to increase the graduation rates and decrease dropout rates, seniors emerging as the dominant group based on grade level in online credit recovery programs comes to no surprise. Presumably, seniors are most notably the largest group in online credit recovery programs due to the pressure and desire to graduate on time with their graduating class. Online credit recovery courses afford seniors this last chance opportunity. This last chance opportunity is not only for seniors, but for low performing school districts as well who are obligated to increase graduation rates and decrease dropout rates. Although seniors earned better grades than any other grade level, sophomores, juniors, and freshmen also desire to remain on track towards graduation and to graduate with their respective peers. Ritter (2015) states, on average, students who earn a 2.0 GPA or lower at the end of their freshman year have significantly lower graduation rates than students who earn a 2.5 GPA or higher. Students during their freshman year must earn no more than one F in a semester and earn no fewer credits than the number of credits required to matriculate to the 10th grade (Ritter, 2015). Taking an online credit recovery course early in a student's high school journey increases the likelihood of a student, who may have failed a course and endangered the original timeline, getting back on track to achieving the high school graduation goal.

Qualitative Findings

A qualitative approach was used to answer research question 5, which sought to determine how students describe their motivation for enrolling in an online credit recovery course. Findings revealed that students described their motivation for enrolling in the online credit recovery course in four ways and with some convergence of motivation types. First, across all five interviews, students expressed a desire to obtain the reward of graduating on time which, after analysis, translated into those students' motivation type being extrinsic motivation: external regulation. Extrinsic motivation: external regulation was mentioned eight times across the five semi-structured interviews. Second, four of five students who were intrinsically motivated described a preference for the online learning format over the traditional classroom. Students with a preference for the online format believed that, after having the experience, online learning was more pleasant and satisfying; and therefore, more conducive to effective learning. Intrinsic motivation was mentioned ten times across the five semi- structured interviews. Third, one student identified with the extrinsic motivation: identified regulation motivation type. Extrinsic motivation: identified regulation motivation type was mentioned once across the five semi-structured interviews, which relates with a student focusing on long-term goals as a means of ignoring peers' derision of taking the online course seriously. Finally two students identified with amotivation, which was mentioned three times across the five student semi-structured interviews. Feelings of amotivation was due to the perception that efforts in the traditional classroom were futile because they were unconnected to performance on assessments and learning. Each of these four categories of motivation: (a) intrinsic motivation (b) extrinsic motivation: identified regulation (c) extrinsic motivation: external regulation and (d) amotivation levels are discussed in the following subsections.

Intrinsic motivation. Intrinsic motivation occurs when an activity is performed for the pleasure and satisfaction experienced during and through the performance, rather than to bring about or avoid a later consequence (Ryan & Deci, 2003). Ryan and Deci described intrinsic motivation as the strongest form of motivation. In addition, former research studies (Deci and Ryan, 2000 and Guay et al, 2008), and have identified intrinsic motivation as an important phenomenon resulting in high quality learning and achievement. The researcher found intrinsic satisfactions of taking an online credit recovery course were contrasted with the perceived disadvantages of traditional classroom instruction, which included an inability to learn at one's own pace, an inability to review material when the initial presentation was not understood, an inability to make further attempts after an unsuccessful performance on an assessment, and the distractions of a crowded classroom. Students in the current study experienced satisfaction and enjoyment in the online credit recovery course as they gained understanding of the content and as the platform met their specific learning needs. As such, students identified as being intrinsically motivated, and enrolled in online credit recovery courses were motivated to persist towards the goal of completion because they enjoyed learning in general, and were satisfied with the online learning environment, as opposed to the learning environment of the traditional classroom, findings similar to those of Martens, et al (2004).

Extrinsic motivation: external regulation. All five interviewees reported that the reward of graduating on time had primarily incentivized their enrollment in the online credit recovery course, thus the extrinsic motivation: external regulation type was attributed to all five participants. Participants did not express why they considered it important to graduate on time, appearing to assume the value of the goal was self-evident. The extrinsic motivation: external regulation motivation type was attributed to these students due to their stated desire to graduate

on time, and because without enrolling in the online credit recovery course, they would not have been able to recover credits they had lost by failing previous courses. If not for the online credit recovery option, students would have needed to retake the classes in the traditional classroom format during regular school hours, and this would have postponed their graduation date. Participants' descriptions of their motivation as a desire for the reward of graduating on time aligned with Gagne's (2014) description of extrinsic motivation: external regulation as a desire to obtain awards or avoid punishments. Extrinsic motivation: external regulation is a form of extrinsic motivation which is defined as the motivation experienced when an activity is performed because of an external reward (Deci & Ryan, 2004). Participants in this study described completing the online credit recovery course as a reward for graduating on time, or equivalently, of avoiding the penalty of a late graduation.

An additional reasoning behind these students taking online credit recovery courses was their limited window of time necessary to graduate. This premise was probably, in part, due to how teachers or counselors framed their recommendations to take an online credit recovery course. In many cases, online credit recovery is the only option to recover credit in a shortened amount of time. For students who have no foreseeable option to recover credit and graduate with a high school diploma other than via online credit recovery, taking an online credit recovery course becomes motivating.

For educators, this lack of choice as a reason to take an online credit recovery course may not be perceived favorably. While graduation rates have increased across the nation due to online credit recovery programs, little is known about the post-secondary academic success of students who have earned their high school diplomas as a result of taking an online credit recovery course. If students are not motivated in the traditional classroom environment, and fail

a class, potentially students require an increased level of self-regulated learning in order to achieve successful outcomes in an online credit recovery course. The possibility of graduating and graduating on time served as motivating factors for enrolling in online credit recovery, an important finding that emerged from this study.

Extrinsic motivation: identified regulation. Extrinsic motivation: identified regulation is a form of extrinsic motivation in which the activity is a means of gaining or avoiding the feelings associated with the outcome, such as pride or shame (Ryan & Cornell, 1989). Extrinsic motivation: identified regulation was not an outcome for most participants. Only one participant mentioned focusing on long-term goals as a means of ignoring shame that would otherwise be associated with their peers' ridicule of participating in the online credit recovery course (extrinsic motivation: identified regulation). Long-term goals were vaguely defined as a desire to "go somewhere," which might be presumably interpreted as a desire to attend college or have a rich and meaningful life. Students that were at-risk of failing a course or not graduating altogether kept in the forefront of their minds the implications of not graduating. As a result, students who were characterized as an extrinsic motivation: external regulation type were acutely aware of the importance of online credit recovery courses and were motivated accordingly. Additionally, students equated failing to obtain a high school diploma to a lower probability of success. Subsequently, having a long-term goal allowed the student to dismiss the criticisms of peers who did not have and would not achieve such goals. Dismissing criticism in this way allowed the student to avoid shame associated with peers' disapproval.

Amotivation. Two students described their experience of traditional classroom instruction as a futile effort to learn in that setting because content delivery was ineffective, and expectations were unreasonable. These students' reports aligned with researchers' understanding

of amotivation, which is defined as a lack of self-determination experienced when volitional activity and the outcomes of the activity are perceived as unconnected (Standage, Treasure, Duda, & Prusak, 2003). Amotivation may also arise from a perception by some students that an activity is without value because no intrinsic or extrinsic motivations exists within those students. However, students in this study did not report this way of reasoning. Instead, students in this study reported a perception that their efforts to learn in the online credit recovery course had no effect on their ability or inability to learn the course content and perform on assessments. Thus, amotivation in this study is described as a lack of self-determination in relation to a valued goal, rather than as the capacity for self-determination in the absence of a valued goal.

Conclusions

Despite the debate regarding the value of online credit recovery courses and the long-time demonstrated importance of student motivation to student learning, there remains a lack of research exploring the relationship between student motivation and grades earned in online credit recovery courses. This study sought to examine the relationship between intrinsic motivation, extrinsic motivation: external regulation, extrinsic motivation: identified regulation and amotivation and grades of students enrolled in online credit recovery courses. This study showed that although motivation, is a multidimensional and complex construct, its varying subscales were not a contributory factor to grades earned. However, this study does contribute to a greater understanding of how students who are enrolled in online credit recovery courses are motivated and provides information that can be instrumental in recommending effective motivation-based course completion strategies. Likewise, school retention strategies for students who are at risk of failing or dropping out of school may be motivated to learn in online credit recovery courses.

With increased student attrition and subsequent low graduation rates as well as budgetary cuts, secondary schools are depending more and more on the cost-effective solutions offered by using online credit recovery courses. This study supports the researcher's understanding that online credit recovery students are motivated to perform well academically and complete their online credit recovery courses, offering a variety of reasons they do so. Sometimes, online credit recovery students are amotivated and as such fail to experience success in online credit recovery courses due to an inability to focus. An inability to keep up with the coursework, taunting from their peers, or the pacing of the course also contribute an amotivated student's failure to succeed. When this happens, online credit recovery courses become a futile alternative delivery method for both the amotivated student and the district seeking to keep students on track towards graduation. However, students in online credit recovery courses in this study, who were able to matriculate through courses at their own pace and retake content until mastery was achieved without feelings of inadequacy from their peers and in an abbreviated timeframe performed as necessary to achieve a passing grade. Consequently, these students can, via the online credit recovery courses, remain in their appropriate grade level courses while again simultaneously taking a course they had failed. While students report there is more work required in the online credit recovery classes than in the traditional classroom, this study's findings support the motivation types that were able to successfully complete the online credit recovery courses. Thus, this study showed that extrinsic motivation: external regulation, is the dominant motivation type for these students who were enrolled in online credit recovery courses.

Motivation is indeed a key to successful progress and outcomes in the online credit recovery environment. As it relates to the self-determination continuum, intrinsic motivation is positioned on the far right of the continuum. According to the literature, it is the dominant form

of motivation leading to successful academic outcomes (Shroff ,Vogel, Coombes, & Lee, 2007). However, due to the lack of substantial research dedicated to student motivation in online credit recovery courses, the assumption is that online credit recovery students must also identify with intrinsic motivation in order to achieve successful outcomes. On the contrary, this study's findings support the premise that students who are dually motivated (extrinsically motivated through identified *and* external regulation) while enrolled in online credit recovery courses are able to achieve successful outcomes due to their motivation subscale-types.

Students were extrinsically motivated by the structure of the online credit recovery courses (extrinsic motivation: identified regulation), the reduced seat time (extrinsic motivation: external regulation) and the mere fact that taking an online credit recovery course and passing the course is a pathway to satisfying their academic requirements for graduation (extrinsic motivation: external regulation). Additionally, students in online credit recovery courses were motivated by the ability to act as self-directed learners who were able to navigate and dictate their future as opposed to relying on a teacher in the traditional classroom to navigate the learning on their behalf (extrinsic motivation: identified regulation). In essence, students in online credit recovery courses were able to determine their academic destiny by using the reward of graduation (extrinsic motivation: external regulation). Failing to graduate on time (extrinsic motivation: external regulation), or the quicker path to graduation (extrinsic motivation: external regulation) to achieve successful outcomes was an absolute motivator. Online credit recovery students become the authors of their fate, and this assertion is not only motivating but incredibly empowering to the student in the extrinsic motivation: external regulation and identified regulation category.

Finally, the current study showed that gender does not play a role in grades earned or student achievement for any of the motivation types. Similarly, seniors performed better academically than freshmen, sophomores, or juniors in online credit recovery courses.

Limitations and Delimitation

The final sample size for the data analysis was $n = 60$, which was less than the a priori minimum sample size of 87 participants to gain a power of 0.85 and a medium effect size. This reduced sample size lowered the power of the study. Additionally, the student population was limited to one of the seven schools in the district. However, this school was selected because of its high number of online credit recovery participants as well as the impressive strides made in increasing the graduation rate in the past five years.

Another limitation to the study is the sample population was not randomized. In this study, randomization would potentially minimize the differences if students were equally distributed with similar characteristics or motivation subscales and designating them as a particular group. Detailed descriptions of the findings and of the relevant characteristics of participants have been provided to allow future researchers to assess transferability.

The student's motivation type was assessed during the spring semester when students were actively enrolled in an online credit recovery course. The researcher had no indication of a student's baseline motivation type prior to taking an online credit recovery course, nor if the motivation type changed as a result of enrolling in an online credit recovery course. As a result, the researcher was not able to consider if a student's motivation type became more self-determined as students transitioned from the traditional classroom to an online credit recovery course.

Finally, a delimitation of this study was that only students who were enrolled in online credit recovery courses during the time of the study, spring 2019, were included and not students enrolled for the entire year. As a result, this study does not represent all students engaged in online credit recovery courses at the research school.

Recommendations

When considering how important online credit recovery courses and programs have become in our schools as a measure to move more students toward high school completion, it is also important to offer to educators, based on this research, recommendations for practice. It is equally important to offer researchers and other constituents some recommendations for research; both are presented in the next section.

Recommendations for Practice

There are few studies (Marten, Gulikers & Bastiaens, 2004; Rovai, Ponton, Wighting & Baker, 2007; Shroff, Vogel, Coombes, & Lee, 2007; and Xie, Debacker, Ferguson, 2006) that have applied the self-determined framework in an online context. Nevertheless, such research studies have been limited in scope given that they explore intrinsic motivation and not multiple motivational subscales such as extrinsic motivation: external regulation, extrinsic motivation: identified regulation, and amotivation. This study has placed emphasis on four motivational subscales and will add to the body of knowledge related to student motivation in online credit recovery courses. Furthermore, viewing motivation solely as an attribute of the learning environment does not acknowledge that students can be motivated in different ways, in varying degrees, and in any context and time (Harnett, George, & Dron, 2011, as cited in Turners & Patrick, 2008).

Consideration should be taken to utilize online credit recovery courses as an intervention strategy to increase student achievement and not solely as a pathway to increasing high school graduation rates for high school students. As early as the sixth or seventh grade, online credit recovery courses may serve as an alternative pathway to keeping students on track towards high school graduation. Using a blended model in middle schools, focusing on students who are not faring well in the traditional classroom, could be a way to provide alternative learning modalities based on motivation. Online credit recovery courses are one such option for a blended model.

Furthermore, students who have succeeded in online credit recovery courses may have some type of motivational characteristics that, if identified early in their high school journey, will successfully position them to persist towards graduation before they fail any traditional classroom course. Again, students as early as middle school should be assessed to identify, and be informed of, their dominate motivation type. The researcher suggests that core curricula and lessons created by districts and third parties to be used with online credit recovery students should be redesigned to support varying motivation types. As this study indicates, students who identify as extrinsically motivated: external regulation or extrinsically motivated: identified regulation are strong candidates for enrolling in online credit recovery courses. It is important to note that students' dominant motivation type may change over time as they become more or less self-regulated. Keeping track of a student's motivation type in an online credit recovery environment as well as in the traditional classroom as a student matriculates through middle school until high school graduation could lead to greater student academic achievement, higher graduation rates, lower dropout rates, and potentially students that become more self-regulated over time.

Once a student's motivation type has been evaluated, third party vendors should consider developing algorithms within their respective platforms that create learning pathways based on a students' motivation type(s) thus giving students more choice. As a student becomes more self-determined, the lessons could be designed to change accordingly which would make for a deeper individualized educational experience. Ideally, individual lessons would be reengineered to create, initially, four distinctive learning pathways associated with self-determination theory: intrinsic, extrinsic motivation: external regulation, extrinsic motivation: identified regulation, and amotivation. Including a strategy, perhaps similar to the self-determination scale, as part of the software platform that shows a student's progress towards becoming more self-determined could also be used to gauge a student's progress. Students' motivation should be formally reassessed at pivotal and predetermined milestones as a student matriculates through middle school or high school. A focus on developing richer personalized learning strategies, within online credit recovery courses based on a student's motivation type, could be instrumental in changing the academic trajectory of struggling students. Embracing these concepts presented could provide an opportunity to begin filling the research gap as it pertains to helping online credit recovery students become more self-regulated which, in theory, may translate, not only to high school completion, but also to successful academic performance at the post-secondary level.

Other ways of developing a pipeline of students for online credit recovery courses include identifying students who value the goal of graduating on time and who wish to learn, but who find the traditional classroom environment distracting, its pace unreasonable, its content delivery unengaging, and its expectations unreasonable. Students that possess these characteristics may learn more effectively in an online credit recovery course. Students who are not succeeding in the traditional classroom may be evaluated to determine whether they have any

of the aforementioned characteristics. Assessment of these students could mean a simple survey prior to enrolling in a traditional course or it could be a quick face-to-face meeting with the school counselor or the teacher for each respective course. If it is found that these traits surface, giving the student the option to transition into an online credit recovery class or program should be presented as a viable option, particularly for those students who find the pace of the traditional classroom challenging. Transitioning students into online credit recovery courses using this or a similar protocol may remove the stigma that online credit recovery courses are simply a last chance opportunity for students who would like to graduate on time. Rather, it posits that online credit recovery courses can support a variety of student motivation types and learning styles, as well as promoting successful student learning outcomes.

Emerging from this study, is evidence that online credit recovery courses could serve multiple purposes. These courses could be more than a "way out" for academically struggling students who have previously failed a course, and desire to graduate on time, but also as an intervention model to keep students motivated and invested in their learning. Therefore, it is recommended that any students who demonstrate these characteristics be redirected into online credit recovery courses as an academic pathway *before* they fall behind their peers. This in turn, may decrease the number of high school students placed in online credit recovery courses solely as a means to graduate on time. Rather, a student should be placed in online credit recovery courses because the online credit recovery learning model is best suited for that student's success. High schools across the country have continually struggled to decrease dropout rates and increase graduation rates. Given that there is little research on the effectiveness of online credit recovery programs, student success outcomes, and student persistence into post-secondary education, this study reveals online credit recovery courses can be utilized in ways not

previously applied or intended. When offered as a preventive pathway and not as a reactionary pathway, online credit recovery courses and programs can serve as innovative intervention models to help decrease dropout rates, increase graduation rates and self-determination if students are identified early within their academic journeys. While offering online credit recovery courses may position students favorably to graduate, online credit recovery courses also can be implemented as tools for early detection of possible academic failure and intervention. Applied as an intervention strategy, more emphasis can be placed on content mastery and greater measures of accountability, both of which have been points of controversy for online credit recovery programs.

Recommendations for Future Research

There is a lack of research exploring the relationship between student motivation and student achievement in online credit recovery courses. This lack of research is especially true as it relates to a focus the distinctions between intrinsic motivation, extrinsic motivation: external regulation, extrinsic motivation: identified regulation and amotivation; areas that have not received the same consideration for study. With that said, there is justification to conduct a deeper study on student motivation in online credit recovery courses, particularly intrinsic motivation, extrinsic motivation: external regulation, extrinsic motivation: identified regulation and amotivation to expand this body of knowledge. More specifically, amotivation, which has not been studied at length, is an area for further exploration. Currently, amotivation arises from the perception that an activity is without value, because intrinsic nor extrinsic motivations exist. However, few students in this study were identified as amotivation types and, therefore; lacking any motivation to engage in an activity or a failure to value the activity was not an impetus for

their learning. Consequently, there is a need to have a better framework for studying amotivation, particularly in students that take online credit recovery courses.

For future research, there is a critical need for understanding students who are identified as extrinsic motivation: external regulation types and how this identification relates to their ability to learn and have positive outcomes in online credit recovery classrooms. Furthermore, identifying specific motivation types as opposed to using a composite score, as was done in this study, is an area of exploration for future research. Retaining the highest motivation subscale score does not limit the analysis to a single composite measure of motivation (i.e., self-determination index (SDI) or relative autonomy index (RAI) scores). While both scores are useful and have been used consistently in past research, when used on their own, the impression is given that motivation is a sliding scale from low self-determination to high self-determination when in fact it is multidimensional (Hartnett, 2016). Otis (2005) believes the investigation of each form of motivation separately makes a distinct and important contribution to existing research on self-determination theory.

A few final points of consideration for future research beginning with the potential combinations of motivation types and implications for student outcomes. Harnett, George and Dron (2011) found both intrinsic and extrinsic motivation can co-exist which suggests that online practitioners should consider this possibility when determining how to influence students' motivation types as they design learning objectives and course materials for online credit recovery courses. Future research should also consider the interdependence of motivation types and how such interdependence may affect student achievement. Finally, future directions for the researcher will be to follow the trend which seems to be an examination of motivation types

across subjects (Elliot, 2005; Gottfried, 1990; Green, Martin & Marsh, 2007; Pintrich, 2003), but specifically in online credit recovery courses.

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APPENDIX A

Environmental Science

Environmental Science is a year-long course and grants one of the four credits needed to fulfill the elective requirement towards a high school standard diploma (Cox, 2009). The Department of Education (2020), indicates the standards for this course are comprised of learning the impact of humans on our planet. Students in this course investigate the cycling of matter with ecosystems, the flow of energy and the sustainability of energy resources. Physics, chemistry, and technological and mathematical concepts are integrated throughout the course (Department of Education, 2020).

Speech

Speech, also referred to as Intro to Policy Debate, is offered to students between the ninth and 12th grade. Students in this course learn oration, extemporaneous speaking, debate and interpretation of literature. Additionally, student will gain critical thinking skills and understand the importance of research reasoning and delivery (Course Description Guide, 2013). The Speech course awards one credit towards the three credits required in Fine Arts needed to earn a standard high school diploma (Board of Education, 2018).

Sociology

Students enrolled in this introductory course study the organization and social behavior of humans in society. Students learn about the role of culture, the historical development of the field of sociology, and social change in society (Department of Education, 2020). Sociology is only offered to juniors or seniors and is a semester course that awards 0.5 credits towards the

three credit social studies requirements necessary to earn a standard high school diploma (Cox, 2009).

Algebra I

This course fulfills one of the four math credits required to graduate with a standard diploma. The Department of Education (2020), states to ensure students are college and career ready, this course is one of three in a sequence. The purpose of this course is to build upon the mathematical understanding students acquired in middle school. Algebra I uses correlated statistics application and represents a discrete study of Algebra. The course also covers linear functions, polynomials and exponents, expressions, inequalities, equations, and systems (Department of Education, 2020). It is a year-long course, and upon completion, awards one credit towards the total four math credits required for a standard high school diploma (Cox, 2009).

Algebra II

Algebra II, also referred to as Advanced Algebra, is the final course in the series of mathematics courses created to prepare student for careers or college. This course is a year-long course and fulfills one of the four mathematics credits required to graduate with a standard diploma (Cox, 2009). The Department of Education (2020), affirms the content included in this course includes Algebra, Geometry, Number and Quantity, Functions and Statistics, and Probability. In addition, this course covers quadratic functions, some probability and statistics, polynomial functions, linear functions, and radical and rational functions (Department of Education, 2020).

Psychology

As stated by the Department of Education (2020), psychology is a unique science that studies the behavior of mental processes and behaviors. As such, it often requires the use of research methods and special measurements. The four sections of this course include change in cognition and behavior, psychological foundations, research, and variability of behavior among individuals as well as groups (Department of Education, 2020). Psychology is offered to juniors or seniors and is classified as an elective. It is a year-long course that awards one credit towards the three credit elective requirement for earning a standard high school diploma (Cox, 2009).

Geometry

The Department of Education (2020) categorizes, geometry as the second course in the series of three mathematical courses needed to certify students are college and career ready. The course consists of the study of correlated statistic applications, statistics and probability, functions, and algebra (Department of Education, 2020). Geometry is a year-long course and awards one credit towards the four credit math requirement to earn a standard high school diploma (Cox, 2009).

Biology

The Department of Education (2020) reports that students in this course begin their learning in this course by gaining an understanding of the structure of cells and their role in living cells. The standards of this course include abstract concepts such as organization and energy in living systems, biological evolution, the relationships of matter, and the behavior of organisms. Students also study genetic transfer and diversity of species and develop a fundamental understanding of the role of bio-macromolecules (Department of Education, 2020).

This course is a year-long course and awards one credit towards the four credit science requirement needed to graduate with a standard diploma (Cox, 2009).

Economics

According to the Department of Education (2020), this course in government provides students with a background in the structure, function, and philosophy of the United States government. Students begin to understand the United States government in relation to citizens and other states by examining its foundation in this course. Upon the completion of high school, students will understand specialization and trade, role of incentives, allocation of goods and services, marginal cost/benefit, scarcity, unemployment and inflation, and monetary and fiscal policy (Department of Education, 2020). Economics is a semester course and awards 0.5 credits to satisfy the three-credit requirement in social studies needed to earn a standard high school diploma (Cox, 2009).

Physics

Students in this course use experiences in field work and laboratories to define problems, ask questions, develop models, and plan and execute investigations. Students accomplish this by interpreting data, creating explanations and constructing solutions, and planning investigations on the interactions of matter, mechanical waves, and velocity. Additional abstract concepts studied in this course include velocity, acceleration, momentum, energy, forces, and nuclear decay processes (Department of Education, 2020). The course is a year-long course and awards one full credit towards the four-credit science requirement needed to earn a standard high school diploma (Cox, 2009).

American Literature

This course allows student to gain an understanding of short stories, drama and poetry, fiction and nonfiction genres. Students read key literary plays to understand drama in its literary and historical context. In this course, students trace literature from the colonial to the early American period (Connections Academy, 2020). The course is a year-long course and awards one credit towards the four-credits of English Language Arts required to earn a standard high school diploma (Cox, 2009).

Health

Connections Academy (2020) endorses this course which provides students with a foundation in lifestyle and wellness options. First aid, current health issues, and the dangers of drug and alcohol abuse are covered in this course. Additionally, students learn how to make improvements to their lifestyle to increase their state of wellbeing (Connections Academy, 2020). This course is a semester course and awards 0.5 credits towards the four-credit elective requirement needed to earn a standard high school diploma (Cox, 2009).

Ninth Grade Literature

Ninth grade literature is a course taken during the freshman year and focuses on interpretation of writing, literature, grammar, and vocabulary. The course is taken year-long and awards one credit towards fulfillment of the four-credit requirement in Language Arts needed to earn a standard high school diploma (Education, 2016).

10th Grade Literature

Tenth grade literature builds upon the competencies learned in 9th grade literature and focuses on the study of literature and symbols and themes common to literary works including poetry, novel, drama, short story, and nonfiction. Additionally, students in this course gain

effective writing, language, and research skills. This is a year-long course that awards one of the four credits in Language Arts needed to earn a standard high school diploma. (Education, 2016).

Chemistry

Department of Education (2020) state the standards of this course are abstract and focus on the structure of properties of matter, the structure of atoms and the interaction and conservation of matter and energy. Students in this course learn how to assess, compile, and communicate information about characteristics of elements and atoms and atomic theory and periodic law. Additionally, students learn about Kinetic Molecular Theory, describe solutions, and how to define the design of a chemical system (Department of Education, 2020). Chemistry is offered to juniors and seniors and is a year-long course. Chemistry awards one credit towards the three credits required to fulfill the four-credit science obligation needed to earn a standard high school diploma (Cox, 2019).

United States History

United States History is a year-long course and awards one credit towards the social studies requirement for a standard high school diploma. During the first semester, students study the Great Depression, White House reforms, WWI, the Progressive Era, and the New Deal. The second semester pivots to focus on current events and events dating back to WWI (Cox, 2019).

World Literature

Traditionally, World Literature is taken during a student's senior year. Students continue to develop vocabulary, effective reading strategies, and an understanding of major literary topics learned in 9th, 10th, and 11th grade English. This course is offered during one semester and

awards 0.5 credits towards the three credits social studies requirement needed to earn a standard high school diploma. (Education, 2016).

World Geography

This course covers how various territories of the world influence its cultural, historical, and economic development. Students in this course begin to understand environmental issues, geographic concepts, and the relationship of people to their environment (Course Description Guide, 2013). World Geography awards one credit towards the three-credit social studies requirement needed to earn a standard high school diploma (Cox, 2019).

Government

This course provides students with a foundational understanding of the United States American Government, its structure, philosophies, and its relationship to citizens and states. Additionally, the course covers branches of the federal government, the role of political parties and media, constitutional principles, and civil rights. Students in this course will also learn how to analyze and evaluate arguments and write comparative analysis essays. This course is offered as a semester course and awards 0.5 credits towards the four-credit elective requirement to earn a standard high school diploma (Education, 2016).

Art

This course is offered during a semester and introduces students to visual arts which include sculpture, drawing, aesthetics, art history, personal communication, and careers. The course awards 0.5 credits towards the total of four credits needed to fulfill the elective requirement for a standard high school diploma (Education, 2016).

APPENDIX B

The Situational Motivation Scale (SIMS) Survey

16-Item Version of the SIMS* (Guay, Vallerand, & Blanchard, 2000)

Answer each item according to the following scale: 1 = correspond not at all; 2 = correspond a very little; 3 = correspond a little; 4 = correspond moderately; 5 = correspond enough; 6 = correspond a lot; 7 = correspond exactly.

Directions: Read each item carefully. Using the scale below, please circle the number that best describes the reason why you are currently engaged in this activity.

Why are you currently taking an online credit recovery course?

1. Because I think that this activity is interesting.	7 6 5 4 3 2 1
2. Because I am doing it for my own good.	7 6 5 4 3 2 1
3. Because I am supposed to do it.	7 6 5 4 3 2 1
4. There may be good reasons to do this activity, but personally I don't see any.	7 6 5 4 3 2 1
5. Because I think that this activity is pleasant.	7 6 5 4 3 2 1
6. Because I think this activity is good for me.	7 6 5 4 3 2 1
7. Because it is something that I have to do.	7 6 5 4 3 2 1
8. I do this activity, but I am not sure if it is worth it	7 6 5 4 3 2 1
9. Because this activity is fun.	7 6 5 4 3 2 1
10. By personal decision.	7 6 5 4 3 2 1
11. Because I don't have any choice.	7 6 5 4 3 2 1
12. I don't know; I don't see what the activity brings me.	7 6 5 4 3 2 1
13. Because I feel good when doing this activity.	7 6 5 4 3 2 1
14. Because I believe this activity is important for me.	7 6 5 4 3 2 1
15. Because I feel that I have to do it.	7 6 5 4 3 2 1
16. I do this activity, but I am not sure it is a good thing to pursue it.	7 6 5 4 3 2 1

Codification key: Intrinsic motivation: Items 1, 5, 9, 13; Identified regulation: Items 2, 6, 10, 14; External regulation: Items 3,7, 11, 15; Amotivation: Items 4, 8, 12, 16.

APPENDIX C

Students' Transcripts

Student 1

I am Tycie Coppett, a doctoral student at the University of Georgia. I am currently working towards completing my dissertation about online credit recovery programs. My goal is to better understand what motivates students and how students are motivated when taking online credit recovery courses. Neither your school nor you will be identified in my project. This is completely anonymous, and your participation is voluntary. You can choose not to participate at all or to leave at any time. Regardless of your decision, there will be no effect on your relationship with me or any other consequences.

The interview will last around 15 minutes. I will take notes during the interview and your interview will be recorded. After the research has been conducted, the files will be deleted. Again, everything you say in this interview is anonymous and cannot be linked to you in any way. No identifying information will be collected during the interview and your recording will be identified only with a random number. The results of this study will be used to help inform online credit recovery programs.

Transcript

In your own words, please describe why are taking online credit recovery courses?

Because 11th grade year I failed 11th grade lit. I had to make up for it and graduate on time.

In your own words, please describe your overall experience taking online credit recovery classes as opposed to taking courses in the classroom.

It's better than the classroom because you can understand it better because you have access to the internet to get the answers. Edgenuity is good because you can do it and grades go up and do more than in the classroom. I take classes every third period of the day and at home. I am more motivated and it's more helpful to know what's really going on. The internet helps with answers. The teacher is there to help also if I have questions.

What course(s) have you taken online?

11th grade lit. Ed for Advanced Math. For a semester.

What grade(s) did you receive?

No grade now. In the class now. Scheduled to graduate in May.

Why do you believe you were successful taking an online credit recovery course and not in the classroom?

What grade are you in?

11th grade

What would you tell students who have not taken an online credit recovery course that are scheduled to take a class in the spring?

Be focused and read over everything you are looking at. It takes more time than a classroom. But it's easier because you get chance after chance. In the classroom you only get one chance.

Which one of these incentives, if any, motivated you to take an online credit recovery course?

1) You needed the course to graduate?
2) You weren't given an option.
3) **You wanted to stay on track to graduate on time**.
4) The course was not offered face-to-face.

Student 2

I am Tycie Coppett, a doctoral student at the University of Georgia. I am currently working towards completing my dissertation about online credit recovery programs. My goal is to better understand what motivates students and how students are motivated when taking online credit recovery courses. Neither your school nor you will be identified in my project. This is completely anonymous, and your participation is voluntary. You can choose not to participate at all or to leave at any time. Regardless of your decision, there will be no effect on your relationship with me or any other consequences.

The interview will last around 15 minutes. I will take notes during the interview and your interview will be recorded. After the research has been conducted, the files will be deleted. Again, everything you say in this interview is anonymous and cannot be linked to you in any way. No identifying information will be collected during the interview and your recording will be identified only with a random number. The results of this study will be used to help inform online credit recovery programs.

Transcript

In your own words, please describe why are taking online credit recovery courses?

Because for the class I didn't get all the credits for the Environmental Science in the tenth grade. I am also taking English over but, in the classroom, not Edgenuity.

In your own words, please describe your overall experience taking online credit recovery classes as opposed to taking courses in the classroom.

I am more motivated to take it because it's easier. The videos tell you what to do. Then they explain what you to do and they tell you what to do.

What course(s) have you taken online?

Environmental Science

What grade(s) did you receive?

I am in the class now. I don't have a grade yet.

Why do you believe you were successful taking an online credit recovery course and not in the classroom?

I am more motivated because it's important to graduate.

What grade are you in?

11th grade

What would you tell students who have not taken an online credit recovery course that are scheduled to take a class in the spring?

It's easier than pencil and paper and easy to understand and they teach you more things in the Edgenuity class. I enjoy it but other students won't like to do the work required. It requires more reading and writing, and some students will not like the extra work.

Which one of these incentives, if any, motivated you to take an online credit recovery course?

1) You needed the course to graduate?
2) You weren't given an option.
3) **You wanted to stay on track to graduate on time.**
4) The course was not offered face-to-face.

Student 3

I am Tycie Coppett, a doctoral student at the University of Georgia. I am currently working towards completing my dissertation about online credit recovery programs. My goal is to better understand what motivates students and how students are motivated when taking online credit recovery courses. Neither your school nor you will be identified in my project. This is completely anonymous, and your participation is voluntary. You can choose not to participate at all or to leave at any time. Regardless of your decision, there will be no effect on your relationship with me or any other consequences.

The interview will last around 15 minutes. I will take notes during the interview and your interview will be recorded. After the research has been conducted, the files will be deleted. Again, everything you say in this interview is anonymous and cannot be linked to you in any way. No identifying information will be collected during the interview and your recording will be identified only with a random number. The results of this study will be used to help inform online credit recovery programs.

Transcript

In your own words, please describe why are taking online credit recovery courses?

I was but not anymore. It was last year. I failed US History and needed to bring up my grade. I had a 50 or 60 and needed to take Edgenuity to bring up my grade.

In your own words, please describe your overall experience taking online credit recovery classes as opposed to taking courses in the classroom.

It was not for me because I know I am smarter than that. I didn't put much work in the classroom as I did in the Edgenuity class. I had to take more time afterschool to go over something I could have done in the classroom while learning.

What course(s) have you taken online?

US History

What grade(s) did you receive?

80 something.

Why do you believe you were successful taking an online credit recovery course and not in the classroom?

Because I could have been like sitting there learning instead, I wasn't playing around in class. I had little jokes here and there in the classroom, but I was paying attention. When it came to the quizzes on Fridays, I didn't know the information on the quiz. But I would try my best. I knew half of the questions and the other questions I didn't know. I would just try to do it.

What grade are you in?

10th

What would you tell students who have not taken an online credit recovery course that are scheduled to take a class in the spring?

The advice I would give is to do your vest and try to remember to do the best you can from the time you were in school and don't play around and just go in there and do your work and don't even worry about the people that call you a nerd or say you lame because people that call you those names are not going to get anywhere in life. And you will get somewhere in life they won't.

Which one of these incentives, if any, motivated you to take an online credit recovery course?

1) You needed the course to graduate?
2) You weren't given an option.
3) **You wanted to stay on track to graduate on time.**
4) The course was not offered face-to-face.

Student 4

I am Tycie Coppett, a doctoral student at the University of Georgia. I am currently working towards completing my dissertation about online credit recovery programs. My goal is to better understand what motivates students and how students are motivated when taking online credit recovery courses. Neither your school nor you will be identified in my project. This is completely anonymous, and your participation is voluntary. You can choose not to participate at all or to leave at any time. Regardless of your decision, there will be no effect on your relationship with me or any other consequences.

The interview will last around 15 minutes. I will take notes during the interview and your interview will be recorded. After the research has been conducted, the files will be deleted. Again, everything you say in this interview is anonymous and cannot be linked to you in any way. No identifying information will be collected during the interview and your recording will be identified only with a random number. The results of this study will be used to help inform online credit recovery programs.

Transcript

In your own words, please describe why are taking online credit recovery courses?

Well, for me in class the lesson is not engaging enough for me and I wouldn't do it. However, if I am taking an online class and I know I need it in order to graduate then I will be more seriously.

In class, social studies, they usually give us a PowerPoint to look at and then have us to do a worksheet and that's not helping us learn. Most kids, we take notes, but we cannot retain all that information. We are just supposed to regurgitate information. In Edgenuity, I took it seriously because I knew it would help me graduate.

In your own words, please describe your overall experience taking online credit recovery classes as opposed to taking courses in the classroom.

It explains it much better and the lesson help by starting you off slowly and then graduating to higher levels which is easier to learn for me.

What course(s) have you taken online?

World History and Algebra last year.

What grade(s) did you receive?

Above 80s, which is what is needed to pass.

Why do you believe you were successful taking an online credit recovery course and not in the classroom?

The lessons were easier to understand so I took it more seriously. I wanted to not get behind and graduate on time.

What grade are you in?

10^{th}

What would you tell students who have not taken an online credit recovery course that are scheduled to take a class in the spring?

Do not rush yourself and take your time and don't think of it as something hard. It's easy if you actually pay attention to it and it's better than sitting in the class and retaining information.

Which one of these incentives, if any, motivated you to take an online credit recovery course?

1) You needed the course to graduate?
2) You weren't given an option.
3) **You wanted to stay on track to graduate on time.**
4) The course was not offered face-to-face.

Student 5

I am Tycie Coppett, a doctoral student at the University of Georgia. I am currently working towards completing my dissertation about online credit recovery programs. My goal is to better understand what motivates students and how students are motivated when taking online credit recovery courses. Neither your school nor you will be identified in my project. This is completely anonymous, and your participation is voluntary. You can choose not to participate at all or to leave at any time. Regardless of your decision, there will be no effect on your relationship with me or any other consequences.

The interview will last around 15 minutes. I will take notes during the interview and your interview will be recorded. After the research has been conducted, the files will be deleted. Again, everything you say in this interview is anonymous and cannot be linked to you in any way. No identifying information will be collected during the interview and your recording will be identified only with a random number. The results of this study will be used to help inform online credit recovery programs.

In your own words, please describe why are taking online credit recovery courses?

The credit recovery courses I took was American Government and Environmental Science and I finished World History and I didn't have to take it again which I was happy about because it's a lot. I started doing Edgenuity at the end of the year, so I didn't have time to finish it. By the end of the year, I had two more assignments in World History and five assignments in Environmental Science. I still passed the class even though I didn't finish the whole class. I still took the test for the class and still passed it.

In your own words, please describe your overall experience taking online credit recovery classes as opposed to taking courses in the classroom.

Edgenuity, I like, because you go at your own pace. You know what you are doing and what you don't know. If you don't catch on it, Edgenuity gives it to you again until you get it. In the class, sometimes you know the stuff and you have to stay with the pace of the class. You can't move on.

What course(s) have you taken online?

Environmental Science, American Government, World History

What grade(s) did you receive?

I passed.

Why do you believe you were successful taking an online credit recovery course and not in the classroom?

I would say, concentration. Sometimes classrooms can be hectic. Most of the time in Edgenuity you don't have to worry about that. More people are focused on Edgenuity classes.

What grade are you in?

10^{th} grade

What would you tell students who have not taken an online credit recovery course that are scheduled to take a class in the spring?

I would tell them to work as hard as you can, don't try to play around with it. It's not going to take that long. It's not that hard. Really, just pay attention.

Which one of these incentives, if any, motivated you to take an online credit recovery course?

1) You needed the course to graduate?
2) You weren't given an option.
3) **You wanted to stay on track to graduate on time.**
4) The course was not offered face-to-face.

APPENDIX D

Recruitment Letter

Dear Online Credit Recovery Student:

I am a Ph.D. candidate in the Department of Workforce Development at The University of Georgia and Assistant Director of the Doctor of Education Leadership Program at Harvard University. I invite you to participate in a research study entitled *Student Intrinsic, Extrinsic and Amotivation as Predictors of Achievement in Online Credit Recovery*. The aim of my study is to explain the relationship between motivation and student achievement in online credit recovery courses using the Situational Motivation Scale (SIMS) survey. I obtained your contact information from your school counselor who identified you as a potential participant in this survey. You're eligible to be in this study because you are taking an online credit recovery course in fulfillment of your high school diploma. Your participation is appreciated; however, you are not required to participate.

If you desire to participate, your participation will involve completing a brief online survey and should only take no more than **5 minutes** for you to complete; there are no additional sessions required and no risks anticipated. There is no compensation involved. Participation in this research will have no bearing on your enrollment, academic or social activities. The potential benefit of the survey is for the administration to gain a better understanding regarding student motivation in online credit recovery courses with the goal of continuing to identify methods to improve student achievement.

If you would like additional information about this study, please feel free to call me Tycie N. Coppett at (770) 845-2580 or send an e-mail to tycie_coppett@gse.harvard.edu.

Thank you for your consideration!

Sincerely,

Tycie N. Coppett

APPENDIX E

Student Consent Form

Dear Online Credit Recovery Student:

I am a Ph.D. candidate in the Department of Workforce Development at The University of Georgia and Assistant Director of the Doctor of Education Leadership Program at Harvard University. I invite you to participate in a research study entitled *Student Intrinsic, Extrinsic and Amotivation as Predictors of Achievement in Online Credit Recovery*. The aim of my study is to explain the relationship between motivation and student achievement in online credit recovery courses using the Situational Motivation Scale (SIMS) survey. I obtained your contact information from your school counselor who identified you as a potential participant in this survey. You're eligible to be in this study because you are taking an online credit recovery course in fulfillment of your high school diploma. Your participation is appreciated; however, you are not required to participate.

You do not have to say "yes" if you don't want to. No one, including your parents, will be mad at you if you say "no" now or if you change your mind later. We have also asked your parent's permission to do this. Even if your parent says "yes," you can still say "no." Remember, you can ask us to stop at any time. Your grades in school will not be affected whether you say "yes" or "no."

If you desire to participate, your participation will involve completing a brief online survey and should only take no more than **5 minutes** for you to complete; there are no additional sessions required and no risks anticipated. There is no compensation involved. Participation in this research will have no bearing on your enrollment, academic or social activities. The potential benefit of the survey is for the administration to gain a better understanding regarding student motivation in online credit recovery courses with the goal of continuing to identify methods to improve student achievement.

If you would like additional information about this study, please feel free to call me Tycie N. Coppett at (770) 845-2580 or send an e-mail to tycie_coppett@gse.harvard.edu.

Thank you for your consideration!

Sincerely,

Tycie N. Coppett

Name of Child: _____ **Parental Permission on File:** ☐ Yes ☐ No********(If "No," do not proceed with assent or research procedures.)*

(For Written Assent) **Signing here means that you have read this paper or had it read to you and that you are willing to be in this study. If you don't want to be in the study, don't sign.**

Signature of Child: _____ **Date:** _____

(For Verbal Assent) **Indicate Child's Voluntary Response to Participation:** ☐ Yes ☐ No

Signature of Researcher: _____ **Date:** _____

APPENDIX F

Parental Consent Form

PARENTAL CONSENT

FORM

You and your child are invited to take part in a research study being conducted by me, Tycie N. Coppett, a student at the University of Georgia, Athens, GA, as part of my dissertation research titled, *Student Intrinsic, Extrinsic and Amotivation as Predictors of Achievement in Online Credit Recovery Programs*. The study, as well as your rights as a participant, are described below.

Description: The aim of the study is to explain the relationship between motivation, sex (male/female), and student achievement in online credit recovery courses. This research will be conducted using the Situational Motivation Scale (SIMS), a survey administered to students who are currently enrolled in an online credit recovery course(s). The survey is electronic and should take no more ten minutes.

Confidentiality: Students' answers will be not be associated with their names. Rather, each student will be given an identification number. The survey completed by each child who participated will be destroyed after it has been transcribed.

The sex (male/female) and previous grades earned in the current and/or previous online credit recovery courses will be extracted from your student's educational record. Your child's name will be extracted but anonymized using a number alpha sequence to maintain anonymity. I will not have access to your child's name.

Risks & Benefits: There are no risks to your child's safety. You may opt to review the survey with your child. This research will have no bearing on your child's enrollment, academic or social activities. There is no compensation involved.

Freedom to Withdraw or Refuse Participation: Your child has the right to stop the survey at any time, or to refuse to answer any of the survey questions without prejudice from the researcher.

Grievance Procedure: For questions or concerns regarding you, or your child's rights as a research participant, contact the University of Georgia Institutional Review Board at irb@uga.edu or 706-542-3199.

Questions? Please feel free to ask the researcher any questions before signing the consent form or at any time during or after the study.

Principal Investigator: Tycie N. Coppett, Ph.D. Candidate, Workforce Education, University of Georgia 13

Appian Way, Longfellow Hall 040, Cambridge, MA 02138 tycie_coppett@gse.harvard.edu

Faculty Supervisor: Dr. Myra N. Womble, Associate Professor, Retired formerly of the Department of

Career and Information Studies, University of Georgia.

Informed Consent Statement

I, _____, give permission for my child, _____ to participate in the research project titled, "*Student Intrinsic, Extrinsic and Amotivation as Predictors of Achievement in Online Credit Recovery Programs.*" The study has been explained to me and my questions answered to my satisfaction. I understand that my child's right to withdraw from participating or refuse to participate will be respected and that his/her responses and identity will be kept anonymous. I give this consent voluntarily.

Parent/Guardian Signature:

_____ _____

Signature Date

Investigator Signature:

_____ _____

Signature

APPENDIX G

IRB APPROVAL

Human Research Protection Program

Tucker Hall, Room 212
310 E. Campus Rd.
Athens, Georgia 30602
TEL 706-542-3199 | FAX 706-542-5638
IRB@uga.edu http://research.uga.edu/hso/irb/

December 20, 2018

Dear Myra N. Womble:

EXEMPT DETERMINATION

On 12/20/2018, the Human Subjects Office reviewed the following submission:

Type of Review:	Initial Study
Title of Study:	STUDENT INTRINSIC, EXTRINSIC AND AMOTIVATION AS PREDICTORS OF ACHIEVEMENT IN ONLINE CREDIT RECOVERY PROGRAMS
Investigator:	Myra N. Womble
Co-Investigator:	Tycie Coppett
IRB ID:	STUDY00006096
Funding:	None
Review Category:	Exempt, FLEX (7)

We have approved the protocol from 12/20/2018 to 12/19/2023.

This is an exempt study, so it's not necessary to submit a modification for minor changes to study procedure. You can keep us informed of changes that don't affect the risk of the study by using "Add Comment."

Please close this study when it is complete.

In conducting this study, you are required to follow the requirements listed in the Investigator Manual (HRP-103).

Sincerely,

William Westbrook, IRB Analyst
Human Subjects Office, University of Georgia

APPENDIX H

Students' Highest Motivation Score

Student	Highest Motivation Score	IM	IR	ER	AM
S1	IM	22.00	18.00	21.00	22.00
S2	IR	9.00	19.00	21.70	15.00
S3	IR	17.00	28.00	28.00	5.00
S4	IM	15.00	12.00	9.00	11.00
S5	ER	17.00	23.00	23.00	5.00
S6	IR	9.00	26.00	21.00	6.00
S7	ER	6.00	23.00	25.00	12.00
S8	ER	12.00	26.00	28.00	18.00
S9	ER	9.00	22.00	28.00	4.00
S10	ER	14.63	23.00	28.00	5.91
S11	IR	10.00	28.00	23.00	12.00
S12	IM	15.00	9.00	7.00	12.00
S13	ER	7.00	12.00	28.00	19.00
S14	ER	10.72	10.00	22.00	10.00
S15	ER	4.00	16.00	28.00	5.00
S16	ER	12.00	16.00	18.00	9.00
S17	ER	4.00	16.00	28.00	5.00
S18	IR	23.00	25.00	22.00	14.00
S19	IM	19.00	14.00	13.00	12.00
S20	AM	7.00	8.00	5.00	10.00
S21	IR	23.00	25.00	22.00	14.00
S22	ER	4.00	10.00	28.00	4.00
S23	ER	12.00	16.00	18.00	9.00
S24	ER	22.00	28.00	28.00	4.00
S25	ER	21.00	25.00	28.00	22.00
S26	ER	6.00	15.00	28.00	4.00
S27	ER	14.00	21.00	24.00	17.00
S28	AM	21.00	23.00	20.00	24.00
S29	AM	4.00	4.00	4.00	16.00
S30	ER	8.00	7.00	10.00	8.00
S31	IR	23.00	25.00	22.00	14.00
S32	ER	7.00	8.00	28.00	11.00
S33	AM	16.00	16.00	16.00	19.00
S34	IR	9.00	26.00	21.00	6.00
S35	ER	14.00	21.00	21.00	7.00

Student	Highest Motivation Score	IM	IR	ER	AM
S36	ER	7.00	17.00	19.00	13.00
S37	IR	13.00	25.00	23.00	6.00
S38	ER	4.00	11.00	28.00	13.00
S39	IR	13.00	28.00	17.00	4.00
S40	IR	26.00	28.00	25.00	6.00
S41	ER	20.00	28.00	26.00	23.00
S42	ER	13.00	28.00	17.00	4.00
S43	ER	14.00	21.00	22.00	7.00
S44	IR	20.00	28.00	26.00	23.00
S45	ER	6.00	15.00	28.00	4.00
S46	ER	9.00	19.00	21.70	15.00
S47	AM	16.00	16.00	16.00	19.00
S48	AM	19.00	19.00	19.00	19.00
S49	ER	14.00	21.00	24.00	17.00
S50	IR	16.00	17.00	16.00	16.00
S51	IR	13.00	25.00	23.00	6.00
S52	IR	13.00	28.00	17.00	4.00
S53	ER	4.00	11.00	28.00	13.00
S54	ER	7.00	17.00	19.00	13.00
S55	ER	22.00	26.00	28.00	4.00
S56	IR	10.00	28.00	23.00	12.00
S57	IM	28.00	26.00	25.00	6.00
S58	IM	19.00	14.00	13.00	12.00
S59	IR	13.00	25.00	23.00	6.00
S60	IM	19.00	14.00	13.00	12.00

Note: IM = Intrinsic Motivation, IR = Extrinsic Motivation: Identified Regulation, ER = Extrinsic Motivation: External Regulation, and AM = Amotivation. Motivation scores were rounded to the nearest whole number.