A Study on Credit Recovery Programs and the Effect on Graduation Rates

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Abstract

The purpose of the study was to determine the statistical relationship between high school students in western Pennsylvania who regain credits through traditional and online credit recovery programs and their respected graduation rates. The problem was there was minimal indication whether or not there is a relationship between credit recovery programs and graduation rates, or whether students recuperate their lost credits through credit recovery programs. The literature review provided examples of similar research, and gaps that have left school administrators without the ability to determine which type of program might increase graduation rates the most. An ex post facto research design was used to collect data from a sample group of six school districts located in western Pennsylvania. Archived data was collected via surveys through email. The results of the SPSS determined the difference between traditional credit recovery programs, online credit recovery programs, the respected graduation rates, and recuperated credit rate. Results showed an increase in mean scores with recuperating lost credits through the use of credit recovery programs. No significant difference was noted between the districts and their graduation rates after implementing the programs.

Keywords: credit recovery, online learning, graduation rates, at-risk

Dedication

This dissertation is dedicated to my husband, our three children, and my family. Chris, thank you for your constant understanding, support, and patience while I continue with my dream of being a successful leader and educator. Your encouragement means more to me than you will ever know. Karissa, Corinne, and Colt, you have been my inspiration throughout this journey. I hope you always remember that hard work and perseverance will allow you to accomplish anything you put your mind to. To my parents, thank you for always being the cheerleaders I needed.

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Chapter 1: Introduction

The decision to drop out of high school follows years of disengagement from school (Tromski-Klingshirn & Miura, 2017). The choice to drop out is possibly due to attendance challenges, disciplinary issues, and constant failure in the classroom (Anderson, 2016). For districts to influence the number of students graduating high school, administrators look to change the high school experience in order to help students who do not fit with the traditional setting (Oliver & Kellogg, 2015). One way to change the high school experience is to offer a credit recovery program as students are able to recoup credits at a faster rate (Rickles, Heppen, Allensworth, Sorensen, & Walters, 2018).

There are numerous factors that affect a student's ability to graduate from high school on time. The purpose of the study was to determine whether traditional or online credit recovery programs have a more significant effect on graduation rates. Chapter 1 discussed the background, problem statement, significance of the study, present the research questions and hypotheses, discuss the theoretical framework, limitations, and provide significant definitions.

Background of the Problem

According to the U.S. Department of Education (USDE, 2018b), in 2016, the National Center for Education Statistics (NCES) reported the national dropout rate was 6.1%. Although there is a decrease from the 7.4% reported in 2010, there is still an emphasis on school districts to comprehend why rates are deteriorating. Although there are numerous influences as to why students are not graduating high school, such as low attendance rates, failing classes, and schools not offering enough courses to complete required credits (Youngsik, Joo, & Lee, 2018), there is not one reason why students choose to leave school before gaining a diploma.

Russell, Hoffman, and Higgins (2009) reported 60% of high school freshman who do not make it to tenth grade will at some point drop out of high school. Once a district recognizes why students are not graduating or graduating on time, the district is able to create and implement a plan to support students. In return, the students become successful and increase the district's graduation rates. One popular way to assist students is through credit recovery programs (Rinka, Robertson, & Smith, 2015).

During the 2014–2015 school year, the USDE (2018c) sent out a survey on strategies high schools have used to help at-risk students graduate. Within the survey, the USDE defined credit recovery as an approach that supports at-risk students to retake a course the students previously failed, which is required to graduate high school. Credit recovery courses were designed to assist students to avoid falling further behind and enable them to graduate with class peers (Hughes, Zhou, & Petscher, 2015). Schools could offer these courses in the traditional classroom setting, online, or a blend of the two to meet the needs of the students (USDE, 2018c).

Statement of the Problem

The problem was there is a minimal indication of whether or not there is a relationship between credit recovery programs and graduation rates. The background of the problem is providing credit recovery programs as an option to complete required courses which in return assist with students being successful at the end (Oliver & Kellogg, 2015). The importance of the problem is schools that offer additional resources for students to have an overall higher graduation rate than those who do not (Rinka et al., 2015).

The extent of the problem was 207 students dropped out of high school during the 2016–2017 school year in the western Pennsylvania counties of Allegheny, Beaver, Butler, and

Lawrence (Pennsylvania Department of Education, 2018b). Despite the amount of research on credit recovery, there remains a gap in the literature on which type of credit recovery program is more successful (Barbour & Reeves, 2009). The research gap has left school administrators deprived of the capability to determine which type of program is capable of upturning graduation rates the most.

Purpose of the Study

The purpose of this quantitative ex post facto study was to determine if there is a statistical relationship between high school students in western Pennsylvania who regain credits through traditional and online credit recovery programs and their respected graduation rates. This study was necessary to see if there is a relationship between traditional credit recovery, online credit recovery, and the respected graduation rates. Using hierarchical linear modeling, the relationship between credit recovery programs and students' high school graduation rates were explored. The study contributed to the awareness of credit recovery programs by providing a better understanding of the relationship between traditional credit recovery programs, online credit recovery programs, and the respected graduation rates.

The research took place in school districts within the western Pennsylvania counties of Allegheny, Beaver, Butler, and Lawrence. This study relates to the National Education Technology Plan, the USDE (2017) unveiled in 2010. The plan suggested credit recovery is an essential component in supporting students in danger of failing to graduate (Swanson, 2010).

Significance of the Study

The knowledge gained from this study may assist school district administrators when determining which type of credit recovery program is able to increase graduation rates. Although

there has been an increase in the usage of credit recovery programs in high schools, there is minimal data to support the success or conclude the failure of credit recovery programs. By conducting this study, school districts are able to determine if credit recovery programs are beneficial, and which one comes with the most successful on-time graduation rates.

By having additional information on the success rates of both traditional and online credit recovery courses, school leaders are able to assist students in deciding which type of course will allow for a higher success rate. Understanding the type of at-risk students the leaders and teachers are working with will also allow for a more successful implementation. Both of these areas will help contribute in lowering the number of students who drop out of high school before receiving their diploma. Students must feel engaged with their school or else they may choose to leave (Christenson & Thurlow, 2004).

Research Questions and Hypotheses

Research questions assisted with creating focus points for the research to follow. The questions guide the research throughout each stage and contribute to proving the hypotheses. The following questions and hypotheses guided this research study:

Research Question 1: What is the statistically significant difference between traditional credit recovery students and noncredit recovery students' graduation rates?

***H_{01}*:** No statistically significant difference exists between traditional credit recovery programs and graduation rates.

***H_{A1}*:** A statistically significant difference exists between traditional credit recovery programs and graduation rates.

Research Question 2: What is the statistically significant difference between online credit recovery students and noncredit recovery students' graduation rates?

***H_{02}*:** No statistically significant difference exists between online credit recovery programs and graduation rates.

***H_{A2}*:** A statistically significant difference exists between online credit recovery programs and graduation rates.

Theoretical Framework

Heifetz and Linsky established the adaptive leadership model in 1994, which is what this study was piloted by (Heifetz, Grashow, & Linsky, 2009). Khan (2017) stated the adaptive model encourages people to acclimate themselves in response to the changing situations. In this study, leaders have the duty to assist students in adapting to the challenges the students face. Students face the challenge of not passing courses in order to graduate. The students must adapt to the idea of not passing their course the first time through with the result being they will take a credit recovery version of the course next. Leaders should assist students by offering these credit recovery courses and confirming students understand the outcomes of whether the credit recovery courses are completed or not. If the credit recovery courses are not completed, then the students will not receive any credit and will not be able to graduate.

Definitions of Terms

This section includes the definitions for key terms used within this study. Even though many of the terms applied in this study are normally understood, certain procedural terms are constantly referred to throughout this dissertation. The following definitions could be helpful to the reader:

Administrators: School administrators are leaders who ensure students are set up to be successful. In order to do this, administrators oversee the daily operations of the schools, evaluate the effectiveness of the curriculum and teachers, and handle discipline issues (Farhan, 2018).

At-risk student: A student who, due to one or more factors, has a possibility of not graduating from high school (Viano, 2018).

Credit recovery: An educational program allowing a student the chance to pass and earn credit for a course previously attempted, which failed to earn the required academic credit towards graduation. Credit recovery is different from initial credit where students already met the seat time requirement for the course, and so students earn credit based on standards mastery (Watson & Gemin, 2008).

Dropout: A student who chose to leave high school between the beginning of one school year and the following year without earning a high school diploma or an equivalence (Bridgeland, Dilulio, & Balfanz, 2009).

Graduation rates: Graduation rates are calculated percentages of students who graduate within a specified time frame. For this study, graduation rates are calculated for a four-year time frame (Allensworth, Healey, Gwynne, & Crespin, 2016).

Online credit recovery: When credit recovery is delivered in the form of distance education where the content is communicated and managed over the Internet (Digital Learning Collaborative, 2019).

Socioeconomic status: The composite measure of a school's economic and sociological standing. The measure is based on multiple factors, including household income, education, and occupations (Anders, 2017).

Assumptions

This study links groups without a pretest and assumes the two groups had comparable circumstances by ensuring all students did not receive original course credit and any variance found branches from the credit recovery course taken (Allen, 2017). The following assumptions were made in this study. Only school districts in the Pennsylvania counties of Allegheny, Beaver, Butler, and Lawrence, who used a credit recovery program for at least three years were used as a population. School district administrators who agreed to be a part of the study completed a survey to submit archived data (Appendix C). An assumption from the archived data was the students participated in continuous enrollment in each course throughout the school year.

Scope and Delimitations

This study was limited to four counties in the Commonwealth of Pennsylvania. The data compared course completion rates, as well as graduation rates both prior and after the implementation of credit recovery programs to determine if graduation rates improved. Since the study focused on western Pennsylvania, a multistate study could provide increased insight into the relationship between credit recovery programs and on-time graduation rates.

Delimitations occur when mindful decisions are used to generate limitations for a study using certain theoretical frameworks, objectives, research questions, or study samples (Ellis & Levy, 2009). A delimitation of this study was the method of delivery of the research consent and the research instrument. Both the research consent and survey were sent via e-mail to the school

district administrators, and some administrators might be unresponsive to e-mail. Due to this, there might have been a delay in gaining approval to use research sites and receiving data.

Limitations

Since the geography range is limited to Western Pennsylvania, the study inhibited the results to be shown on a larger scale with a greater geography range. To avoid bias with data collected from one sample population, two approved schools were taken from each socioeconomic group. Additional limitations included the accuracy of the data being reported by the school districts and school districts failing to turn in data after the districts agreed to be a research site. While the number of districts between the four counties is larger, only six districts responded they would participate in the study, which impacted potential validity (Frey, 2018).

Chapter Summary

Although people in the community are quick to judge and point fingers as to why students do not complete high school, the reality is there are too many factors and unknowns to the reasons (Anders, 2017). To minimize those factors, school districts need to be creative to help students feel successful, so students are more likely to continue with the studies (Heppen et al., 2017). Both administrators and teachers have roles in helping students feel successful, and all parties need to be supportive of the choices provided to the students. This research study attempted to fill the gap in the literature on how credit recovery programs influence graduation rates. In addition, the study was built upon previous research and added to the literature base which is necessary to develop effective future credit recovery programs. Chapter 2 offers a comprehensive overview of the existing literature and explores American education, graduation

rates, dropout causes and predictors, dropout prevention programs, socioeconomic status, credit recovery, and online learning.

Chapter 2: Literature Review

The purpose of this quantitative ex post facto study was to determine if there is a statistical relationship between high school students in western Pennsylvania who regain credits through traditional and online credit recovery programs and their respected graduation rates. Administrators and teachers with an in-depth knowledge of the adaptive leadership model provide activities to encourage students to change habits to be successful (Northouse, 2018). The most recent literature on the topic provides a background of credit recovery programs, influences for not completing high school, prevention of dropping out of high school with the use of credit recovery programs, and the results of credit recovery programs.

In this chapter, the literature search strategy used for the literature review is described, followed by the theoretical framework for the study. Following is the research literature review, in which an overview of high school graduation rates is presented, trailed by an outline of traditional and online credit recovery programs. A summary concludes in Chapter 2.

Literature Search Strategy

The American College of Education Library EBSCO Discovery Service search functioned as the leading database for this literature review, along with ProQuest. These databases allowed searches to be completed for peer-reviewed journal articles within the past five years. When needed, the search engine Google was used to support the search for information associated with the research topic. The following is a list of key search terms used within this chapter: *credit recovery programs*, *high school graduation rates*, *success in high school*, *high school dropout*.

Theoretical Framework

The adaptive leadership model encourages people to adapt in response to fluctuating circumstances (Khan, 2017). In this study, principals are the leaders who could help students adapt to the challenges students face. The challenge within the study students face is not passing required courses to graduate. Developed by Heifetz and Linskey, the model promotes the teaching of changing environments (Heifetz et al., 2009). Leaders are able to assist students by offering credit recovery courses and ensuring students understand the outcomes of whether students complete these courses or not.

The adaptive leadership model is different from other models because the focuses are on adaptations and the response of people to changing environments (Khan, 2017). The leader encourages followers to acknowledge change (Nelson & Squires, 2017). In the adaptive leadership model, leaders help followers complete the work students need to do to acclimate to the challenges students face (Andenoro, Sowcik, & Balser, 2017).

According to Northouse (2018), there are five activities leaders are expected to take part in within the adaptive model, which is to mobilize, motivate, organize, orient, and focus others. By completing these activities, the leader supports others to rediscover and alter standards to encourage change and acquire new ways of success. A leader mobilizes others by encouraging their followers to move towards the change they need in their lives. Motivation provides followers with the principles they need to have the desire to make the change. When followers are offered activities around organization, leaders are setting up what is needed in order to provide the best possible opportunity to succeed. Orient is when a leader recognizes where the

followers are in their plan and assists in making the changes needed to be on track. Finally, leaders focus on a goal and how the change might help the followers.

Adaptive leaders keep people focused on the hard work ahead while being sensitive to frustrations along the way (Jefferies, 2017). The administrators within this research showcase adaptive leadership by allowing students to complete failed courses alternately, so the possibility to graduate with peers is still viable. Understanding the frustrations which come along with failing a course and knowing the possibility of not graduating high school are areas administrators need to be conscientious about.

Research Literature Review

The problem was there is a minimal indication of whether or not there is a relationship between credit recovery programs and graduation rates. The purpose of this quantitative ex post facto study was to determine if there is a statistical relationship between high school students in western Pennsylvania who regain credits through traditional and online credit recovery programs and their respected graduation rates. The most recent literature on the topic provides the reader with a background of credit recovery programs, influences for not completing high school, prevention of dropping out of high school with the use of credit recovery programs, and the results of credit recovery programs.

American Education

Over the years, education has seen numerous changes regarding policies. Some policies have made positive effects, and some have been negative (Reed, 2016). No one is able to truly see or understand how a policy could affect a group of people until the policy has been

implemented. There have been notable acts created along the years which have not only affected education but graduation rates as well (Tavakolian & Howell, 2012).

In 1965, Congress and President Lyndon B. Johnson passed the Elementary and Secondary Education Act (ESEA). Commonly known as Title I, the act provides a funding source for public schools that educate socioeconomically disadvantaged students. To enhance the learning of students, the schools are able to purchase additional programs that generally would not be within budgets (Moffitt, 2016). President Johnson considered equal access to education a crucial part of an individual's triumph in life (Bishop & Jackson, 2015).

Congress then passed Section 504 of the Rehabilitation Act in 1973, which prohibits discrimination based on a student's disability in public school. The Rehabilitation Act provides reasonable accommodations to students with any physical or mental condition which has substantially limited a significant life activity, which includes reading, learning, or concentrating (Hensel, 2015). This law covers students of all ages and applies to colleges and private schools that receive federal funding. In addition, under Section 504, public K–12 schools are obligated to provide 504 plans to children who have disabilities which interfere with the ability to learn. A 504 plan could include accommodations, assistive technology, or school services (Dieterich, Snyder, & Villani, 2015).

Two years later, the Education for All Handicapped Children Act was enacted. This act requires all public schools which accept federal funds to provide free, appropriate education to students with physical and mental disabilities, and one free meal a day. By doing this, the act ensures all students have access to education (Snyder & Dillow, 2015). The Education for All Handicapped Children Act additionally contains a prearrangement saying disabled students

should be placed in the least restrictive environment, so these students are offered the highest possible level of interaction with nonimpaired students (Schuh et al., 2018). This act was renamed in 1990 as the Individuals with Disabilities Education Act.

In 2001, the ESEA was rebranded as No Child Left Behind (NCLB) by President George W. Bush. President Bush created a new era of accountability by steering in standards-based testing reforms and sanctions against schools not meeting adequate yearly progress goals (Jennings & Lauen, 2016). NCLB decreased graduation rates as students were not able to complete specific courses without passing the standards-based end-of-course assessment which corresponded with the course. If the course was required for graduation, then the student could not graduate (Husband & Hunt, 2015).

Finally, in 2015, President Barrack Obama reauthorized ESEA as Every Student Succeeds Act. The latest revision has a new emphasis on measuring student achievement by several measures, including making sure each student subgroup makes gains towards college and career readiness (Dennis, 2017). Now, states create education plans for schools within a framework that has been provided by the federal government. The states are furthermore allowed to decide the consequences for low-performing schools and how support might be provided (Adler-Greene, 2019).

The USDE released *A Nation at Risk* in 1983. This report is considered a pivotal event in the history of education (Schaefer, Malu, & Yoon, 2016) as the report made the United States change the way education was looked at (Chicosky, 2015). *A Nation at Risk* not only provided reports on declining SAT scores and the percentage of illiterate Americans, but the report

additionally provided recommended changes to education requirements such as seven-hour school days, high school course requirements, and raising college admission standards.

In 2008, the USDE released another report titled *A Nation Accountable*. The USDE (2008) recognized the nation was still at risk, but the report held the nation accountable and acknowledged there was still much work to be done. This report exposed for every 20 children born in 1983, six of the children did not graduate from high school on time. Furthermore, of the 14 on-time graduates, 10 went on to start college in the fall, but only five completed their bachelor's degree by 2007 (USDE, 2008).

These reports recognized students falling behind and not graduating as an ongoing challenge in the education system (Jones, Thomas, & Wolfe, 2014). In response, a set of learning standards and standardized tests were created to hold schools accountable for their students (Polleck & Jeffery, 2017). More students began not graduating though not because students did not want to, but because students could not pass the required standardized test. Without passing these tests, students would lose their course credits and would not have the proper requirements to graduate.

Graduation Rates

According to data from the USDE, the earliest date on record for a graduation year is 1870, just three years after the creation of the USDE (Snyder, 1993). Swanson (2010) discovered only 2% of 17-year-olds in the nation had a secondary-level education when the USDE was created. Seventy years later, in 1940, 50.8% of all students finished high school, even though the norm of graduating did not come around until the 1950s.

Many increases and decreases in graduation rates began happening after the 1970s, but since high schoolers began noticing recent grads were receiving higher salaries than their colleagues without diplomas, the spike in rates began to stay (Reilly, 2019). Students have responded to the enticement by finishing high school and even returning to school to complete what was not finished. Not only do students who graduated receive a higher rate in pay, but this group is likely to advance their education further, be economically self-sufficient, and be civically engaged (Zaff et al., 2017).

One-way high school graduation rates have been able to stay stable has been from the creation of the General Educational Development tests in 1942. The United States Armed Forces asked the American Council on Education to develop a series of tests to measure academic skills high school graduates would have mastered (Hutt & Stevens, 2017). The tests included language arts, math, science, and social studies. These series of tests allowed active military personnel a way to demonstrate their knowledge and passing the tests provided the credentials needed to gain civilian jobs and access to postsecondary education or training (Jepsen, Mueser, & Troske, 2017).

The national adjusted cohort graduation rate for the 2016–2017 graduating class is 84.6% according to the NCES (USDE, 2018a). The percentage of students is a cohort, or first-time ninth-grade students in a school year, who graduate on time with a regular diploma. The number is then adjusted by adding any students who transfer into the cohort after ninth grade, as well as subtracting any students who transfer out, emigrate to another country, or pass away. Pennsylvania, where the research for this study took place, has an adjusted cohort graduation rate percentage of 86.6 (USDE, 2018a).

Dropout Causes and Predictors

According to Anderson (2016), over 1 million students decide to drop out of high school each year. There are various influences which are linked with students not completing high school, but unless students report to their district why students are dropping out, the underlying cause is usually unknown (Ricard & Pelletier, 2016). To assist in determining dropout motives, Anderson placed dropout factors into four domains: individual, family, school, and community. The influences within these domains all play a part in whether a student successfully completes high school. In addition, Zaff et al. (2017) identified four factors which predict a successful path to graduation. Based on their research, the four factors are motivation, engagement, expectations for attainment, and locus of control. Zaff et al.'s research suggests each factor is related to one another, and limitations within one factor influence the others. The identified factors from Ricard and Pelletier (2016) and Zaff et al. all contribute to the success students have in completing courses successfully.

Morrow and Villodas (2018) noted among most of the high school dropouts found in their research, 64% of the students who repeated a grade in elementary school dropped out of high school before completing the requirements to graduate. These students had a negative experience early on in their education careers, which caused them to be behind in their learning path. As Youngsik et al. (2018) noted in their research, these students were failed by education in elementary school, which caused their ambition and drive to plummet.

Balfanz and Herzog (2005) studied sixth-graders from Philadelphia to determine if there was a pattern within at-risk students. The researchers discovered over 50% of the sixth graders who showed the following conditions dropped out of school: constant behavioral issues, being

absent over 20% of the school year, and failing either English or math. Each sixth grader received a behavioral grade from their teacher—excellent, satisfactory, or unsatisfactory. Balfanz and Herzog stated the students who earned a grade of unsatisfactory had a 25% chance of graduating high school on time. Archambault, Janosz, Fallu, and Pagani (2009) similarly collected data which supported the idea of discipline and attendance were related to an increased rate of student dropouts. When support systems were put into place, schools began seeing a decrease in dropout rates (Archambault et al., 2009).

On May 9, 2007, policymakers, governors, and other government officials assembled in Washington, DC for the National Summit on America's Silent Epidemic (Cooper, 2018). The summit brought experts and elected officials together to discuss the dropout crisis in the United States. The summit identified concrete steps for local and state policymakers to follow in order to assist students in finishing high school prepared for college or the workforce (Bridgeland et al., 2009). The publication *Ending the Silent Epidemic: A Blueprint to Address America's High School Dropout Crisis* was produced as a product of the summit. This document includes a 10-point action plan to address the dropout issue (Allensworth et al., 2016). The 10-point action plan recommendations are outlined as follows:

1. Support parent engagement and individualized graduation plans.
2. Support accurate graduation and dropout data.
3. Establish early warning systems to support struggling students.
4. Provide adult advocates and student supports.
5. Establish a rigorous college and work prep curriculum.
6. Provide supportive options for struggling students.

7. Raise compulsory school age requirements.
8. Expand college-level learning opportunities.
9. Focus the research and disseminate best practices.
10. Make increasing high school graduation and college and workforce readiness a national priority.

There is a strong need for an effective program which addresses the dropout issue. Multiple programs are readily available, but the problem is the scarcity of studies. Not many studies regard which intervention program shows results through data.

Characteristics of Effective Dropout Prevention Programs

Prevention programs proposed to restrict the dropout crisis vary greatly when looking at their design. Vinas-Forcade, Mels, Valcke, and Derluyn (2019) found interventions to be categorized into the following four areas as most effective: personal (individual counseling), academic (tutoring or individualized instruction), school structure (reducing class size), and work-related (vocational training). Most prevention programs the authors researched involved personal interventions and almost half of the programs incorporated an academic module. Although schools are still experiencing students leaving before graduation, Cabus and DeWitte (2016) found dropout rates to be declining, in which the authors hold preventative services accountable.

Smink and Reimer (2005) used the strategies developed by Schargel, Smink, and the National Dropout Prevention Center to showcase effective ways to prevent student dropouts. These 15 effective strategies to prevent students from dropping out of high school are additionally useful to help prevent truancy and improve attendance rates (Freeman & Simonsen,

2015). Smink and Reimer's report not only described the 15 approaches which help minimize high school dropouts, but the report additionally provided examples of how to utilize the strategies.

The strategies are grouped into four categories: school and community, early interventions, basic strategies, and instruction. The category school and community note students are not only an integral part of the school community but moreover a part of the social community (Smink & Reimer, 2005). Many truancy issues are problems within the community and not just at school (Dahl, 2016). There are three prevention strategies within the school and community category: systemic renewal, school-community collaboration, and safe learning environments.

Smink and Reimer described systemic renewal as a process which continuously evaluated goals and objectives associated to school practices and organizational structures. The process made an impact on various groups of learners. Pablo Elementary implemented the systemic renewal strategy by creating a goal of increasing attendance. The school celebrated its attendance percentage each month, and students who met the monthly goal of 95% received an award (Jesse, Northup, & Withington, 2015).

According to Smink and Reimer (2005), the school-community collaboration strategy allows groups within a community to provide support to the school, along with a strong foundation where the youth are able to flourish and succeed. The Jacksonville United Against Truancy group completed the task by creating brochures in four languages and offering programs to families in need in order to assist in raising awareness around the topic of truancy and assisting in lowering the truancy rate in their community (Cash & Duttweiler, 2006).

An all-inclusive plan to prevent violence could improve positive social mindsets and interpersonal skills in students (Smink & Reimer, 2005). The Olweus Bullying Prevention Program has been identified as one of the first programs for violence prevention. This program was designed to reduce and prevent bullying and victim problems at school by improving peer relations (Bradshaw, 2015).

The second category, early interventions, is generated by three strategies as well. These prevention strategies include family engagement, early childhood education, and early literacy development (Smink & Reimer, 2005). Research has shown identifying truancy issues early is vital to students having a positive start to their education experience (Havik, Bru, & Ertesvag, 2015).

Smink and Reimer (2005) noted family engagement has an honest and constructive effect on children's achievement. Family engagement is moreover one of the most precise forecasters of a student's success in school. The Dallas Independent School District created the Attendance Improvement and Truancy Reduction Program in 1995. Since the program was implemented, the school district has increased attendance rates each year except for one. Before parents are processed in court for truancy, this program provides intervention services to attempt to intervene. If court is required, the program then offers conferences and provides social services when needed (Dembo & Gulledge, 2009).

Early childhood education offers children with added enrichment in order to heighten brain development (Smink & Reimer, 2005). The Truancy Assessment and Service Centers provide assessment and delivery of interventions to prevent truancy in school. The goal is to fill

gaps at-risk families face. Once involved, 68% of students had fewer than five unexcused absences (Thomas, 2017).

Early literacy development supports low-achieving students to increase their reading and writing abilities to establish the vital groundwork for effective learning in all subjects (Smink & Reimer, 2005). Guadalupe is a private school which provides services for free to families in poverty. Home visitors teach parents skills in the areas of parenting and literacy to ensure their children are set up for success when they enter school (Smink & Reimer, 2005).

The third category, basic core strategies, is a group of interventions where students are the center and deliver significant learning opportunities outside of the traditional classroom (Smink & Reimer, 2005). Student-centered dropout interventions are said to have the most significant impact on students graduating (Ecker-Lyster & Niileksela, 2016). The strategies are mentoring/tutoring, service-learning, alternative schooling, and after-school opportunities.

Mentoring is a relationship where a one-to-one support unit is formed between a mentor and a mentee. Tutoring is likewise a one-to-one activity, but tutoring focuses on academics (Smink & Reimer, 2005). The Coca-Cola Company created the Valued Youth Program, which places middle and high school students as tutors to increase their self-esteem. When assigned a younger student to tutor, they are enrolled in a tutoring class and paid a stipend. The goal is to improve their self-esteem and reduce outside factors, which might contribute to at-risk factors of dropping out (Hahn et al., 2015).

Smink and Reimer (2005) explained service-learning as relating meaningful community service involvements with academic learning. The Academy of Create Education was created as a nontraditional school to allow students to complete high school at their own pace. One aspect

of this school is the service-learning competency, which brings innovative techniques to the classroom (Vaz, 2013).

Providing potential dropouts a variety of options which leads to graduation is the alternative schooling strategy (Smink & Reimer, 2005). Smink and Reimer (2005) go on to explain these programs should pay attention to each student's specific needs, both socially and academically, as well as the requirements for a high school diploma. Blanche Ely High School created the Ninth Grade Learning Community Academy to provide a transition from eighth grade into ninth grade. There is additionally an option for the upper grades where eligible 11th- and 12th-grade students have the opportunity to enroll in high school and college courses at Broward Community College as dual enrollments for the opportunity to complete their freshman year of courses while in high school (Beach, 2016).

The last strategy in the basic core strategies category is after-school opportunities. Smink and Reimer said after-school opportunities allow for the dismissal of information loss and could stimulate curiosity in a range of other areas. The Student Transition and Recovery Program offers three different versions based on the needs of the student. C. M. Campbell (2011) noted schools using the program showed an 87% decrease in drug incidences, a 36% decrease in fights, and a 69% decrease in out-of-school suspensions.

The final category, making the most of instruction, is focused on interventions in the classroom. These strategies focus on the specific learning styles of the students, assisting teachers, and increasing engagement (Smink & Reimer, 2005). Engaging students and understanding their learning styles raise their desire to be at school (Steinbrenner & Watson,

2015). The fourth category's interventions are professional development, active learning, educational technology, individualized instruction, and career and technical education.

Professional development allows teachers to be supported. Teachers of high-risk youth need ways to continue developing their skills, techniques, and learn about innovative strategies (Smink & Reimer, 2005). The Learning City Program offers a data-based professional development program to teachers which focuses on family involvement, the learning progress, and the development of self-responsibility of the student (Wang & Oates, 1995).

Smink and Reimer (2005) explained active learning as a teaching strategy which engages and involves students in the learning progression. Active learning allows students to embrace the teaching and learning process. The High/Scope Approach is activity-based which includes active learning and a framework which trains teachers to allocate responsibility with the students (Keskin, 2016).

Educational technology allows teachers to explore opportunities for providing instruction to involve students. The technology is completed through valid learning, addressing multiple intelligences, and adapting to the many learning styles of students' (Smink & Reimer, 2005). Observations showed students who completed both traditional and online courses become active contributors in self-learning and become independent while developing personal relationships (Chicioreanu & Ianos, 2019).

According to Smink and Reimer (2005), one of the most popular strategies is individualized instruction. Teachers use multiple teaching methods and motivational strategies to reach each student. Traditional face-to-face learning is not a fit for each student. Erie 1 Board of Cooperative Educational Services in New York offers students in 10 districts the option between

three programs: the Alternative Learning Program which is a full-time academic program, the Occupational Skills Program which combines the Alternative Learning Program with work-study, and the FINISH program which permits pregnant students the chance to complete the requirements to receive their diploma (Smink & Reimer, 2005).

Career and technical education is becoming a largely used strategy with high-risk students as high school graduation is needed for this school-to-work program (Smink & Reimer, 2005). Neild, Boccanfuso, and Byrnes (2015) researched students who were accepted into the career and technical education programs and their graduation rates. They found 62% of students who were accepted into programs graduated from high school on time compared to 46% who were not accepted in a program.

Socioeconomic Status and Its Effect on High School Achievement

There are numerous reasons why socioeconomic status-based achievement gaps occur in education. Studies have shown students from higher socioeconomic statuses are more likely to succeed than students from lower socioeconomic statuses (Khavenson, 2018). Throughout the 1960s, researchers would use the father's education and/or occupation to classify students within socioeconomic brackets. Researchers now use many more factors to create socioeconomic statuses, such as family income, mother's education, family structure, race, neighborhood characteristics, and student grade level (Anders, 2017). These additional factors allow researchers to gain a clear picture of a larger scare of socioeconomic status.

A. Stevens et al. (2018) noted socioeconomic status is a large part of a student's achievement. Children are affected by their socioeconomic status before even arriving at school due to the differences in the resources available at home (Crosnoe & Ansari, 2016). Household

income levels are a determination of the neighborhood a family resides in, so the socioeconomic status correspondingly affects the school and classroom environment children have access to.

Betancur, Votruba-Drzal, and Schunn (2018) determined schools in lower socioeconomic areas have a lower amount of access to materials, have a higher rate of inexperienced teachers, and have high teacher-to-student ratios. Socioeconomic status and achievement are related and should be considered when looking at the location of schools (Nilsen, Blomeke, Hansen, & Gustafsson, 2016). These factors include whether schools are classified as city, suburban, or urban.

There are not many articles which discuss socioeconomic status on its own when discussing educational gaps, but rather the articles combine socioeconomic status and race (Engelhardt, Church, Harden, & Tucker-Drob, 2019; Shein, Swinkels, & Chen, 2019). Schools with higher levels of low socioeconomic status and minority students are more likely to experience teacher shortages, which equates to schools employed with low qualified and low experienced teachers (Shein et al., 2019). Research has confirmed teacher quality does matter when discussing the outcomes of the success levels of students, and teacher quality has an increased effect on students in schools in low socioeconomic status areas (Engelhardt et al., 2019). Dock, DeFraine, and Vandecandelaere (2019) stated, “It matters more which teacher a child receives in low socioeconomic schools than it does in high socioeconomic schools” (p. 6).

The research found genetic influences account for 50% of academic performances, and environmental influences are related to the other 50%. The environmental influences are related directly to family socioeconomic levels (Bradley, Corwyn, McAdoo, & Coll, 2001). Homes of lower socioeconomic families have been characterized as being less organized and provide fewer

learning opportunities which impact the level of academic performance for the student (Merritt & Buboltz, 2015). Brosnan et al. (2016) stated students who come from higher socioeconomic backgrounds are more likely to receive consistent learning opportunities, where students who come from a lower socioeconomic background are less likely to experience a constant state of cognitive stimulation and come to school with fewer academic skills. The combination creates a gap in educational opportunities, beliefs, and aspirations.

Credit Recovery

The NCES reported in 2016 the national dropout rate was 6.1% (USDE, 2018b). Although there is a decrease from the 7.4% reported in 2010, there is still an emphasis on school districts to comprehend why their rates are deteriorating. There are numerous influences as to why students are not graduating high school, such as low attendance rates, failing classes, and schools not offering enough courses to complete required credits (Youngsik et al., 2018). Once a district obtains data and recognizes why students are not graduating or graduating on time, the district is able to create and implement a plan to support students, so the students are able to become successful and in return increase the district's graduation rates. One popular way to aid students is through credit recovery programs (Rinka et al., 2015). What Works Clearinghouse (2015) defines credit recovery as passing a course in which a student previously was unsuccessful and now earned academic credit for graduation. The prime goal of credit recovery programs is to offer students an opportunity to retake classes which are failed in order to get students back on track and retain students in the school (Rickles et al., 2018).

During the 2014–2015 school year, the USDE (2018c) sent out a survey on strategies high schools have used to help at-risk students graduate. Within the survey, the USDE defined

credit recovery as an approach which supports at-risk students to retake a course previously failed, which is required to graduate high school. The results revealed the use of credit recovery courses is the second-highest popular way to prevent student dropout, with 89% of high schools reporting the use of a credit recovery program. This strategy is usually popular as the strategy engages students and is easy for administrators to implement in their schools (Powell, Roberts, & Patrick, 2015).

Credit recovery courses were designed to assist students to avoid falling further behind and enable students to graduate with their peers (Hughes et al., 2015). Schools should offer these courses in the traditional classroom setting, online, or a blend of the two to meet the needs of the students. Credit recovery additionally allows students to work at their own pace, so they have the ability to work ahead or slow down as needed (USDE, 2018c).

Benner, Boyle, and Bakhtiari (2017) noted poor academic performance is one of the most influential causes for a student dropping out of school. Typically, when a student performs poorly in a course, the outcome is the student is required to repeat the same course. Viano (2018) proposed students might re-engage in education through credit recovery. Figure 1 outlines the process and outcome for a student receiving poor academic performance with re-engagement and without re-engagement.

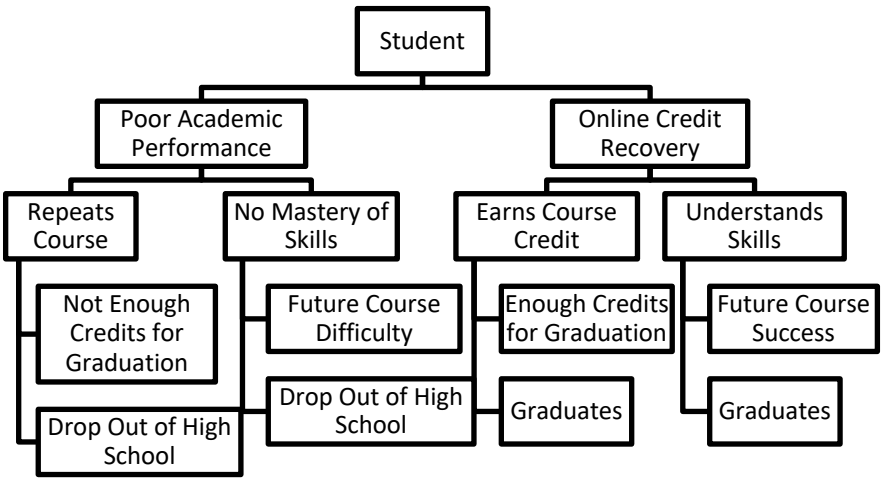

Figure 1. Re-engagement for students with poor academic performance.

Although credit recovery is a growing popular choice, there is little research about how students perform, especially with online credit recovery. A report about the Montana Digital Academy looks at the 2013–2014 course enrollment data and pass rates for the academy's online credit recovery courses. In 2010, the Montana Office of Public Instruction launched the Graduation Matters Montana initiative to inspire schools across the state to emphasize keeping students on track to graduate from high school (D. Stevens & Frazelle, 2016). The report found Montana Digital Academy's passing rate was 57%. During interviews with district leaders, several factors surfaced, which could inhibit a student's ability to complete a course. These findings include a low level of engagement, poor attendance, lack of school support, and an increased level of academic difficulty (D. Stevens & Frazelle, 2016). The authors additionally noted the pass rate does not reflect only students who failed their courses. The percentage includes students who never showed up to class, who withdrew, or was removed due to other reasons. Tseng, Tsao, Yu, Chan, and Lai (2016) explained the first two weeks of a course is the

most important as during these weeks is when most students withdraw or drop a course. During the beginning, instructors need to engage the students in order to set the course up for success.

Identifying credit recovery as a critical approach for dropout prevention provides students the opportunity to graduate with their peers (Stallings et al., 2016). Franco and Patel (2011) stated online learning is a possible effective use for at-risk learners to recover lost credits. The students are able to recover their lost credits through the online credit recovery course to earn enough credits to graduate with their colleagues.

Evolution of Online Learning in Education

Distance learning is not a new concept. The University of London was the first university to offer degrees through distance learning in 1858. In 1873, Ana Eliot Tickner founded the Society to Encourage Studies at Home, which was a collective organization for correspondence schools, then in 1892, The University of Chicago became the first American university to offer distance learning courses. Focused moved from higher education down to primary education in 1906 when The Calvert School in Maryland began offering correspondence courses. The Calvert School was still enrolling students as of this research. Another advance in distance learning occurred in 1906 when The University of Wisconsin-Madison began sending course materials and lectures via phonograph records to distance learners (Kentnor, 2015).

There was a span when no developments were made, but then in 1922, a large improvement occurred. The Pennsylvania State College began broadcasting courses over the radio and in 1953 The University of Huston began offering televised courses. Later, in 1960, course materials were accessible on the Intranet by The University of Illinois, and in 1976 Coastline Community College founded the first virtual college. Courses were offered through the

telephone, television, radio, records, and tapes (Kentnor, 2015). Finally, in 1983, the modern internet was born. Two short years later Nova Southeastern University was accredited as the first online graduate program in 1985. Then, in 1991, the World Wide Web opened up to the public, and distance learning took to the internet. (Kentnor, 2015).

Due to the popularity and flexibility of the Internet, elementary and secondary schools began incorporating the same technology into their classes (Zhao, Pugh, Sheldon, & Byers, 2002). The USDE released *A Blueprint for Reform: The Reauthorization of the Elementary and Secondary Education Act* in 2010, which allowed the increased use of technology and the Internet in the classroom. The blueprint gave precedence to schools who were effectively utilizing technology to address their students' needs (Darling-Hammond et al., 2016). Now, five states—Michigan, Virginia, Florida, Alabama, and Arkansas—require students take at least one online course before they are able to graduate from high school (Alabama State Board of Education, 2008; Arkansas Department of Education, 2013; Florida Senate, 2011; Michigan Department of Education, 2006; Virginia Board of Education, 2012). According to the Digital Learning Collaborative (2019), states making these requirements believe online learning helps prepare their students for lifelong learning, allows students to take additional courses not offered, and to graduate on time.

Online education has more to offer schools than recovering lost course credits. According to Poulin and Straut (2018), online education has the opportunity to be more affordable, flexible, and offer additional options for students. Schools began to adopt online courses to be used in various ways to fit the needs of their students better. Due to these factors, the International Association for K–12 Online Learning (iNACOL, 2011b) had to develop a set of definitions to

indicate the format of the course students are completing. iNACOL (2011b) defined blended learning as anytime a student learns at least partly at a supervised brick-and-mortar location away from home and at least part of the time through online delivery with some control over time and/or pace. Credit recovery was defined as a course a student complete in order to pass and receive credit for a course they previously attempted but did not succeed in earning academic credit towards graduation (iNACOL, 2011b). Online learning and online school are similar, but online learning is when instruction and content are delivered primarily over the Internet, and online school is when a public, private, or charter school offers full-time education delivered over the Internet (iNACOL, 2011b).

Benefits of Online Credit Recovery Programs

Districts turned to online learning to assist with the issue of students not completing required courses and falling behind for graduation (D. Stevens & Frazelle, 2016). Schools created online learning programs so students could have another chance at regaining their lost credits and so the districts were not put in a position to lose any federal or state funding. According to Watson and Gemin (2008), the goals of online credit recovery include assisting students to accumulate credits in order to meet graduation requirements, preparing students for state standardized tests, bring at-risk students back to school, providing education equity, and meeting budgetary concerns while attempting to serve all students.

Youngsik et al. (2018) reported students who are at risk or who drop out of high school are mostly not interested in school. Having these students retake a full course to regain credits is not a way to re-engage students in school. Online learning allows learners to set a speed they are content with and complete assignments around their schedule (Muljana & Luo, 2019). In

addition, online credit recovery is able to be regulated to fit the needs of each learner. Credit recovery courses are structured where students do not repeat the full course, but rather focus on areas of difficulty. Students begin the course with a pretest, and any material mastered is omitted from the course. The structure allows students to focus on the needed areas and bypass any previously mastered domains. Likewise, these types of course setups allow students to have a feeling of success before the students even begin the course, which provides the self-confidence needed (Franco & Patel, 2011).

Trautman and Lawrence (2004) showcased the Wichita Falls Independent School District (WFISD) in their research. WFISD implemented a program called the Continuous Advancement Placement System (CAPS). CAPS was designed for students in danger of not graduating high school on time. Trautman and Lawrence explained the program aimed to ensure students learned, passed the required state assessment, and earned the required amount of course credits to graduate. The researchers discovered students in the CAPS program earned more credits, had an improved attendance rate, and a higher pass rate compared to students in the WFISD high school (Trautman & Lawrence, 2004). Hughes et al. (2015) similarly completed a study and found the ninth-grade online students outperformed their peers in traditional face-to-face courses. The performance margin tapered with each following grade level, but in each grade level, the online learners performed the highest (Hughes et al., 2015).

District leaders have great accountability in discussions when it comes to determining how to retain students in high school, as well as successfully completing high school. Pettyjohn and LaFrance (2014) explained the pros and cons of online education by interviewing high school students who were formerly enrolled in online courses. Each student failed at least two

courses, and the results showed these students had to complete credit recovery courses online to makeup those failed credits. Pettyjohn and LaFrance interviewed each participant about their experience with the online program and then used coding to determine any patterns or themes within the interviews. While completing the coding, the researchers discovered four major themes: (a) online courses formed high expectations, which were previously not there, and each student had for themselves; (b) each student was involved with a complicated situation which did not help their focus on schoolwork; (c) having control over the pace and schedule of their courses had a momentous impression on their ambition, and (d) the online courses had positive impacts on their education. The use of these additional online programs not only gave the students a second chance, but the programs amplified a newfound hope (Shaw, MacIsaac, & Singleton-Jackson, 2019).

Lewis, Whiteside, and Dikkers (2014) discovered the same themes, but with one difference, which is there should be a proper support structure in place for students to be successful. Since most students are not familiar with an online course setting, the new online students need guidance in how to stay focused, use appropriate time management strategies, and increase their efficacy (Rickles et al., 2018). With strong leadership guiding them in the beginning, the students eventually are self-sufficient in completing online courses with minimal direction.

Friedman and Friedman (2011) stated online programs could be viewed as a possibility to assist with student retention. These programs are successful because students do not continuously ask for help due to past experiences. According to Lewis et al. (2014), online learning allows students to have greater flexibility in their schedules and how they learn.

Students are able to move along at their own pace and are able to even move ahead or redo learning modules if they need extra instruction. The increased level of customization creates a more enjoyable and productive learning process for students.

Disadvantages of Online Credit Recovery Programs

Sometimes, credit recovery programs are not a popular option within schools, as the rigor might decrease (Viano, 2018). When the programs are implemented poorly, the program threatens the school culture and lowers academic expectations (Rickles et al., 2018). In 2017, the District of Columbia Public Schools (DCPS) went through an audit and was investigated for improperly graduating 2,758 students (Vigilante, 2019). Vigilante (2019) went on to explain how schools within the DCPS system ignored the district policies and offered credit recovery programs based on their requirements, so the schools could graduate more students. Instances such as the DCPS investigation makes programs like credit recovery gain a poor reputation (Vigilante, 2019).

A few online credit recovery programs do not utilize teachers which could hinder students (Heppen et al., 2017). If students are not self-efficient, intrinsically motivated, independent learners, then the students could have a difficult time learning and completing these courses without an instructor (Lawrence, Brown, Redmond, & Basson, 2019). Fuel Education is one program where a teacher is not required for credit recovery courses. All the assessments are computer-graded so the students are able to complete the course totally on their own.

When students complete their entire course online, there are apprehensions around the integrity of their work (Hamm, Perry, Chipperfield, Parker, & Heckhausen, 2019). Difficulties arise when the topic of how to avoid cheating comes up, as no one knows if the student is

completing the work or not. Another hesitation to online learning, besides cheating, is seat time. In the traditional classroom, teachers take attendance and know when their students are there. States mandate students are required to be in attendance for a certain amount of days for the school year to count. When a student completes a class online, teachers have a difficult time tracking the time students spend in the actual class (Soffer, Kahan, & Nachmias, 2019).

Online learning brings difficulties with completing assignments due to the flexibility students have. Time management skills are significant challenges students need to overcome in the online setting in order to be successful (Schommer-Aikins & Easter, 2018). Hess (2011) acknowledged three critical oversights district leaders make when implementing online learning in their schools. These include proclaiming the use of technology could eradicate all complications in traditional education, failing to recognize the implications of public attachment to familiar establishments and routines, and failing to remember K–12 education is publicly funded and regulated.

Srivastava (2019) analyzed the drawbacks of online learning. Being flexible is usually considered a positive quality of a person, but flexibility could be a deterrent in online learning. Flexibility causes a higher level of laziness and reduces efficiency. Due to this, Srivastava came up with a set of disadvantages school leaders should look out for to ensure they are staying ahead of these future restrictions. The first one is low motivation. Students with low motivation might not be able to achieve the goals which are set for them, or students set for themselves (Gillett-Swan, 2017). Students are usually responsible for creating their routine while completing an online course, and the absence of a schedule leads to laziness and students dropping out of the class before completion (Srivastava, 2019).

Another disadvantage Srivastava (2019) discovered was technology dependency. Students became so dependent on their materials being readily available in electronic formats when students were enrolled in a brick and mortar course, they became frustrated at the amount of time passed in order to gain access to materials needed (Bayne, 2015). On the other hand, there were compatibility and reliability issues which went along with the electronic materials. At times, the materials might not be compatible with specific devices such as iPads blocking Flash videos from being played (Srivastava, 2019).

The final disadvantage to online learning Srivastava (2019) discussed was social isolation. Since students are by themselves while completing their online course, there is a lack of not being in a real classroom or being around classmates. These disadvantages might not be a pleasant atmosphere for all students, a feeling of social isolation could occur while learning (Akcaoglu & Lee, 2016). Online learning is not effective in all cases, as in some cases, traditional face-to-face learning might be more effective depending on the student and the situation.

Online Learning in Pennsylvania

Pennsylvania does not have an online learning requirement like a few other states do, and only 2% of the K–12 student population is enrolled full-time in a cyber school (Pennsylvania Department of Education, 2018b). Pennsylvania has 14 cyber charter schools, which could vastly change in the future. If a family wishes to send their child to a charter school instead of the school district the family lives in, then the school district is obligated to pay the per-pupil tuition fee for the student. On average, the tuition is $11,306 for a general education student and $24,192 for a special education student (Pennsylvania Department of Education, 2018a).

Pittsburgh City School District paid a total of $12,859,856 in 2016–2017 to cyber charter schools. Senate Bill 34 was proposed in January 2019, which would require families to pay the per-pupil tuition instead of the school district if the family chose to send their child to a different school (Pennsylvania General Assembly, 2019).

Families usually choose to send their children to a different district because their current school failed to serve them (Tang, 2019). One way, as mentioned in this literature review, to assist students in being successful is offering online credit recovery programs. Senate Bill 34 would require districts to offer more programs for their students, such as online credit recovery (Pennsylvania General Assembly, 2019).

To increase the level of online learning, the Pennsylvania Department of Education (2014) offers an Online Instructional Endorsement for teachers to receive. This endorsement was created after the state saw an increase in online learning and the need for teachers to become comfortable with online teaching. The state adopted the National Standards for Quality Online Teaching, which were established by the International Association for K–12 Online Learning to guide the online teaching endorsement. The International Association for K–12 Online Learning (iNACOL, 2011a) standards require online teachers to recognize concepts of online instruction, create effective learning experiences for students to succeed, use multiple types of technologies which support student learning, encourage active learning and collaboration in the online environment, model ethical and safe behavior during technology use, encourage student success through timely responses and feedback, ensure accommodations are being made in the online environment, develop assessments and assignments which meet standards-based learning goals,

modify student learning content based on assessment data, and network with other professionals to gain knowledge of how to support students.

The state of Pennsylvania has recognized online instruction is an emerging way of teaching (Pennsylvania Department of Education, 2014). Online instruction is an essential tool for instructors to engage students back in the classroom. Preparing teachers to instruct online is creating a future of success for not only the teacher but for the student as well.

Gap in Literature

Over 1 million students do not graduate from high school each year (Anderson, 2016). Schools have researched ways to assist students in graduating, and one-way schools have found to reach students is through offering credit recovery programs (Rinka et al., 2015). Concluded from previous studies, credit recovery programs allow students to be successful in making up course credits previously lost (Rinka et al., 2015; D. Stevens & Frazelle, 2016; Trautman & Lawrence, 2004). One area which has a limited number of empirical case studies is the comparison of traditional and online credit recovery programs and which one has a greater impact on graduation rates.

Chapter Summary

Chapter 2 detailed the literature search strategy and the theoretical framework guiding the study. This chapter provided a literature-based history of the educational reforms throughout the United States. An overview of high school graduation rates, the high school dropout crisis, dropout prevention programs, credit recovery programs, and a history lesson of distance education were included too.

High school students have a prerequisite of successfully completing specific courses in order to graduate from high school. The emphasis came from NCLB which was enacted by President George W. Bush in 2001, which placed importance on standardized testing reforms (Husband & Hunt, 2015). Realizing the negative effect NCLB was having on schools' adequate yearly progress goals, President Barrack Obama reauthorized NCLB as the Every Student Succeeds Act. The newly reauthorized act resulted in a new prominence on how schools measure student achievement by allowing districts to create educational plans for their schools within a framework which has been provided by the federal government (Adler-Greene, 2019). Schools still have a problem to solve, which is how to assist students when the students cannot pass a required course. Little empirical data exists to indicate whether there is a difference in outcomes between traditional credit recovery programs and online credit recovery programs when discussing raising high school graduation rates.

A review of the literature indicated credit recovery programs are influential when increasing graduation rates (Rinka et al., 2015; D. Stevens & Frazelle, 2016; Trautman & Lawrence, 2004). Data from one quantitative study in Wichita Falls, Texas, found students who were enrolled in a credit recovery program performed higher than their counterparts who were not in the program (Trautman & Lawrence, 2004). Another credit recovery study found the students to be unsuccessful as the students had a low level of engagement and poor attendance (D. Stevens & Frazelle, 2016).

The purpose of this quantitative ex post facto study was to determine if there is a statistical relationship between high school students in western Pennsylvania who regain credits through traditional and online credit recovery programs and their respected graduation rates.

Chapter 3 provides further details about the research methods used in this study. The design of the study, instrumentation, population and sample selection, data collection procedures, reliability and validity, data analysis, and ethical considerations are also included.

Chapter 3: Methodology

The purpose of this quantitative ex post facto study was to determine if there is a statistical relationship between high school students in western Pennsylvania who regain credits through traditional and online credit recovery programs and their respected graduation rates. A quantitative, ex post facto research design using archival data was the method used for this study. Quantitative research is reliable, reduces the subjectivity of the researcher, and reduces the complexity of a problem to a limited number of variables (Barnham, 2015). Descriptive statistics describe the basic features of the data in a study, such as the mean and standard deviation (Mishra et al., 2019). The following questions guided the ex post facto study:

Research Question 1: What is the statistically significant difference between traditional credit recovery students and noncredit recovery students' graduation rates?

$\boldsymbol{H_{01}}$**:** No statistically significant difference exists between traditional credit recovery programs and graduation rates.

$\boldsymbol{H_{A1}}$**:** A statistically significant difference exists between traditional credit recovery programs and graduation rates.

Research Question 2: What is the statistically significant difference between online credit recovery students and noncredit recovery students' graduation rates?

$\boldsymbol{H_{02}}$**:** No statistically significant difference exists between online credit recovery programs and graduation rates.

$\boldsymbol{H_{A2}}$**:** A statistically significant difference exists between online credit recovery programs and graduation rates.

Research Design and Rationale

The ex post facto research design is highly used to test hypotheses (Apuke, 2017) and supports using archived data (Jarde, Losilla, & Vives, 2012). The study connected the independent variable of traditional and online credit recovery programs with the dependent variable of the increase of graduation rates. The selected study design was vital to the research as the hypotheses were tested after the data was gathered so there would be no manipulation of the variables. The reasoning makes this ex post facto research a nonequivalent pretest-posttest control group design (D. T. Campbell & Stanley, 2015).

Role of the Researcher

The researcher was a key participant in investigating the problem (Creswell, 2016). Suspending judgment and assumptions to examine the problem allows the researcher to set aside biases which could potentially guide the quantitative ex post facto study's findings (Chih-Pei & Chang, 2017). Although the researcher lives in close proximity to the research sites, there was not a potential conflict of interest. There was no managerial connection or power over participants. The absence of a relationship between participants and researchers minimized bias, as well as the postponement of judgment through epoche.

Research Procedures

The following section on research procedures includes a description of the population and sample selection. Archived data collection through surveys is described. SPSS Statistics was focused on data analysis.

Population and Sample Selection

By using the method of selective sampling, the sample population for this study was created and consisted of students who were enrolled in a credit recovery course in school districts within western Pennsylvania in the counties of Allegheny, Beaver, Butler, and Lawrence. Selective sampling was used to survey the schools since this method allowed the researcher to choose schools within a certain geographic region and socioeconomic groups (Etikan, Musa, & Alkassim, 2016). The total population was 109,754 and the sample population was 568. The total number of students who have been enrolled in credit recovery courses is unknown. All 42 school districts were contacted to participate in the study. Administrators were able to self-select whether the schools met the criteria of having a credit recovery program for at least three years in order to participate in the study.

To ensure there is a mix of school districts, districts were chosen from the lower socioeconomic level, middle level, and higher level by using the selective sampling model (Etikan, Musa, & Alkassim, 2016). School demographic information was used to determine socioeconomic levels. The information included the percentage of families who are economically disadvantaged, median family income, percentage of students who receive free or reduce lunch, Title I status, and school enrollment numbers. Within each level, there are at least two districts who have used a traditional credit recovery program for at least three years, and two who have used an online credit recovery for at least three years.

Instrumentation and Archival Data

SurveyMonkey was used to collect and compile data from questionnaires which were sent to each participating high school administrator. Student data was provided by the school

administrator using their archived data. The type of data being collected on each student included names and grades of credit recovery courses taken, names and grades of original credit courses taken, and graduation status. Data collected on the district level include graduation rates before the credit recovery program being implemented and graduation rates after the program was utilized for three years. Since the data gathered from the participating school districts was previously collected as students completed courses, the type of collected data is constituted as archival as the data was collected before research (Bloomfield, Nelson, & Soltes, 2016). Once the data was collected, the information was transferred into the SPSS program for analysis. The statistics for graduation rates and dropout rates preceding and following credit recovery programs were compared to determine if the rates rise or fall after the integration of credit recovery programs.

Data Collection

Once the Institutional Review Board approved the research methodology (Appendix A), school districts within the counties of Allegheny, Beaver, Butler, and Lawrence in western Pennsylvania were asked to participate in this study. The administrators were sent a letter requesting their participation (Appendix B), which involved an initial survey and requirements to participate (Appendix C). These requirements included having either implemented a traditional credit recovery program or an online credit recovery program at least three years ago. The site approvals from school administrators can be found in Appendix E.

During data collection, the approved sites were sent the research survey (Appendix D), where administrators provided the requested archival data. Six research sites responded to the survey. To protect student confidentiality during data collection, student names and identification

numbers were removed from the data. Confidentiality of participants was warranted during all parts of the research, including the enlistment of participants, data collection, analysis, and distribution of research outcomes (Petrova, Dewing, & Camilleri, 2016). All data was kept in a locked file on the researcher's computer, so the data was inaccessible by others.

Data Analysis

Data was imported from SurveyMonkey into the SPSS program for examination. Since the object was to compare in the analysis, SPSS software is preferred because this program is able to perform both parametric and non-parametric comparison analysis (Ong & Puteh, 2017). The statistical software allows checking the assumptions of the tests and outliers.

Statistics regarding the graduation rates and dropout rates before and after credit recovery programs were implemented were compared to determine whether the rates rose or fell after the implementation. The relationships between the independent variables and dependent variable were analyzed using an independent *t* test to determine if there were any significant relationships. Results assisted in deciding if the null hypothesis should be rejected or the alternative hypothesis should be accepted (Rouder, Engelhardt, McCabe, & Morey, 2016).

The independent variable in question one was students who participated in traditional credit recovery and students who did not participate. The independent variable in question two was students who participated in online credit recovery and students who did not. The students who did not participate in credit recovery courses were students who received credit from the original credit courses and did not need credit recovery. For both questions, the dependent variable was the graduation rates using a ratio that is a continuous variable.

Reliability and Validity

Reliability and validity govern the value of the research (Heale & Twycross, 2015). The instrument chosen for the study has demonstrated consistent, dependable results (Pintrich, Smith, Garcia, & McKeachie, 1993). Research designs using nonequivalent groups are exposed to a higher number of internal and external validity risks (Akbiyik & Senturk, 2019). To assist with this, steps were taken to ensure groups were as similar as possible by having two schools from each socioeconomic level be represented in the research (D. T. Campbell & Stanley, 2015). To preserve internal reliability, a selective sampling strategy joined with data using SurveyMonkey's logic options reduced coercions to reliability.

The variables were coordinated using the selective sampling technique explained in the section on research procedures. The data collected was processed and checked to ensure only credit recovery courses were provided. The collection instrument was directly aligned to the hypotheses as the instrument collects the archived data needed to accept or deny each hypothesis.

Ethical Procedures

Ferreira and Serpa (2018) explained the two kinds of ethics are procedural ethics and ethics in practice. Procedural ethics occur in the beginning stages of research when the IRB committee reviews and accepts the research. Approval is needed before any research can begin. Ethics in practice concerns the ethical issues which may arise during the actual research.

In regard to ethics in practice, research participants were protected by having their personal identification information hidden during the data collection process. The data collection process did not contain student names, IDs, or other ways to identify individual students. Furthermore, before participating in the study, each participating administrator agreed to

participate in the research via e-mail (Appendix B) (Frey, 2018). To preserve confidentiality during this study, and for five years after the study, data will only be saved on the researcher's computer in a locked file. After five years the data will be deleted.

Chapter Summary

The methodology presented in this chapter is a quantitative study which is designed to address the research questions to establish whether there is a relationship between the two independent variables, traditional credit recovery courses, and online credit recovery courses, and the increase of graduation rates. This study utilized a questionnaire to collect archived data and use a *t* test to examine the data. The purpose of this quantitative ex post facto study was to determine if there is a statistical relationship between high school students in western Pennsylvania who regain credits through traditional and online credit recovery programs and their respected graduation rates. The population included students within school districts located in western Pennsylvania. The chapter described the design of the study, instrumentation, population and sample selection, data collection procedures, reliability and validity, data analysis, and ethical considerations. The analysis of the data and findings are presented in Chapter 4.

Chapter 4: Research Findings and Data Analysis Results

The purpose of this quantitative ex post facto study was to determine if there is a statistical relationship between high school students in western Pennsylvania who regain credits through traditional and online credit recovery programs and their respected graduation rates. Archival quantitative data in the form of student enrollment data, course completions, and graduation rates were analyzed and compared from the school years 2009 – 2019. The ex post facto design allowed for a comparison between credit recovery course completion and graduation rates. The chapter begins with a review of the research and includes details of the method and design used for the study, steps for using a *t* test to analyze the data, and research findings. Finally, the summary provides an overview of the limitations of the study. The research questions and hypotheses which guided the research are as follows:

Research Question 1: What is the statistically significant difference between traditional credit recovery students and noncredit recovery students' graduation rates?

***H*$_{01}$:** No statistically significant difference exists between traditional credit recovery programs and graduation rates.

***H*$_{A1}$:** A statistically significant difference exists between traditional credit recovery programs and graduation rates.

Research Question 2: What is the statistically significant difference between online credit recovery students and noncredit recovery students' graduation rates?

***H*$_{02}$:** No statistically significant difference exists between online credit recovery programs and graduation rates.

***H*$_{A2}$:** A statistically significant difference exists between online credit recovery programs

Data Collection

The participants for this research were high schools in western Pennsylvania within the counties of Allegheny, Beaver, Butler, and Lawrence. Only schools who utilized credit recovery programs for three or more years were eligible to participate. In this study, 42 schools were sent a participation letter requesting research approval. Of those 42 schools, two schools (5%) declined to participate, six (15%) agreed to participate, and 34 (80%) did not respond. Permission responses were collected over four weeks from November 2019 to December 2019 via e-mail. Due to the low response rate, a reminder was sent out about research participation. No more responses were received. Schools who approved research received an electronic survey to complete via SurveyMonkey (Appendix D).

During the data collection process, only data containing online credit recovery courses were gathered. The incomplete data collection did not allow for the analysis of data or comparison between programs. Since data was not collected from the sites on traditional credit recovery courses, the data collection window was reopened to include the years of 2009 – 2012. This allowed schools to go back into their curriculum usage and provide data on student enrollments and course completion rates.

The data was collected through SurveyMonkey over 6 weeks from December 2019 to January 2020, and again in June 2020. The archived data schools sent included the original credit course name, final grade, credit recovery course name, final grade, and graduation status for each student who has been enrolled in a credit recovery course during 2009 - 2019. Student identifying data was not collected. In addition, schools sent their graduation rate before the credit recovery programs were implemented, what their current graduation rate is, and their

demographic information (Table 1). The data was downloaded from SurveyMonkey, saved as a master version with a password, and saved again as a working copy with a password. In total, the six research sites (n = 6) provided 568 course enrollments. All 568 course enrollments were eligible as each one was enrolled in a credit recovery course during the time frame of 2009 – 2019.

Table 1

School Demographic Information

School	% families economically disadvantaged	Median family income	% students receive free/reduced lunch	Title I status
School A	20.0	$38,329	99.0	Yes
School B	8.0	$53,011	42.0	Yes
School C	4.0	$59,481	43.0	Yes
School D	6.0	$78,354	18.0	Yes
School E	28.0	$30,474	40.0	Yes
School F	3.0	$78,389	21.0	No

Data Analysis and Results

After six weeks of data collection, data was used from the surveys to determine the six schools (n = 6) provided 568 students out of the estimated 109,754 students within the four counties in western Pennsylvania. Using information sent from the administrators, there were no disqualifications from the research as all six research sites and 568 students were eligible. Each student previously failed an original credit course and enrolled in a credit recovery course for the

same subject. Table 2 shows the descriptive statistics of how many students were enrolled in credit recovery courses from each school year.

The independent variables in questions one and two were students who participated in traditional (question one) and online (question two) credit recovery courses and students who did not participate. The students who were not enrolled in credit recovery courses were students who received credit from the original credit courses and did not have a need for credit recovery. The dependent variable was the graduation rates using a ratio that is a continuous variable for both questions.

Table 1

Number of Students Who Took a Credit Recovery Course

Year	*n*
2009-2010	42
2010-2011	54
2011-2012	71
2016-2017	154
2017-2018	132
2018-2019	115
Total	568

Research Question 1

What is the statistically significant difference between traditional credit recovery students and noncredit recovery students' and graduation rates? Research question 1 compared the relationship between graduation rates before the implementation of the traditional credit recovery

program and after traditional credit recovery programs. Figure 2 displays the comparison between the two programs for each of the six schools.

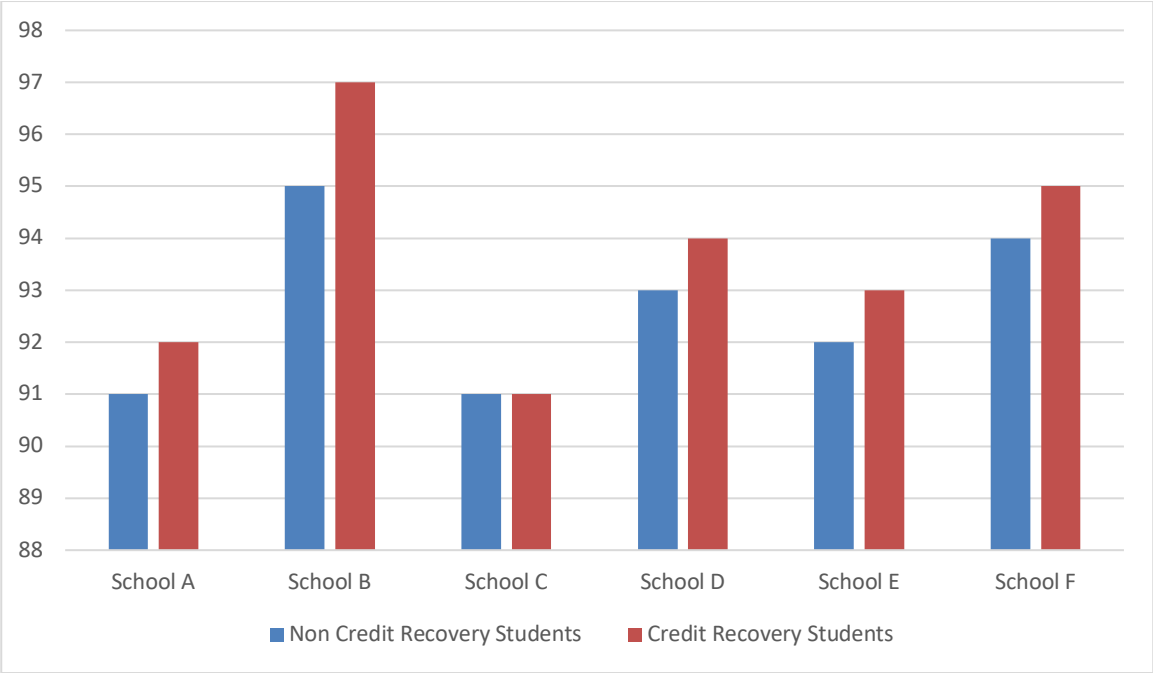

Figure 2 Graduation rates before and after traditional credit recovery programs.

An independent-samples *t*-test was directed with the independent variables being students who completed traditional credit recovery courses and students who did not complete traditional credit recovery courses, and the dependent variable was the graduation rate. The independent-samples *t*-test was used to determine if a difference exists between the means of two independent groups (Derrick, Russ, Toher, & White, 2017). A successful independent-samples *t* test requires there to be six assumptions to be met (Kim & Park, 2019). The assumption tests can be located in Table 3.

Table 2

Assumption Tests

Assumption	Outcome
One continuous dependent variable	Graduation rate
One independent variable consists of two categorical independent groups.	Students in credit recovery and students not in credit recovery
No relationship between the observations in each group of the independent variable.	Students cannot be in both groups. They either took a credit recovery course or they did not.
No significant outliers within the independent variable	There were no outliers in the data, as assessed by inspection of a boxplot using SPSS.
The dependent variable should be approximately normally distributed for each independent variable group.	The engagement score was normally distributed for each independent variable group, as assessed by Shapiro–Wilk's test ($p > .05$).
Homogeneity of variances.	There was homogeneity of variances, as assessed by Levene's test for equality of variances.

There were six school participants and 568 students. An independent-samples *t*-test was run to determine if there were differences in graduation rates before and after traditional credit recovery programs were employed. After a review of the boxplot, it was determined there were no outliers in the data. Engagement scores for the graduation rates were normally dispersed, as measured by Shapiro–Wilk's test ($p > .05$), and there was homogeneity of variances, as assessed by Levene's test of equality of variances ($p = .171$). The implementation of traditional credit recovery programs increased graduation rates ($M = 91.78$, $SD = 2.65$) from where the rates started prior to the programs ($M = 90.94$, $SD = 3.35$), which created a statistically difference in

mean engagement scores between the programs with a 95% confidence interval (CI; -2.88,1.211), $t(10) = -0.83$, $p = 0.412$, $d = .278$. Since the significant difference between means was greater than 0.05 ($p = 0.412$), the alternative hypothesis is rejected, and the research failed to reject the null hypothesis.

Research Question 2

What is the statistically significant difference between online credit recovery students and noncredit recovery students' graduation rates? Question 2 compared the relationship between graduation rates before the implementation of credit recovery programs and after credit recovery programs. Figure 3 shows the comparison between the two figures for each of the six schools.

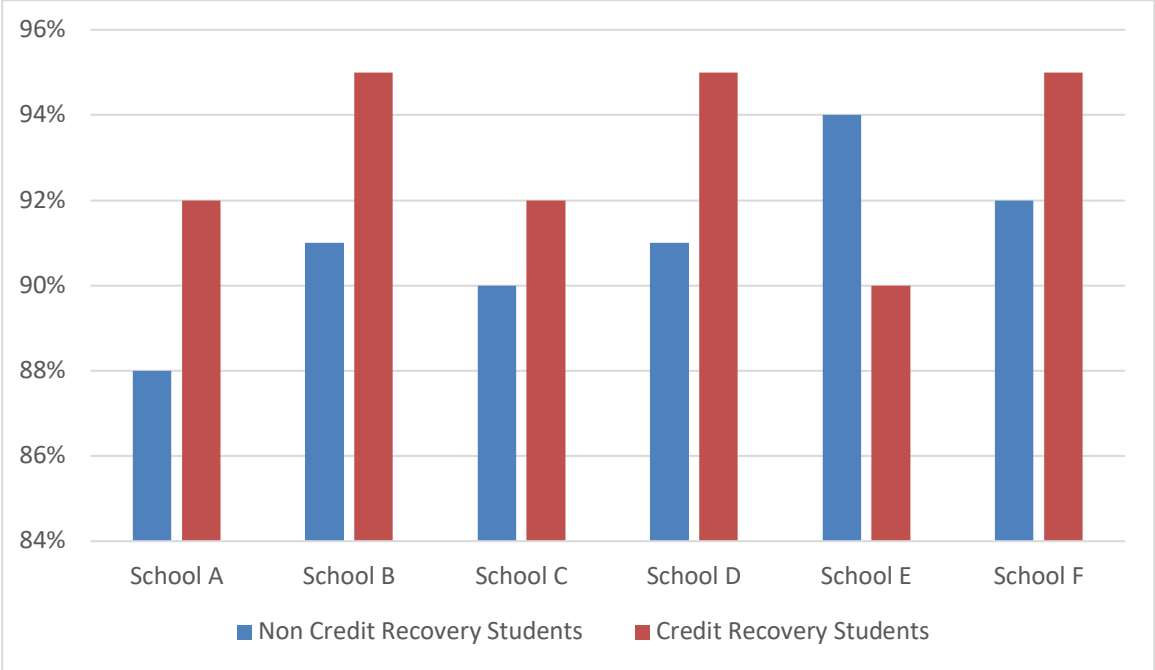

Figure 3 Graduation rates before and after online credit recovery programs.

An independent-samples *t*-test was conducted with the independent variables being students enrolled in credit recovery courses and students not enrolled in credit recovery courses, and the dependent variable was the graduation rate. Like question 1, the independent-samples *t*-

test is exploited to determine if a difference exists between the means of two independent groups (Derrick, Russ, Toher, & White, 2017). The six assumptions were met in order to run a successful independent-samples *t* test.

There were six school participants ($n = 6$). An independent-samples *t*-test was run to determine if there were differences in graduation rates before and after credit recovery programs were implemented. de Winter (2013) states *t* tests are still able to be run with small sample sizes as long as the effect size is large. During analysis, the test determined the effect size was $d = .374$ which is a small effect size. Bridge and Sawilowsky (1999) support the use of *t* tests with small sample sizes.

There were no outliers in the data, as assessed by inspection of a boxplot. Engagement scores for each graduation rate were normally distributed, as assessed by Shapiro–Wilk's test ($p > .05$), and there was homogeneity of variances, as assessed by Levene's test of equality of variances ($p = .445$). The implementation of online credit recovery programs increased graduation rates ($M = 93.89$, $SD = 2.494$) from where the rates started prior to the programs ($M = 92.94$, $SD = 2.578$), which created a statistically significant difference between the programs with a 95% confidence interval (CI; -2.66, 0.77), $t(10) = -1.118$, $p = .27$, $d = .374$. Since the significant difference between means was greater than 0.05 ($p = 0.27$), the alternative hypothesis is rejected, and the research failed to reject the null hypothesis.

Reliability and Validity

To assist with ensuring the research was free of internal and external validity risks, a selective sampling method was used to survey schools from three socioeconomic groups (Etikan, Musa, & Alkassim, 2016). The use of SurveyMonkey's logic options reduced coercions to the

reliability, and the instruments (Appendix D) helped to safeguard the internal reliability and validity of the research. Ensuring the homogeneity of variances solidifies the validity of the research. Golafshani (2003) stated a research test is valid if it measures what the test is intended to measure.

Research has shown *t* tests have steady, reliable results (Pintrich, Smith, Garcia, & McKeachie, 1993). The validity could be threatened though if any of the assumptions are violated (Gerald, 2018). None of the assumptions were violated within the four questions of this research.

Possible threats to external validity include the amount of time the survey was open. An extension was given on the survey due to the low response rate. Even with the extension, only six research sites approved participation. Another threat to external validity includes the fact originally, none of the approved sites submitted traditional credit recovery data. Additional years were included in the research to gain data on traditional credit recovery programs.

Chapter Summary

The purpose of this quantitative ex post facto study was to determine if there is a statistical relationship between high school students in western Pennsylvania who regain credits through traditional and online credit recovery programs and their respected graduation rates. The data collected from the research sites contained data on traditional credit recovery programs from the years 2009 – 2012 and online credit recovery programs from the years 2016-2019. Since there was no data on traditional programs during the 2016-2019 time range, additional years had to be added.

The hypotheses were tested using an independent-sample *t* test. The statistical tests investigated whether credit recovery programs made an impact on graduation rates. Statistical significance was found for the relationship between online credit recovery programs and graduation rates. Because the statistical test results indicated a significant difference, the results should be interpreted online credit recovery programs potentially have a positive effect on graduation rates which assists students in gaining their lost credits. These findings are discussed in Chapter 5, as related to the literature.

Chapter 5: Discussion and Conclusion

The purpose of this quantitative ex post facto study was to determine if there is a statistical relationship between high school students in western Pennsylvania who regain credits through traditional and online credit recovery programs and their respected graduation rates. The archived data collected from the research sites contained data on traditional credit recovery programs and online credit recovery programs. Previous research left a gap between the two programs, and this research aimed to fill the gap.

The Adaptive Leadership model, developed by Heifetz and Linsky, inspires individuals to adapt in response to their changing circumstances (Khan, 2017). As indicated by previous research, the framework means the leader encourages others to acknowledge the change to succeed (Nelson & Squires, 2017). In the case of this research, the administrators assisted the students in acknowledging change, which was being enrolled in credit recovery to graduate.

Research Question 1 concentrated on how the implementation of traditional credit recovery programs affected graduation rates. The results discovered there was not a significant difference between means ($M = 0.84$, 95% CI (-2.88, 1.211), $t(10) = -0.83$, $p = 0.412$, $d = 0.278$), so the null hypothesis was failed to be rejected. Research Question 2 focused on how the

implementation of online credit recovery programs affected graduation rates. The results found there were a statistically significant difference between means (M = 0.95, 95% CI (-2.66, 0.77), $t(10) = -1.118$, $p = 0.27$, $d = 0.374$), so the null hypothesis was failed to be rejected.

Chapter 5 is encompassed with a discussion of the findings, interpretations, and conclusions concerning the study's theoretical framework, followed by a discussion of each of the study's four research questions. A review of the research limitations follows this discussion. Recommendations, implications for leadership, and a final conclusion finish Chapter 5.

Findings, Interpretations, Conclusions

Leaders utilizing the adaptive leadership model assist followers in completing the work leaders need in order to adapt to challenges (Andenoro et al., 2017). Within this research, administrators at the six research sites provided students a chance at recovering lost credits via credit recovery courses. The students faced the challenge of not passing core courses, and the administrators assisted by offering credit recovery courses to recuperate the required credits needed to graduate.

Research Question 1 Findings and Interpretations

Research Question 1 examined the relationship between traditional credit recovery programs and graduation rates. An independent-samples *t*-test was used to examine the data, and descriptive statistics allowed for an evaluation of the independent variables, students who were enrolled in traditional credit recovery courses, and students not enrolled in the credit recovery courses. The dependent variable was the graduation rate.

When analyzing the findings, both the effect size (d) and statistical significance (p) are essential. Effect size assists in understanding the extent of differences discovered, where the

statistical significance studies whether the findings are probable due to chance (Sullivan & Feinn, 2012). The *p* value from the *t* test was greater than 0.05, which conveys the mean difference between the two groups is not statistically significant. A *p* value of 0.412 tells us there is a 412 in 1,000 chance of getting a mean difference at least as large as the one obtained if the null hypothesis was correct. The effect size (d =0.278) is determined to be small by Cohen (Rice & Harris, 2005). Having a *p* value greater than 0.05 indicates strong evidence against the alternative hypothesis, so for hypothesis one, the results concluded enrollments in traditional credit recovery courses, and non-enrollments do not have statistically significant mean scores when looking at graduation rates, and the null hypothesis is failed to be rejected.

Research Question 2 Findings and Interpretations

Research Question 2 inquired about the relationship between online credit recovery programs and graduation rates. Similar to question 1, an independent-samples *t*-test was used to analyze the data, and descriptive statistics allowed for a comparison of the independent variables, students who were enrolled in online credit recovery courses, and students not enrolled in the credit recovery courses. The dependent variable was the graduation rate.

The *p* value from the *t* test was again greater than 0.05, which tells us the mean difference between the two groups is not statistically significant. A *p* value of 0.27 tells us there is a 270 in 1,000 chance of getting a mean difference at least as large as the one obtained if the null hypothesis was correct. The effect size (d =0.374) is determined to be small by Cohen (Rice & Harris, 2005). Having a *p* value greater than 0.05 indicates strong evidence against the alternative hypothesis, so for hypothesis two, the results concluded enrollments in traditional

credit recovery courses, and non-enrollments do not have statistically significant mean scores when looking at graduation rates, and the null hypothesis is failed to be rejected.

Limitations

The limitations of this study included time constraints, the sample, and the nature of the research. Time restraints were inflicted on the participation request and data collection process due to when the request occurred. Participation e-mails were sent out over four weeks from November 2019 to December 2019, and during the timeframe, many schools were closed due to holidays.

Another limitation of this research included partiality in the sample. First, this research was limited to four counties in the western region of Pennsylvania. Left out were 63 other counties in Pennsylvania. Second, the sample only included schools that have implemented credit recovery programs for at least three years and who agreed to participate. Due to the nonexistent sample size of traditional credit recovery programs in the original data collection process, data collection had to be opened again with additional years added. Using an online survey again (Appendix D), respondents were asked to submit archived data regarding their traditional credit recovery program.

Limitations to using an ex-post facto research design include the inability to randomly assign subjects to groups (Oladimeji & Udosen, 2019). Due to the treatment has already occurred, and the researcher is examining the effects of the treatment. The researcher has zero control over the independent variables as the variables have already occurred, which in the case of this study, is why archived data was collected. Generalization is limited due to the inability to randomize groups (Oladimeji & Udosen, 2019).

Recommendations

The findings and conclusions of this study are the foundation for recommendations for future research. The literature review revealed the need for additional studies regarding how credit recovery programs affect graduation rates, especially traditional credit recovery. The researcher recommends for additional research to be conducted to examine potential relationships between traditional credit recovery programs, online credit recovery programs, and graduation rates. A larger sample size should produce a higher number of schools represented and, in addition, provide enough data to exhibit the relationship between traditional credit recovery programs, online credit recovery programs, and graduation rates (Guadagnoli & Velicer, 1988).

Suggestions for future research include digging deeper into possible reasons why students do not complete their credit recovery courses (such as the rigor of course, the experience of course, the setting of course, and the instructor) and how not completing their courses impacts the students' high school graduation rates.Other areas which could impact credit recovery course completions include course schedules, socioeconomic status of students, and course withdraw of students. Figure 6 displays the number of students who recouped their lost credits by completing online credit recovery courses. This line chart shows school leaders a substantial number of students were able to recover credits by completing online credit recovery courses. Without the program, students would not have the required courses to graduate.

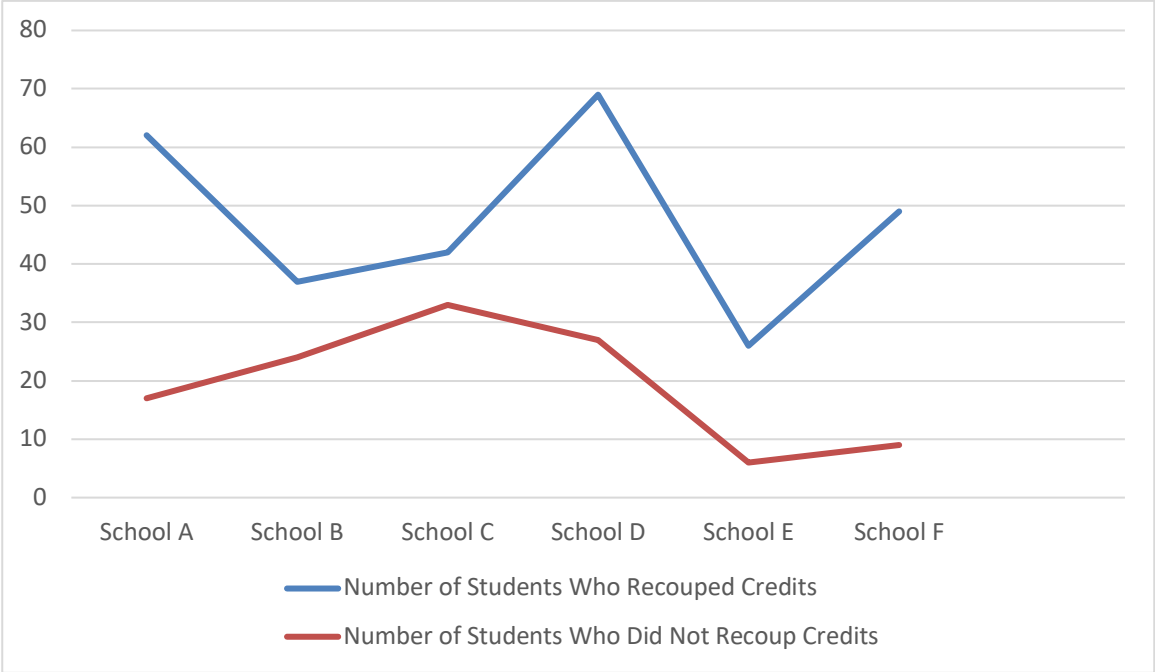

Figure 4 Students who recouped credits through online credit recovery.

Within the archived data collected from schools, originally zero data was collected on traditional credit recovery programs. There is also minimal research on traditional programs. These results are due to several reasons, such as the course offerings presented by the schools and the personal preferences of the students. According to Finlay, Desmet, and Evans (2004), students enrolled in online courses attend classes whenever the students choose, which allows for more flexibility than traditional courses. Furthermore, online courses allow students to work at their own pace, so students accelerate their learning if needed in order to be eligible to graduate. Finally, online courses fit into a student's schedule easier if their course schedule is already full or the course is not offered when the students need it.

Implications for Leadership

The outcomes of this study suggest the following implications for educational leaders when considering implementing a credit recovery program for students. Schools should

contemplate implementing a credit recovery program to provide support to students who have lost credits due to failing a course which is required for graduation. Leaders should continue to offer online credit recovery courses as an option for students who have lost credits and are at risk of dropping out of high school. The findings of this study coincide with the findings of Smink and Reimer (2005), where the students who recuperated lost credits are more likely to not drop out of high school as the students were successful with an intervention and are now eligible to graduate. It is also important to note there were more students enrolled in online courses than traditional courses.

Conclusion

This study encompassed an examination of credit recovery programs, and whether a relationship existed between the programs and high school graduation rates. An ex post facto research designed was used to collect archived data from six research sites from western Pennsylvania. The first round of data collection only contained course enrollments for online credit recovery programs, which prompted an additional data collection window with an increased amount of years being requested. The altered research showed students prefer to take online courses over traditional courses in the classroom. These findings are due to a multitude of reasons, including the flexibility online learning provides, students are able to work at their own pace, and students are able to complete courses during the summer while not spending their time in a classroom. In an analysis of the data, a statistically significant difference was not revealed between graduation rates before credit recovery programs were implemented. In the recommendations for further research, future studies should expand on additional states and years the credit recovery programs were being used.

Chapter 5 provided a discussion of findings and interpretations of the study and how the data impacts the area of credit recovery and high school graduation rates. The chapter additionally reviewed previous chapters and the research methodology used, along with data analysis for research questions and hypotheses. Lastly, the chapter presented the limitations, recommendations for future research, and implications for education leaders.

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Appendix A

IRB Approval Letter

November 15, 2019

To: Kellie Coennen
Sandra Quiatkowski, Dissertation Committee Chair

From: Becky Gerambia
Becky Gerambia
Assistant Chair, Institutional Review Board
Office of Institutional Analytics

Re: IRB Approval

"A Quantitative Study Focused on Traditional and Online Credit Recovery Programs and the Effect on Graduation Rates"

The American College of Education IRB has reviewed your application, proposal, and any related materials. We have determined that your research provides sufficient protection of human subjects.

Your research is therefore approved to proceed. The expiration date for this IRB approval is one year from the date of review completion, November 15, 2020. If you would like to continue your research beyond this point, including data collection and/or analysis of private data, you must submit a renewal request to the IRB.

Our best to you as you continue your studies.

Appendix B

Consent Form

Dear (Admin Name),

My name is Kellie Coennen, and I am a doctoral candidate at the American College of Education. I am writing to let you know about an opportunity to participate in a dissertation research study about the effects credit recovery programs may have on high school graduation rates.

The purpose of the research study is to prove if traditional or online credit recovery programs have a higher effect on graduation rates. As I have mentioned, you have been identified as a possible participant for this study. Agreement to be contacted for more information does not obligate you to participate in this study. Your participation in the study is voluntary. If you do not wish to participate, you may withdraw at any time.

I may publish the results of this study; however, I will not share any identifiable information. Your information will remain confidential. Please fill out this short survey (add survey link here) to see if you are a possible research candidate. Thank you again for considering this dissertation research opportunity.

Kellie Coennen

Appendix C

Initial Survey

Your name:

School you work at:

Your email address:

Does your school have a credit recovery program? Yes / No

If yes, the admin will receive the following questions:

Is your program traditional, online, or blended?

How many years has the program been implemented?

Thank you for your valuable time. You will be contacted soon to submit archived data regarding your program.

If no, the admin will receive this:

Thank you for your valuable time. At this moment, your school is not a candidate for this research study.

Appendix D

Credit Recovery Research Survey

Your name:

School you work at:

Your email address:

What is the percentage of students on free or reduced lunch?

If it is easier, you may export the following data and email it to me at kelliecoennen@gmail.com.

For the numbers below, please send the archived data including the original credit course name, final grade, credit recovery course name, final grade, and graduation status for each student.

In the last three years:

How many students have been enrolled in credit recovery courses?

Year 1:

Year 2:

Year 3:

How many students successfully completed their credit recovery courses?

Year 1:

Year 2:

Year 3:

How many students graduated who successfully completed their credit recovery courses?

Year 1:

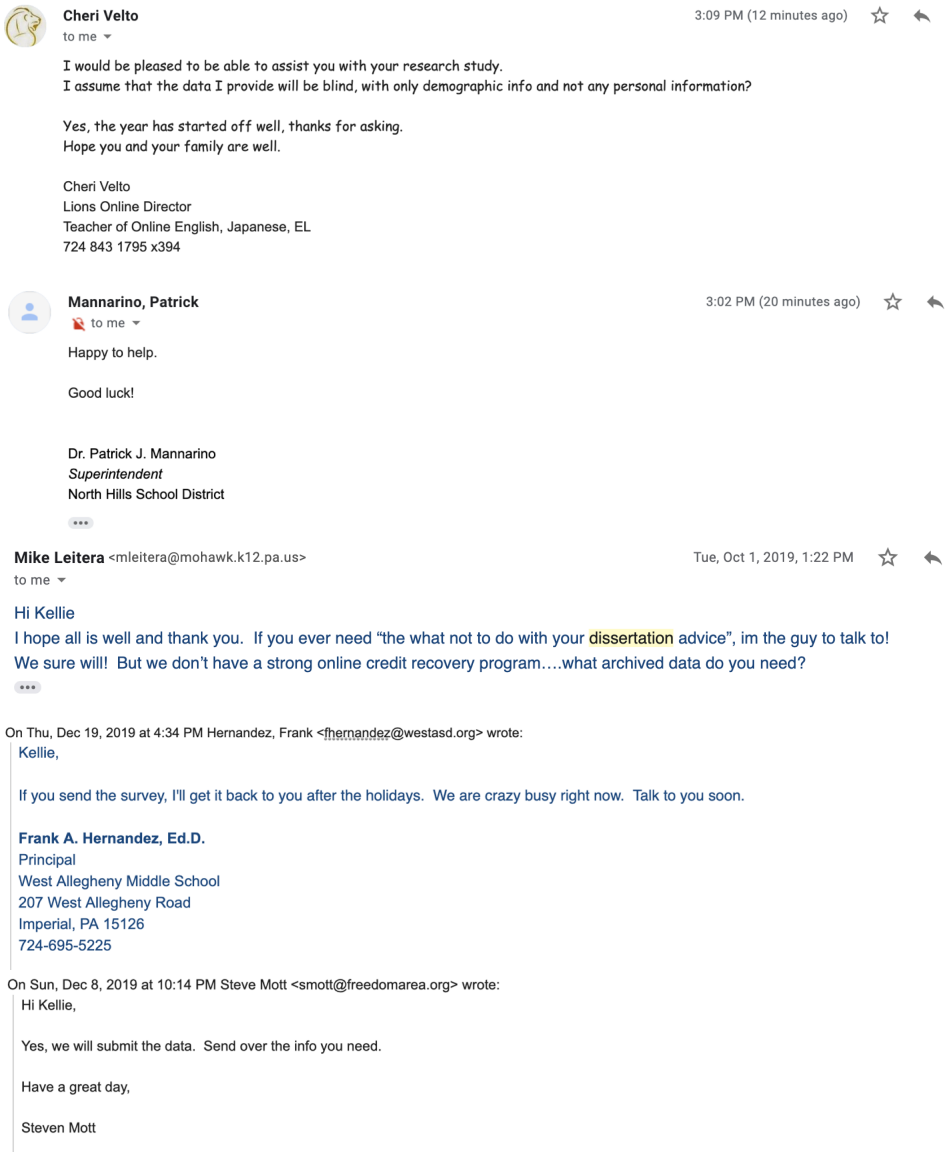
Year 2:

Year 3:

How many students graduated who did not successfully complete their credit recovery courses?

Appendix E

Site Approvals



Cheri Velto 3:09 PM (12 minutes ago)
to me

I would be pleased to be able to assist you with your research study.
I assume that the data I provide will be blind, with only demographic info and not any personal information?

Yes, the year has started off well, thanks for asking.
Hope you and your family are well.

Cheri Velto
Lions Online Director
Teacher of Online English, Japanese, EL
724 843 1795 x394

Mannarino, Patrick 3:02 PM (20 minutes ago)
to me

Happy to help.

Good luck!

Dr. Patrick J. Mannarino
Superintendent
North Hills School District

Mike Leitera <mleitera@mohawk.k12.pa.us> Tue, Oct 1, 2019, 1:22 PM
to me

Hi Kellie
I hope all is well and thank you. If you ever need "the what not to do with your dissertation advice", im the guy to talk to!
We sure will! But we don't have a strong online credit recovery program….what archived data do you need?

On Thu, Dec 19, 2019 at 4:34 PM Hernandez, Frank <fhernandez@westasd.org> wrote:

> Kellie,
>
> If you send the survey, I'll get it back to you after the holidays. We are crazy busy right now. Talk to you soon.
>
> **Frank A. Hernandez, Ed.D.**
> Principal
> West Allegheny Middle School
> 207 West Allegheny Road
> Imperial, PA 15126
> 724-695-5225

On Sun, Dec 8, 2019 at 10:14 PM Steve Mott <smott@freedomarea.org> wrote:

> Hi Kellie,
>
> Yes, we will submit the data. Send over the info you need.
>
> Have a great day,
>
> Steven Mott

Kellie,

Happy to help. I did not receive a link for your dissertation at WB. I used the Blackhawk link to complete WB and sent same email on to the Blackhawk counselor to complete the survey there. However, since I already used that link it responds that the survey had been completed.

Could you send me another email link to have it completed at Blackhawk.

Thank you,
Rob

Dr. Robert H. Postupac
Superintendent
Western Beaver County School District & Blackhawk School District
343 Ridgemont Dr.
Midland, PA 15059
Phone: 724-643-9310
Fax: 724-643-8048