2017

The ACT KeyTrain Program and the ACT WorkKeys Test Performance: An Action Research Study

Matthew T. Thompson
University of South Carolina

The ACT KeyTrain Program and the ACT WorkKeys Test Performance: An Action Research Study

by

Matthew T. Thompson

Bachelor of Science
College of Charleston, 2002

Master of Education
University of Massachusetts at Lowell, 2007

Submitted in Partial Fulfillment of the Requirements

For the Degree of Doctor of Education in

Curriculum and Instruction

College of Education

University of South Carolina

2017

Accepted by:

Susan Schramm-Pate, Major Professor

Kenneth Vogler, Committee Member

Suha Tamin, Committee Member

Vic Oglan, Committee Member

Cheryl L. Addy, Vice Provost and Dean of the Graduate School

Dedication

I dedicate this thesis to my wife and my son, who supported me each step of the way.

Acknowledgments

I would like to thank Dr. Susan Schramm-Pate, Dr. Kenneth Vogler, and Dr. Richard Lussier for their guidance in completing this study. I would like to thank Dr. Randy Reagan and the South Carolina Department of Corrections Research Division for allowing me to complete the research and study.

Disclaimer: The views and opinions expressed in this study are those of the author and do not necessarily reflect those of the South Carolina Department of Corrections.

Abstract

The purpose of this quantitative action research study was to describe the effectiveness of the American College Testing (ACT) KeyTrain program in the South Carolina Department of Corrections (SCDC), conducted with 50 inmate-student-participants who were enrolled in the Palmetto Unified School District's Tyger River High School's (TyRCI) adult education program. The identified problem of practice for this dissertation in practice (DiP) was an evaluation of the effectiveness of this program for one group of low socioeconomic status Black male inmate-student-participants. This evaluation was of vital importance to the Palmetto Unified School District (PUSD) and SCDC because ACT WorkKeys is one of the educational opportunities offered to inmate-students in an effort to improve the reintegration of inmates into society through reduced recidivism. Surveys, questionnaires, ACT KeyTrain curricula, and official ACT WorkKeys scores constituted the data for this research. Inmate-student-participant performance and patterns were described using a statistical *t* test. A correlation test was employed to describe the predictive ability of the ACT KeyTrain program. The primary research question "*How effective is the ACT KeyTrain program at predicting and improving ACT WorkKeys performance for 50 low socioeconomic-status, Black, male inmate-students in South Carolina?"* drove the data collected in this study that implies that the ACT KeyTrain program was not effective in improving ACT WorkKeys performance for 50 low-SES Black male inmate-student-participants at TyRCI. However, when accounting for inmate-student "work ethic" (defined and quantified

through a quality study time statistic), the data collected in this study showed that the ACT KeyTrain program was somewhat effective in improving ACT WorkKeys performance for 50 low-SES Black male inmate-student-participants at TyRCI. The researcher-participant reflected on the data with the inmate-student-participants to design an action plan for the school. Based on feedback from inmate-student-participants, Tyger River High School will continue to use and expand the use of ACT KeyTrain to prepare inmate-students for ACT WorkKeys.

Preface

The following research study was conducted entirely at the Tyger River Correctional Institution of the South Carolina Department of Corrections. The research study was approved by the Director of the Division of Resource and Information Management division of the agency as well as by the superintendent of the Palmetto Unified School District. I was both the researcher-participant and the principal of the school within the institution. I was responsible for most of the data collection and all of the analysis. Some data were collected by a teacher-participant, a Title I teacher. Data were collected from the ACT KeyTrain program as well as from ACT WorkKeys scores.

Table of Contents

List of Tables

List of Figures

List of Abbreviations

ABE……Adult basic education

EFA……...Education Finance Act

GED……General Educational Development

NCRC……National Career Readiness Certificate

PUSD……Palmetto Unified School District

QST……..Quality study time

RPDS……Research Participant Demographics Survey

SES……..Socioeconomic status

SCDC……South Carolina Department of Corrections

TABE……Test of Adult Basic Education

TyRCI……...Tyger River Correctional Institution

ZPD……..Zone of proximal development

CHAPTER 1

RESEARCH OVERVIEW

Introduction

In an effort to improve inmate-students' chances of finding gainful employment and/or choosing a career upon release from prison, the South Carolina Department of Corrections (SCDC) provides educational opportunities for inmate-students. As a part of these educational opportunities, inmate-students may work toward a National Career Readiness Certificate (NCRC), which is a "nationally recognized job skills assessment that measures real world skills that employers have identified as being critical to job success. Assessment helps educators identify and narrow the gap between students' skills and employment needs" (Reagan, 2014, p. 2607). Leaders of the SCDC education division, the Palmetto Unified School District (PUSD), have assigned goals for individual schools and for the entire district on certificate attainment (e.g., General Educational Development [GED], ACT WorkKeys, vocational, and on-the-job training). Setting goals for inmates to achieve while they are incarcerated has helped them be more productive. Earning a NCRC while incarcerated is just one of many goals available to inmate-students. In addition to making the sentence more productive, educators have increased the likelihood of gainful employment for former inmate-students after release because the NCRC is a nationally recognized credential. "The NCRC helps students prepare to succeed in a variety of career pathways" (ACT, 2016, para. 1). Once released from prison, people need direction for their lives. This illustrates why providing

education to inmates is important for the SCDC and the State of South Carolina (SC). Chapter 2 discusses the importance of education for marginalized populations, such as low SES Black male inmates, as demonstrated in the literature.

At the time of this study, teachers in the prison (including the researcher-participant) used an assortment of educational resources intended to maximize SC inmate-students' test scores. However, the many educational resources and materials available created inconsistency for inmate-students as they prepared for the examination. Having SC inmate-students take the WorkKeys assessments before they are "ready" can cost the State financially and may cost the inmate-student future employment opportunities. In order to increase readiness to take the test, the SCDC has invested money in the ACT KeyTrain program by purchasing site licenses for the various institutions.

Philosophical position of the researcher-participant. This study focuses on the demographics and composition of prison populations across the United States (US) and SC. Various demographic groups within the population of the US have unearned advantages in many areas of society. "In each case, there is a group considered dominant (systematically advantaged by the society because of group membership) and a group considered subordinate or targeted (systematically disadvantaged)" (Tatum, 2013, p. 7). This unearned advantage is called "white privilege" (Johnson, 2013, p. 17). Paul Gorski (2013) states "privilege begets privilege" (p. 16). People without privilege are often victims of social injustices. Maurianne Adams (2013) states,

> We pay attention to the privileges assumed by advantaged social groups but unavailable to disadvantaged social groups, and the view that systemic oppression

> is characterized by unequal relationships between those who are privileged or advantaged by the social system, relative to those who are targeted or disadvantaged. (p. xxvii)

The system of social injustices has created a society in which certain groups of people have greater difficulty, compared to others, in coping with basic aspects of life in the US, including navigating the legal system, finding housing, pursuing career opportunities, receiving education, and accessing healthcare (Gorski, 2013, p. 74). The school system is often blamed for complicity in what is known as the school-to-prison pipeline (Smith & Harper, 2015, p. 4). In short, the difficulties and social injustices faced by populations of citizens who have been historically marginalized in the US have led to higher rates of incarceration and the institution of school, designed to educate and promote social mobility, has fallen short serving some citizens. In particular, low income, Black males are overrepresented in the criminal justice system. According to Smith and Harper (2015), "The overrepresentation of Blacks among students impacted by discipline policies and practices has incontestably helped sustain the 'school-to-prison pipeline,' a term that signifies the roles schools play in putting certain students on pathways into the criminal justice system" (p. 4). After schooling, the trend continues according to Johnson (2013) who notes, "White are less likely than blacks to be arrested; once arrested, they are less likely to be convicted and, once convicted less likely to go to prison, regardless of crime or circumstances" (p. 17). Therefore, across the United States, Black males of low socioeconomic status (SES) are overrepresented in prison populations, compared to their white counterparts. Therefore, the present action research study is focused on improving ACT WorkKeys performance for some of SC's low-SES Black males in an

effort to improve their lives when they are released and free to seek gainful employment in our capitalist system.

Statement of the problem of practice. The identified problem of practice for this dissertation in practice was to determine the effectiveness of the ACT KeyTrain program for 50 low-SES Black male inmate-student-participants in improving and predicting performance on the ACT WorkKeys examination. This goal was of vital importance to the PUSD and the SCDC because ACT WorkKeys is one of the educational opportunities offered to inmate-students in an effort to improve the reintegration of inmates into society through reduced recidivism.

Background of the problem of practice. Because of myriad social injustices, including inadequate access and equity in public schooling, low-SES Black males have been overrepresented in the inmate population in SC. Approximately 61% of the inmate population in the SCDC is Black while the approximately 28% of the total state population is Black (South Carolina Department of Corrections, 2016a). Educational services have been offered to these inmates in an effort to improve their quality of life upon release from prison. For example, at the time of this study, the ACT WorkKeys program was an integral part of the educational curriculum offered by the SCDC. SC inmate-students were required to complete a minimum of 35 hours of direct instruction and to show an educational gain on the Test of Adult Basic Education (TABE). At that point in their course of study, it was not always easy for those who taught in the prison to determine who among the inmate-students was ready to take the WorkKeys assessment. Determining readiness was important for fiscal responsibility to offset the cost to the state to administer the examination. Additionally, once an inmate-student showed readiness to

take the WorkKeys assessment, SCDC leaders tried to enable inmate-students to maximize their score on this assessment because those scores equated to increased state funding for the SCDC and afforded future employment opportunities for more inmates upon their release. Thus, SC taxpayer dollars were spent on publications that offered study materials, curricula, and resources aimed at improving WorkKeys performance for this particular population of inmate-student-participants.

Methodology

Research objectives. The goal of this action research study was to evaluate the effectiveness of the KeyTrain program for identifying inmate-student readiness and improving low-SES Black male inmate-student performance on the ACT WorkKeys assessments. The first objective was to describe or predict inmate-student readiness for the ACT WorkKeys assessments as measured using the Adaptive KeyTrain pretests and the Adaptive KeyTrain posttests as a part of the instructional process. The second objective was to describe the effectiveness of the instructional materials in improving ACT WorkKeys performance.

Research question. The primary research question guiding this particular action research study emerged from reflection on the aforementioned issues. The research question was "How effective is the ACT KeyTrain program at predicting and improving ACT WorkKeys performance for 50 low socioeconomic-status Black male inmate-students in South Carolina?"

Hypotheses. The null and alternative hypotheses studied in this research project were as follows:

- $H1_0$: There will be no difference between the Adaptive KeyTrain Pretest scores and the Adaptive KeyTrain Posttest scores for low-SES Black male inmate-student-participants at TyRCI as a result of completing the KeyTrain program.
- $H1_a$: There will be a statistically significant increase between Adaptive KeyTrain Pretest scores and Adaptive KeyTrain Posttest scores for low-SES Black male inmate-student-participants at TyRCI as a result of completing the KeyTrain program.
- $H2_0$: There will be no relationship between the Adaptive KeyTrain Posttest scores and the official WorkKeys scores for low-SES Black male inmate-student-participants of TyRCI.
- $H2_a$: There will be a positive correlation between the Adaptive KeyTrain Posttest scores and the official ACT WorkKeys scores for low-SES Black male inmate-student-participants of TyRCI.

Participants. The inmate-student-participants were 50 low SES Black males enrolled in educational services at TyRCI. The teacher-participant is Jane McHale, the Title 1 Teacher at TyRCI. I am the principal at TyRCI and will be referred to as the researcher-participant. I am the principal at TyRCI. As the data collector, I offered inmate-students the opportunity participate in the study. Furthermore, I setup inmate-student-participant accounts in ACT KeyTrain and recorded data from the program. I also coordinated the administration of the ACT WorkKeys examination. Finally, I conducted the data reflection meeting with the inmate-student-participants and the teacher-participant.

Purpose of the study. The purpose of this research study was to determine the effectiveness of the ACT KeyTrain program in improving and predicting inmate-student performance on the ACT WorkKeys examination. For this study, effectiveness was defined in terms of improved performance as the average improvement between the pretest and posttest on the ACT Adaptive KeyTrain test. Regarding predictability, effectiveness was the strength of the correlation between the ACT Adaptive KeyTrain posttest and the results from the ACT WorkKeys examination as determined by a statistical *t* test. Therefore, the aim was to improve and predict inmate-student performance on ACT WorkKeys through the completion of a specified amount of the ACT KeyTrain program. The program was available through Title I at Tyger River Correctional Institution (TyRCI). With systematic use of this program, the WorkKeys scores of the 50 low socioeconomic-status (SES) Black male inmate-students who participated in the study were maximized. By eliminating the uncertainty and maximizing test scores, TyRCI worked toward the mission of the SCDC. One prong of the three-pronged mission of SCDC was stewardship: "Stewardship–We will promote professional excellence, fiscal responsibility, and self-sufficiency" (South Carolina Department of Corrections, 2015b, para. 1). By properly preparing inmate-students for the WorkKeys examination, TyRCI and PUSD demonstrated fiscal responsibility and self-sufficiency.

Rationale for the study. A major component of rehabilitation of inmates SCDC was education. In providing educational opportunities for inmates, a goal of the SCDC is to help reduce recidivism rates. The reduced recidivism rate is evidence that inmates may have experienced a more successful return to society. Providing additional

educational opportunities for segments of the population who experience social injustices may have alleviated some of the oppression they experienced once released. The ultimate educational goal of inmate-students in SCDC was to obtain a high school diploma or General Educational Development (GED) diploma. In the process of working toward a GED, the inmate-students in SCDC followed federal adult education regulations. They were pretested using TABE, given a minimum number of hours of instruction, and then tested again using TABE. Once inmate-students changed their educational functioning level (EFL), or showed gains, they received additional assessments, provided their TABE scores were high enough. The assessments inmate-students began preparing for included WorkKeys and the GED. As a part of the SCDC process, inmate-students were encouraged to take WorkKeys and earn a Silver NCRC prior to progressing toward the GED.

Depending upon inmate-student performance on WorkKeys, PUSD received funding from the federal government. PUSD received $11.37 for a Bronze NCRC, $42.33 for a Silver NCRC, and $103.58 for a Gold NCRC or a Platinum NCRC. The funding data indicate why improving WorkKeys performance was of the utmost importance to PUSD and SCDC. The funding generated through credentials earned by inmate-students is critical to sustaining academic programs in the agency. It was a goal of PUSD to assess only those inmate-students who had a strong possibility of earning a Silver NCRC or better.

In an effort to determine inmate-student readiness, PUSD used TABE scores and teacher opinions based on classroom performance. The latter of these current methods was a subjective measure at best. Therefore, it was beneficial to have a pre-assessment in

place that accurately predicted WorkKeys success for low-SES Black male inmate-students, as well as a curriculum or program to improve WorkKeys skills once teachers identified viable candidates.

Summary of the findings. The data collected in this study indicated that the ACT KeyTrain program was not effective in improving ACT WorkKeys performance for 50 low-SES Black male inmate-student-participants at TyRCI. A slight decrease in inmate-student-participant performance was found between pretest and posttest scores in ACT KeyTrain in each Reading for Information, Applied Mathematics, and Total Battery. However, a slight increase in inmate-student-participant performance between the pretest and the posttest was found in ACT KeyTrain in Locating Information. Additionally, the data collected in this study showed that the ACT Adaptive KeyTrain posttest performance was positively correlated to ACT WorkKeys performance for the sample of 50 low-SES Black male inmate-student-participants at TyRCI. Therefore, the ACT KeyTrain program was judged effective in predicting ACT WorkKeys performance for the sample of 50 low-SES Black male inmate-student-participants at TyRCI. For Reading for Information, a weak positive correlation between the ACT Adaptive KeyTrain posttest and the ACT WorkKeys test was found. In Locating Information, Applied Mathematics, and Total Battery, a weak to moderate positive correlation was found between the ACT Adaptive KeyTrain posttest and the ACT WorkKeys test.

Dissertation Overview

This section briefly details the subsequent sections of this research study dissertation. In Chapter 2, existing literature about the importance of education for incarcerated people and the importance of ACT WorkKeys is presented. Common

themes for ACT WorkKeys found throughout the literature involved implications for prospective employers, prospective employees, and schools and/or educational institutions. In the literature concerning the importance of education for inmates, common themes involved recidivism and making inmates' sentences more productive. Each of the themes in the current literature was evaluated in terms of the historical context, current trends, and the way theory has informed practice. This review is critical to understanding the themes and their relevance to the purpose of this study.

In Chapter 3, information about the methods used to carry out the research study is presented. The research questions, research design, and hypotheses are presented and discussed. Included in this chapter is a discussion of the implementations for data collection, data analysis, data reflection and interpretation, and the action plan. In the data collection section, a comprehensive list of the data collected is presented. In the data analysis section, how the collected data were analyzed to test the null hypotheses is explained.

In Chapter 4, a summary of the findings of the research study is presented, followed by an interpretation of the results of the study. In Chapter 5, a summary of the findings of the study is presented, followed by a discussion of the major points from the findings. Further, an action plan based on the findings of the study is included. Finally, potential future research and questions that arose from this study are presented.

Significance of the study. This study was of importance because it aimed to help the educational staff of Tyger River Correctional Institution to determine the effectiveness of a major instructional resource, ACT KeyTrain, the school purchased annually. For the purposes of this research study, effectiveness was the ability of ACT

KeyTrain to predict performance and to improve performance of low SES Black male inmate-student-participants on ACT WorkKeys. Improving performance can have an impact on the ability of a former inmate-student to find gainful employment upon release from prison. Gainful employment can reduce recidivism and improve the success of an inmates return to society. By determining its effectiveness, the school could make a decision about future implementation, use, or purchase of this resource.

Many incarcerated people come from marginalized populations. This marginalization often has been a factor in their incarceration and/or participation in criminal activity. A marginalized population that is overrepresented in correctional facilities is low SES Black males. Furthermore, once low SES Black male inmates leave prison, society oppresses them based on their classification as a convict. When the SCDC provides low SES Black male inmates with educational credentials, they improve their chances of a successful return to society.

Potential Weaknesses. A limitation of this study was that the research classified some of the research participants that as low SES based on their lunch status from high school. However, some of the research participants were older and had not been in high school in quite some time. Research participants' employment status may have changed their SES status after leaving high school. Furthermore, there was evidence to indicate some of them did not reliably know what their yearly salary was prior to incarceration to make an accurate judgement on their SES. This data was not available from the SCDC.

Another potential weakness or limitation of the study is the term "work ethic." Work ethic is defined in the present study as the amount and the quality of effort through intrinsic motivation that an inmate-student-participant puts into improving his skills or

abilities through a course of study. For the purposes of this action research, the researcher-participant quantified and measured work ethic using QST and a teacher-participant completed Likert-scale survey. As stated previously, white privilege has led to a system of injustices for Black males and they are overrepresented in prison populations due to the lack of privilege. As a result of their current setting and life events that have led to that condition, inmate-students are many times not engaged in academic work or motivated to engage in academic work. The idea of intrinsic motivation and work ethic is rooted in a system of meritocracy. As Spring (2014) states, "meritocracy mean creating an administrative structure in which the positions held by professionals depended on their training and abilities as opposed to their political influence and power" (p. 271). The idea is that the harder one works, the more they deserve in terms of wealth, status, and/or power regardless of other factors associated with privilege. Parents, educators, and society instill this idea in people at an early age as they chase the "American Dream." The intrinsic motivation necessary to display a successful (i.e., white, middle-class) work ethic is difficult for some of these Black inmate-student-participants to develop because they have not internalized this belief system nor been taught the skills associated with it. Although the researcher-participant took measures to account for this variable, it is still possible some student-participants that did not display a normalized work ethic were included in some of the data sets.

Conceptual framework. The conceptual foundation of this research project was that instruction targeted toward a goal such as WorkKeys performance could have a positive impact on low SES Black male inmate-student performance. This targeted instruction could be prescribed to inmate-student-participants on an individual basis

based on their performances on a preliminary assessment. The ACT KeyTrain program was based on the concept of differentiated instruction. In addition, the KeyTrain program applied Lev Vygotsky's theory of the zone of proximal development (ZPD). Scaffolding was another concept essential to the KeyTrain program.

Differentiation of instruction is a powerful concept in education encouraged in most school systems. "Teachers who understand the centrality of high-quality curriculum in differentiation know that students can become powerful learners only if what they are asked to learn is powerful" (Tomlinson, Brimijoin, & Narvaez, 2008, p. 7). In order to provide adequate instruction to all students, the teacher must facilitate and tailor instruction specific to each student's needs. This method of instruction is called *differentiation*. Tomlinson and Moon (2013) state, "Indeed, instruction is at the core of differentiation because the ultimate goal of differentiation is to ensure that each student has the best possible learning experiences in order to maximize academic growth" (p. 9).

The ZPD is a theory introduced by Lev Vygotsky. The theory of the ZPD holds that in order for students to learn, they must be given instructional tasks at a level of difficulty that is just beyond what they can do by themselves (Vygotsky, 1978, p. 86). Students only advance if they receive difficult instructional materials. However, students may need help completing assignments. This is where new learning is initiated.

Scaffolding is another concept central to the implementation of the ACT KeyTrain program. As inmate-student-participants progressed through the lessons for the levels, the program showed students how to read a problem, how to set up the problem, and then how to arrive at the solution for the problem. By progressing through the levels

within the course of the ACT KeyTrain program, the skills built on each other and became progressively more difficult.

Key Words/Glossary.

Adult basic education (ABE) – Adult basic education refers to the classification for inmate-students who turn 21 before September 1 of an academic year. These inmate-students generate funding from sources different from those of the Education Finance Act (EFA) students. The educational plan for these inmate-students must follow federal regulations and assessment guidelines for adult education.

ACT Career Ready 101 – ACT Career Ready 101 is an online program produced by ACT Inc. that prepares students for the various ACT assessments. The program includes mini-courses designed for the specific assessments. In addition to the courses to prepare students for assessments, the program also includes career exploration features.

ACT KeyTrain – ACT KeyTrain is an instructional suite within ACT Career Ready 101 that prepares students for the ACT WorkKeys assessments.

ACT WorkKeys – ACT WorkKeys is a battery of tests that assesses a person's skills in three areas. The three subtests are Reading for Information, Locating Information, and Applied Mathematics. On the Reading for Information subtest, examinees read a passage of text. After reading the passage, typically examinees are required to answer 2-3 questions about the passage. The goal of the subtest is to assess the examinees ability to comprehend what they have read. There are 33 questions on this subtest. On the Locating Information subtest, examinees study a graph, chart, and/or table. Examinees then answer a question about the figure. Some figures are more

difficult and complex than others. There are 38 questions on this subtest. On the Applied Mathematics subtest, examinees solve word problems of varying degrees of difficulty. There are 33 questions on this subtest. Examinees have 45 minutes to complete each subtest. The data from the subtests may be used as feedback so show if someone possesses the skills to be successful in various jobs and/or careers.

Differentiation of instruction – Differentiating instruction means developing an educational plan for students based on their unique needs, strengths, and/or weaknesses (Tomlinson, 2001, p. 3). In practice, students typically work individually or in small groups (as opposed to traditional whole group instruction) on skills that were identified as a weakness through a pre-assessment (Tomlinson & Moon, 2013, p. 29).

Education Finance Act (EFA) – Education Finance Act refers to the funding source for inmate-students who are under 21 or who turn 21 after September 1 of an academic year. The acronym for the funding source is then used to classify the inmate-students who fall into this category. The educational plan for these inmate-students is different from that of the ABE inmate-students. EFA inmate-students are referred to as high school students.

General Educational Development (GED) – A General Educational Development (GED) diploma is a certificate that represents the equivalency of a high school diploma (Brinkley-Etzkorn & Ishitani, 2016, p. 28).

Inmate – An inmate is a convicted felon incarcerated at one of the 24 institutions in the state of South Carolina.

National Career Readiness Certificate (NCRC) – A National Career Readiness Certificate is a credential that represents the skill set that the person possesses in various

areas such as reading comprehension, mathematical ability, and the ability to use logic (ACT, 2016, para. 1).

Palmetto Unified School District (PUSD) – Palmetto Unified is a statewide school district that targets the inmates in the South Carolina Department of Corrections. At this time, there are approximately 21,000 inmates. Inmate-students who are between 17 and 21 years old are served at one of 9 high schools in the district. Inmate-students who are 22 years old and older are served in adult education programs within the institutions (South Carolina Department of Corrections, Palmetto Unified School District 1, 2015, para. 10).

Quality Study Time (QST) – Quality study time is a statistic derived to quantify inmate-student-participant work ethic for this particular research project. The researcher-participant calculated QST by the following equation: grade percent earned on a level multiplied by the score the inmate-student-participant earned on the posttest multiplied by hours spent in study for that level multiplied by hours spent on the posttest.

Recidivism – Recidivism is the return of a person to a life of crime as represented by new arrests, convictions, and/or incarcerations within three years of release from prison due to a previous sentence (National Institute of Justice, 2014, para. 1).

Scaffolding – Scaffolding is a method of instruction in which the teacher provides just enough assistance so that a student can complete an assigned task. As the student becomes increasingly competent at the task, the teacher gradually releases control until the student can complete the task independently (Tomlinson, 2001, p. 22).

Socioeconomic status (SES) – "Socioeconomic status is commonly conceptualized as the social standing or class of an individual or group. It is often

measured as a combination of education, income, and occupation" (American Psychological Association, 2015, para. 1).

South Carolina Department of Corrections (SCDC) – The South Carolina Department of Corrections is the state agency responsible for securely housing inmates convicted of crimes by the judiciary systems of South Carolina. There are currently 24 institutions housing approximately 21,000 inmates (South Carolina Department of Corrections, Palmetto Unified School District 1, 2015, para. 10).

Test of Adult Basic Education (TABE) – "Educators use TABE testing to provide a solid foundation for effectively assessing the skills and knowledge of adult learners" (Data Recognition Corporation, 2015, para. 1). The subtests for TABE are Reading, Language, Mathematic Computation, and Applied Mathematics.

Tyger River Correctional Institution (TyRCI) – One of 24 institutions or prisons in the state of South Carolina. TyRCI is located in Enoree, South Carolina. Enoree is a small, rural community located in southern Spartanburg County along SC Highway 56.

Work Ethic – Work ethic is the amount and the quality of effort through intrinsic motivation an inmate-student-participant puts into improving their skills or abilities through some course of study. For the purposes of this action research, the researcher-participant quantified and measured work ethic using QST and a teacher-participant completed Likert-scale survey.

Zone of proximal development (ZPD) – "The ZPD of the child is the distance between the level of his [or her] actual development, determined with the help of independently solved tasks, and the level of possible development, defined with

the help of tasks solved by the child under the guidance of adults or in cooperation with more intelligent peers." (Vygotsky & Kozulin, 2011, p. 208)

Conclusion

Throughout the history of the United States, groups of people have been marginalized and oppressed. The effects of the oppression and the marginalization persist even today and are evident in the legal system, housing market, career pursuit, education, and access to healthcare. The injustices from the legal system have led to the overrepresentation of low SES Black males in prisons across the United States, but particularly South Carolina. In effort to improve an inmate's return to society, the SCDC offers educational opportunities. The opportunity to earn a NCRC through ACT WorkKeys is one of those educational opportunities. The goal of this study was to determine if the use of the ACT KeyTrain curriculum improved or predicted an inmate-student-participant's score on ACT WorkKeys. The primary research question "*How effective is the ACT KeyTrain program at predicting and improving ACT WorkKeys performance for 50 low socioeconomic-status, Black, male inmate-students in South Carolina?"* drove the data collected in this study that implies that the ACT KeyTrain program was not effective in improving ACT WorkKeys performance for 50 low-SES Black male inmate-student-participants at TyRCI. However, when accounting for inmate-student-participant work ethic, the data collected in this study showed that the ACT KeyTrain program was somewhat effective in improving ACT WorkKeys performance for 50 low-SES Black male inmate-student-participants at TyRCI.

CHAPTER 2

LITERATURE REVIEW

Introduction

The State of South Carolina has charged the SCDC with rehabilitating this group in addition to protecting the public and the inmates. Socioeconomic (SES) status intersects with race/ethnicity in the State of South Carolina, similar to the situation found in many states in the United States (Gorski, 2013, p. 46). As a result, low-SES Black male inmates often populate U.S. penal institutions (Vogel & Porter, 2016, p. 515). A solution to the excessive incarceration of individuals is correctional education. According to RAND Foundation experts' meta-analysis of correctional educational studies, "Prison education programs are cost effective, with a $1 investment in prison education reducing incarceration costs by $4 to $5 during the first three years post-release" (Davis, Bozick, Steel, Saunders, & Miles, 2013, para. 2). Ninety percent of all inmates return to society (South Carolina Department of Corrections, 2016b). Correctional education can be a valuable intervention for low-SES Black male inmates. "Several evaluations have demonstrated that correctional education programs increase employment rates and wages of parolees, both factors correlated with reduced recidivism" (Brown, 2008, para. 8).

The purpose of Chapter 2 is to describe the theoretical foundations of the South Carolina Department of Correction's (SCDC) educational opportunities for inmates. In this chapter, there is a discussion of the theoretical base for this action research study.

Within the theoretical base, the value of correctional education is presented in terms of recidivism, a reentry tool, and controlling prison populations. Furthermore, the value of ACT WorkKeys is considered in terms of historical context, current trends, and how the theory has informed the practice. Finally, the historical context of correctional education is discussed in regards to the common school movement, the education of the oppressed, and the value of human capital.

Statement of the problem of practice. The identified problem of practice for this dissertation in practice was to determine the effectiveness of the ACT KeyTrain program for 50 low-SES Black male inmate-student-participants in improving and predicting performance on the ACT WorkKeys examination. This goal was of vital importance to the PUSD and the SCDC because ACT WorkKeys is one of the educational opportunities offered to inmates in an effort to improve the reintegration of inmates into society through reduced recidivism.

Background of the problem of practice. Because of myriad social injustices, including inadequate access and equity in public schooling, low-SES Black males have been overrepresented in the inmate population in SC. Approximately 61% of the inmate population in the SCDC is Black while the approximately 28% of the total state population is Black (South Carolina Department of Corrections, 2016a). Educational services have been offered to these inmates in an effort to improve their quality of life upon release from prison. For example, at the time of this study, the ACT WorkKeys program was an integral part of the educational curriculum offered by the SCDC. SC inmate-students were required to complete a minimum of 35 hours of direct instruction and to show an educational gain on the Test of Adult Basic Education (TABE). At that

point in their course of study, it was not always easy for those who taught in the prison to determine who among the inmate-students was ready to take the WorkKeys assessment. Determining readiness was important for fiscal responsibility to offset the cost to the state to administer the examination. Additionally, once an inmate-student showed readiness to take the WorkKeys assessment, SCDC leaders tried to enable inmate-students to maximize their score on this assessment because those scores equated to increased state funding for the SCDC and afforded future employment opportunities for more inmates upon their release. Thus, SC taxpayer dollars were spent on publications that offered study materials, curricula, and resources aimed at improving WorkKeys performance for this particular population of inmates.

Research question. The primary research question guiding this particular action research study emerged from reflection on the aforementioned issues. The research question was "How effective is the ACT KeyTrain program at predicting and improving ACT WorkKeys performance for 50 low socioeconomic-status Black male inmate-student-participants in South Carolina?"

Purpose of the study. The purpose of this research study was to determine the effectiveness of the ACT KeyTrain program in improving and predicting low SES Black male inmate-student-participant performance on the ACT WorkKeys examination. For this study, effectiveness was defined in terms of improved performance as the average improvement between the pretest and posttest on the ACT Adaptive KeyTrain test. Regarding predictability, effectiveness was the strength of the correlation between the ACT Adaptive KeyTrain posttest and the results from the ACT WorkKeys examination as determined by a statistical *t* test. Therefore, the aim was to improve and predict

inmate-student-participant performance on ACT WorkKeys through the completion of a specified amount of the ACT KeyTrain program. The program was available through Title I at Tyger River Correctional Institution (TyRCI). With systematic use of this program, the WorkKeys scores of the 50 low socioeconomic-status (SES) Black male inmate-students who participated in the study were maximized. By eliminating the uncertainty and maximizing test scores, TyRCI worked toward the mission of the SCDC. One prong of the three-pronged mission of SCDC was stewardship: "Stewardship–We will promote professional excellence, fiscal responsibility, and self-sufficiency" (South Carolina Department of Corrections, 2015b, para. 1). By properly preparing inmate-students for the WorkKeys examination, TyRCI and PUSD demonstrated fiscal responsibility and self-sufficiency.

Rationale for the study. A major component of rehabilitation of inmates SCDC was education. In providing educational opportunities for inmates, a goal of the SCDC is to help reduce recidivism rates. The reduced recidivism rate is evidence that inmates may have experienced a more successful return to society. Providing additional educational opportunities for segments of the population who experience social injustices may have alleviated some of the oppression they experienced once released. The ultimate educational goal of inmates in SCDC was to obtain a high school diploma or General Educational Development (GED) diploma. In the process of working toward a GED, the inmate-students in SCDC followed federal adult education regulations. They were pretested using TABE, given a minimum number of hours of instruction, and then tested again using TABE. Once inmate-students changed their educational functioning level (EFL), or showed gains, they received additional assessments, provided their TABE

scores were high enough. The assessments inmate-students began preparing for included WorkKeys and the GED. As a part of the SCDC process, inmate-students were encouraged to take WorkKeys and earn a Silver NCRC prior to progressing toward the GED.

Depending upon inmate-student performance on WorkKeys, PUSD received funding from the federal government. PUSD received $11.37 for a Bronze NCRC, $42.33 for a Silver NCRC, and $103.58 for a Gold NCRC or a Platinum NCRC. The funding data indicate why improving WorkKeys performance was of the utmost importance to PUSD and SCDC. The funding generated through credentials earned by inmate-students is critical to sustaining academic programs in the agency. It was a goal of PUSD to assess only those inmate-students who had a strong possibility of earning a Silver NCRC or better.

To determine inmate-student readiness, PUSD used TABE scores and teacher opinions based on classroom performance. The latter of these current methods was a subjective measure at best. Therefore, it was beneficial to have a pre-assessment in place that accurately predicted WorkKeys success for low-SES Black male inmate-students, as well as a curriculum or program to improve WorkKeys skills once teachers identified viable candidates.

Purpose of the Literature Review

Many researchers have studied the importance of education for incarcerated people and the importance of WorkKeys. Common themes for ACT WorkKeys throughout the literature include implications for prospective employers, prospective employees, and schools and/or educational institutions. In the literature concerning the

importance of education for inmates, common themes involved recidivism and making inmate-students' sentences more productive. The premise upon which PUSD operated within SCDC was that education improves inmate-students' ability to make a successful return to society. This ultimately saves money for the State of South Carolina and thus is a vital part of fulfilling SCDC's mission of rehabilitating people. In this chapter, each theme in the current literature is evaluated in regards to the historical context, the current trends, and the way theory has informed practice. This study of the literature through time concerning the aforementioned themes is critical to understanding the themes and their relevance to this study.

Review of the Literature

Theoretical foundation. Many researchers have studied correctional education, recidivism, and post incarceration benefits (Borden, Richardson, & Meyer, 2012, p. 6). Because of oppressive factors woven into the historical fabric of the United States, low-SES Black males have been overrepresented in correctional facilities throughout the nation (Vogel & Porter, 2016, p. 515). This population comprises a large portion of people served by correctional education. Additionally, much research has been conducted regarding the value and use of ACT WorkKeys and the subsequent National Career Readiness Certificate (NCRC) used to obtain employment. However, limited research has assessed the value of ACT WorkKeys and the NCRC to correctional education. The principles and theories gleaned from these previous studies were valuable in creating the foundation for this study.

The value of correctional education. Much research exists concerning the importance and effectiveness of education in correctional settings. Oppression of

previous generations has led to disproportionate incarceration of low-SES Black males in the United States. "Black/white incarceration disparities are the most pronounced, with black males being incarcerated at nearly seven times the rate of white males" (Vogel & Porter, 2016, p. 516). Correctional education can have tremendous value in combating this social injustice and stopping the cycle of recidivism. Correctional education can help these individuals prosper in society by providing them with valuable and profitable skills. "Inmates who regularly attend and complete classes while incarcerated have the potential to acquire skills that prepare them for employment, to gain a sense of accomplishment and success, to become lifelong learners, and to avoid committing further crime" (Borden, Richardson, & Meyer, 2012, p. 7). By reducing recidivism, more low-SES Black males have the opportunity to positively influence their families. "Beyond the social and public cost benefits associated with reduced recidivism, correctional education has great potential to improve the social and economic situations of inmates and their families" (Borden, Richardson, & Meyer, 2012, p. 7). This involvement can help stop the cycle of incarceration and social injustice among this population. "Offenders who enroll in educational programming have an opportunity to demonstrate positive behaviors to their families and to serve as positive role models to family and children." (Borden, Richardson, & Meyer, 2012, p. 7). Common themes emerging from the research have included the ideas that (a) correctional education is beneficial in reducing recidivism, (b) education is an excellent reentry tool, and (c) education is effective in controlling prison populations. These elements are described in the following paragraphs.

The effect on recidivism. The most common theme found in existing research about the importance of correctional education is its ability to reduce recidivism.

Recidivism is the rate at which inmates return to the custody of a correctional entity within some specified period (National Institute of Justice, 2014, para. 1). The period of time in which recidivism is measured can vary. Most correctional agencies collect recidivism data.

A foundational goal of correctional agencies is to rehabilitate the inmates placed in their care. "Frustrated by a lack of marketable skills, burdened with a criminal record, and released into the community without transitional services or support, many [inmates] return to illegal activities" (Klein & Tolbert, 2007, p. 284). Education is a valuable part of rehabilitation. United States Supreme Court Justice Warren Burger said, "We must accept the reality that to confine offenders behind walls without trying to change them is an expensive folly with short-term benefits—winning battles while losing the war" (as quoted in Steurer, Linton, Nally, & Lockwood, 2010, p. 43).

Further, the recidivism data are usually divided into categories such as age, race, gender, type of offense, and programs completed. The programs that agencies offer can be expensive; as a result, there are accountability measures. The effectiveness of correctional education programs is often measured through recidivism data. "The education that inmates receive in prison can mean the difference between the doorway of freedom with a productive future and the revolving door of recidivism" (Cantrell, 2013, p. 2).

Jancic (1998) stated, "Releasees that participated in correctional academic and vocational programs tended to recidivate at a lower rate than did those who did not" (p. 152). Jancic used data from four states (Texas, Maryland, North Carolina, and Ohio); the findings from each state showed that recidivism was negatively correlated with

educational program participation while incarcerated. Correctional agencies track this data as an effort to assess the effectiveness of their education programs.

Reentry to society. Another theme that emerged in existing research about the importance of correctional education was the institution's ability to assist inmates in reentry into society. This assistance can take many different forms, but primarily results in inmate-students earning credentials and/or learning a skill or trade. Consequently, helping inmate-students return to society can lead to a reduction in recidivism (Borden, Richardson, & Meyer, 2012, p. 7). Additionally, inmates have an increased likelihood to recidivate if they are not given some sort of intervention during incarceration. Involvement in correctional education leads to increased employment upon release and consequently a smoother return to society. Not only is there an increase in the likelihood of employment, but former inmates who were involved in education also earn higher wages on average (Nally, Lockwood, Knutson, & Ho, 2012, p. 80). Lichtenberger and Ogle (2006) identified areas for which data should be collected to measure inmate success upon return to society: "Much of this literature mentions including the post-release outcomes of employment/earnings, educational attainment, or attitudes or satisfaction towards participation, in addition to the standard evaluative measure of recidivism" (p. 231). Although recidivism is an important measure of success, it is not the only measure that should be used. According to Nally, Lockwood, Knutson, and Ho (2012), "Even though this study has clearly indicated that the effect of correctional education on recidivism is significant, a longitudinal study is needed to accurately assess the effect of correctional education on post-release employment among released offenders (p. 82).

Controlling prison populations. A final theme found in existing research about the importance of correctional education was the benefits of education in controlling the prison population. Overcrowding is a huge issue within prisons in most states (Pitts, Griffin, & Johnson, 2014, p. 124). As previously mentioned, in 2016, the average sentence length for an inmate in the SCDC was approximately 14 years (South Carolina Department of Corrections, 2016b). However, like South Carolina, many states have developed systems by which inmates can earn bonus credits through participation in education. For example, the Indiana Department of Corrections has implemented an effective bonus-credit program (Steurer et al., 2010, p. 42). This mechanism has helped to offset the cost of the educational program. "Through this mechanism, the costs of the educational program are more than covered by immediate and easily quantified "bed day" reductions" (Steurer et al., 2010, p. 42). By releasing inmates sooner, inmates are a financial burden on the state for a shorter time. "The planning division of the Indiana DOC estimated that those credit days and early releases generated $68 million in averted costs" (Steurer et al., 2010, p. 42). Depending upon the nature of the crime the inmates committed, the credits can deduct a substantial percentage of inmates' sentences and earn their releases sooner than if they had not participated in the educational program.

> Under Indiana Code 35-50-6-3.3, an offender in Credit Class I who has demonstrated a pattern consistent with rehabilitation and successfully completes requirements in several education programs may obtain credit time that is applied directly to the actual time served, as related to the individual's earliest possible release date. (Steurer et al., 2010, p. 42)

If inmate-students were convicted of nonviolent crimes, the bonus credits deducted much

more time from their sentences than if they were convicted of violent crimes. This incentive, along with the ability to earn educational credentials, was a great motivator for inmate-students to perform in the correctional classroom.

Value of ACT WorkKeys. Among the existing literature concerning ACT WorkKeys, definitive themes were abundantly clear. Past literature covering three main areas supported the objective of this research project to improve inmate-student performance on ACT WorkKeys assessments: (a) the historical context of ACT WorkKeys, (b) current trends regarding use of ACT WorkKeys, and (c) the way theory has informed the use of ACT WorkKeys.

Historical context. In reference to the historical context of ACT WorkKeys, the existing literature has shown a common theme. ACT WorkKeys was developed to inform employers of the skills that students possessed in relation to job functions needed after leaving school. Brown and Rios (2014) point out that ACT was one company that seized the initiative by creating an assessment program that awards credentials to help employers determine which candidates would be a good match for a job or occupation based on their skill set (p. 63). ACT WorkKeys also helps students know which occupations are a good match for their skills.

> As Work Keys communicates to educators what are the job specific required skills for different employers, it would also be providing students with a realistic preview of the skills needed for jobs and an assessment of their standing on these skills. (Hater, 1992, p. 3)

Companies and businesses have consistently expressed concern about the fact that students entering the workforce did not have the necessary skills to be successful in the

available jobs (Schultz & Stern, 2013, p. 157). Competition from other countries has magnified this concern as foreign students have entered the workforce better equipped and prepared to compete. "This looming crisis was fueled by the rapid growth in education and economic development in India and China, and by the continued decline in the academic performance of students in the West" (Bolin, 2011, p. 27).

Because of oppressive factors perpetuated throughout U.S. history, impoverished minorities are disadvantaged in today's society. The disadvantages have led many people to incarceration. Outside of incarceration, the disadvantages have made prospering in today's economy and job market more difficult. Although there are rags-to-riches stories, those are anomalies rather than the norm. Providing quality instruction to this oppressed population may give them an equal chance to succeed upon release from prison. The ACT WorkKeys is part of this quality instruction because it offers a platform to show employers inmate-students' skills and talents.

Current trends. In reference to current trends for the use of ACT WorkKeys, the existing literature has shown a common theme. In the age of educational accountability, schools must use assessments to show students are gaining skills necessary to be successful in college and the workforce. "In recent years, career/technical education (CTE) has risen to the top of the education policy agenda for governors, legislators, and agency heads" (Zinth, 2013, p. 1). Although adult education programs have been using ACT WorkKeys for their students for some time, high school students largely have not been exposed to the curriculum. "Virginia was a trailblazer state in blurring the lines between academic and CTE courses and assessments" (Zinth, 2013, p. 5). Now, more

state leaders have begun to recognize the need for a more skilled workforce and started requiring students to take ACT WorkKeys in an effort to address this need.

> In Indiana, the CRC has been used as an exit credential for high school students for several years. In Alaska, since 2010 all 11th- and 12th-graders have been required to take three CRC assessments, so many students there have received the certificate. (Bolin, 2011, p. 27)

South Carolina has required all 11th-grade students to take the ACT WorkKeys, beginning in the 2014–2015 academic school year (South Carolina Department of Education, 2016, para. 1).

How theory has informed practice. In reference to the way theory has informed practice in regards to ACT WorkKeys, the existing literature has highlighted a common theme. School leaders are considering student career interests, and as a result, educators are more aware of the skills students need in order to be successful in the workplace. Educators can assess where their students are at the beginning of an instructional sequence. Armed with the knowledge from the assessment, teachers can pinpoint the deficiencies and gaps between students' skill sets and career interests.

Educators follow the lead of companies in implementing strategies for growing the skills of their employees. "Employees who need to raise their competency levels to match those identified during the profiling process will be provided with the necessary instruction" (Arnett, 1998, p. 14). With South Carolina's use of ACT WorkKeys for accountability purposes, improving student achievement on ACT WorkKeys is a goal for many schools and districts (South Carolina Department of Education, 2016). For example, students in Florida's Duval County high schools were tested in the ninth grade.

Using the results of this assessment, school officials created a curriculum to address the skill deficiencies of their students. Students were then tested again as seniors (Arnett, 1998, p. 4). The support students received when a skill deficiency was noted was a primary determining factor in how much they improved their skills and performed on subsequent assessments. "The Instructional Support component provides a series of guides to supplement existing curricula and training" (Reimer, 1996, p. 3). States have been creating incentives for student performance and one such effect is "development of supports for students at risk of falling short of career-readiness" (Zinth, 2013, p. 1).

Curricula taught to low-SES Black inmate-students should be purpose-driven to improve chances of employment (Nally, Lockwood, Knutson, & Ho, 2012, p. 71). The goal of education is to produce students who can be productive and functioning members of society. The curricula taught in schools determine the skills and knowledge students gain from completing a course of study. Curricula should include skills expected of students as they move into the workforce and society. In *The Paideia Proposal*, Adler (1982) proposed that students learn skills that are essential to their participation in society. This is critical so that they can be productive in a competitive world.

> The twelve years of basic schooling must prepare them for this task, not by training them for one or another particular job in our industrial economy, but by giving them the basic skills that are common to all work in a society such as ours. (Adler, 1982, p. 17)

The skills taught should be general in nature so they are transferrable to various jobs. This transferability enables students to serve in various occupations and positions upon the end of their schooling and prison sentences.

In conclusion, companies and businesses have indicated to educational organizations a great need for a more skilled workforce to enable them to be competitive in a global economy. States have begun to respond by implementing the use of ACT WorkKeys in adult education programs and more recently in state high schools. Brown and Rios (2014) stated, "Except for two doctoral dissertations, neither of which was conducted in a correctional environment (Bowles, 2004; Stone, 2007), little scholarly research on the effectiveness of workplace credentialing programs exists" (p. 63). With more states requiring students to take ACT WorkKeys, the program is now used in federal accountability calculations. As a result, schools need to improve student achievement on ACT WorkKeys to improve the scores and grades given at state- and federal-level departments of education.

As with any other instructional objective, the instructional sequence is important. First, students should be assessed to identify areas of weakness. Second, educators should provide strategic instruction as an intervention to address the deficiencies. Third, students should be reassessed to determine skill growth.

Historical context. Many researchers have studied the importance of education for incarcerated people in relation to WorkKeys. Common themes for ACT WorkKeys throughout the literature include implications for prospective employers, prospective employees, and schools and/or educational institutions. In the literature concerning the importance of education for inmates, common themes involved recidivism and making inmates' sentences more productive.

The premise upon which PUSD operated within SCDC was that education improves a person's ability to make a successful return to society. This ultimately saves

money for the State of South Carolina and thus was a vital part of fulfilling SCDC's mission of rehabilitating people. Each theme in the current literature was evaluated in regards to the historical context, the current trends, and the way theory has informed practice. This review is critical to understanding the themes and their relevance to the purpose of this study. These themes can be seen in the common school movement, the education of the oppressed, and realizing individual and collective human capital.

The ideology of the common school movement. As a part of the rehabilitation of the inmates in SCDC, educational opportunities are offered to inmates who seek to make changes in their lives. These opportunities are offered in an effort to give inmates an increased chance of successfully integrating into society upon their release from prison. Inmates who are incarcerated within SCDC return to society within a relatively short time—in 2016, the average sentence in SCDC was approximately 14 years (South Carolina Department of Corrections, 2016b). If inmates do not receive an opportunity to change or a new outlook on life, the chances are higher they will return to prison within three years. However, when inmates are afforded opportunities to improve themselves, the recidivism rates are drastically reduced (Nally, Lockwood, Knutson, & Ho, 2012, p. 82). Obtaining a National Career Readiness Certificate (NCRC) is a way for inmate-students to show prospective employers the skills they possess and the changes they have made in their lives.

The potential of education to reduce crime and provide an avenue for being a productive part of society can be seen in the history of educational curricula and the common school movement. "The second important aspect of the common school movement was the use of schools to improve public morality, end crime and poverty, and

provide equal opportunity" (Spring, 2014, p. 79). These benefits of the common school movement were believed to be a function of an educated person's ability to obtain wealth. Horace Mann (1952), the father of the common school movement, said,

> But if education be equably diffused, it will draw property after it, by the strongest of all attractions; for such a thing never did happen, and never can happen, as that an intelligent and practical body of men should be permanently poor. (p. 59)

Researchers have considered the common school movement a means to assimilate various cultures into the Protestant Anglo-American culture. The belief was that eliminating the different cultures would reduce tensions between different groups of people. Ellwood Cubberley (1868–1941) was an educator who believed in the common school ideal. Arguments Cubberley (2015) lists in support of the common school movement include the prevention of pauperism and crime, the reduction of poverty, an increase in production, dispelling myths about the distribution of wealth, and the prevention of class distinctions (p. 120).

Cubberley's rationale for the common school was similar to the discourse used to support modern public schooling and educational opportunities in SCDC. "Crime prevention, intimately related to order in society as just witnessed, was another explicitly proposed benefit of the common school" (Hunt, 2002, p. 4). Mann (1952) asserted that if the common school were allowed to operate as designed, "the dark host of private vices and public crimes, which now embitter domestic peace and stain the civilization of the age, might, in ninety-nine cases in every hundred, be banished from the world" (p. 96).

The ideals and rationale behind the common school movement underpin the goals and mission of the education division of the South Carolina Department of Corrections. Improving inmates who return to society will in effect improve society as a whole. If these inmates become productive members of society, they can support themselves and work for the collective good of others. The founders of the common school movement and later scholars who subscribed to the common school ideal clearly identified a link between improving education and reducing crime (Mann, 1952, p. 96). Improving ACT WorkKeys is a vehicle to improving inmate-students' ability to gain employment and thereby reduce crime.

The education of the oppressed. The goal of schools in the United States is to provide an equal and fair education for its citizens and stakeholders. This goal was also a vital part of the common school ideal. "The first distinctive feature of the common school movement was educating all children in a common schoolhouse to create a common culture and reduce social class conflict" (Spring, 2014, p. 79). Mann (1952) believed the education provided in the common school would increase the wealth of all citizens (p. 60). "In other words, according to Mann, common schooling would eliminate the problems of the unequal distribution of property by increasing the general wealth of society and, consequently, improving the economic conditions of the poor" (Spring, 2014, p. 86). The common school was intended to assimilate various cultures into the Protestant Anglo-American culture. Further, the Protestant Anglo-American culture was to become the American culture through the schools. The term "culture war" is used to describe the formation of the American culture and elimination of other cultures.

This attempt to assimilate various cultures into the Protestant Anglo-American culture worked to marginalize and oppress specific demographic groups that resisted the movement. "The dehumanization resulting from an unjust order is not a cause for despair but for hope, leading to the incessant pursuit of the humanity denied by injustice" (Freire, 2013, p. 159). One such marginalized demographic group was the poor (Weber, 2010, p. 109).

Another goal of the common school ideal was a reduction in crime. However, this reduction has not occurred:

> In the countries where the social discrimination factor isn't very strong, results have shown that less education meant more criminal offenses ranging from property crime to "casual" theft and drug-related offenses (again, mostly theft). But not violence. It appears that in fact, poverty itself is more tied with violence, criminal damage and also drug use – as a catalyst for violence. (Berrebi, 2011, para. 12)

The disproportionate number of crimes being committed by the poor has led to a disproportionate number of poor people being incarcerated. "We must realize that their view of the world, manifested variously in their action, reflects their situation in the world" (Freire, 2013, p. 161). Those who grow up impoverished work within a different set of rules than do those who are privileged. However, a premise of the common school ideal (the ideal upon which much of U.S. educational organizations was founded) is that school can be a vehicle to provide equal footing for all students. Gorski (2013) said, "Unfortunately, schools as they are constituted today are not the equalizers they are cracked up to be" (p. 1). Gorski added, "In fact, by these and almost every other possible

measure, students from poor families, the ones most desperate to find truth in the 'great equalizer' promise, appear to pay a great price for their poverty, even at school" (p. 1). However, if the oppressed are able to understand their oppression, they may be able to change their circumstance:

> In order for the oppressed to be able to wage the struggle for their liberation, they must perceive the reality of oppression not as a closed world from which there is no exit, but as a limiting situation which they can transform. (Freire, 2000, p. 49)

In addition to the tendency of the impoverished to commit crimes at a higher rate, compared to those who are not impoverished, oppression in the current criminal justice system has led to issues. "Poor people, especially people of color, face a far greater risk of being fined, arrested, and even incarcerated for minor offenses than other Americans" (Dolan & Carr, 2015, p. 6). However, injustice within the so-called justice system is the instrument of oppression to many. For example, "The U.S. Department of Justice investigation into the Ferguson Police Department revealed a deeply flawed criminal justice system that disproportionately affects people of color and low-income people" (Dolan & Carr, 2015, p. 30). In addition, many of the incarcerated committed nonviolent crimes that made the experienced oppression even greater. "Barriers to employment are increasingly affecting a larger sector of the U.S. population due to increasing numbers of arrests and convictions" (Dolan & Carr, 2015, p. 12).

Another marginalized population prominent within correctional systems is the Black population (Vogel & Porter, 2016, p. 515). At the inception of the common school ideal, the cultures and the ideologies of minority populations were under attack. Once again, a goal of the common school was to assimilate various cultures into the American

culture. Far too often, these marginalized populations have not succeeded in educational settings that were not developed to capitalize on their strengths. "One cannot expect positive results from an educational or political action program which fails to respect the particular view of the world held by the people" (Freire, 2013, p. 161). This lack of respect has led to an increased attrition rate of Black children in traditional school settings. Adler (1982/2013) said,

> We are all the victims of a school system that has only gone halfway along the road to realize the promise of democracy. At the beginning of this century, fewer than 10 percent of those of age eligible for high school entered such schools. Today, almost 100 percent of our children enter, but not all complete such secondary schooling; many drop out for many reasons, some of them understandable. (p. 183)

In today's correctional settings, a disproportionate number of people represent these marginalized demographic groups. In order for them to succeed, value must be placed on where they come from, but also where they want to go. This value enables teachers to build rapport and show inmates they care. "A caring relation requires the engrossment and motivational displacement of the one caring, and it requires the recognition and spontaneous response of the cared-for" (Noddings, 2013a, p. 78). The relationships that are built give teachers the opportunity to give support to oppressed students who may have never received educational support. Educators in the correctional setting work with these individuals to help them establish goals and work toward goals so that they do not return to the lifestyle that may have lead them to prison initially. Earning a NCRC through the ACT WorkKeys program is a valuable goal that is presented to

these inmate-students. Inmate-students learn the benefits of a NCRC when they are job hunting and learn how to use it in their favor.

Freire (2000) and Adler (1982) offered valid arguments. They were searching for equality for all. In *Pedagogy of the Oppressed*, Freire (2000) explained how the marginalization of certain populations occurred. In *The Paideia Proposal*, Adler (1982) explained that all students needed a rigid curriculum and instructional plan. All students would follow this same plan with few deviations. Adler (1982) said, "Individual differences are always and only differences in degree, never differences in kind" (p.43). This fight for equality failed to take into account a valuable educational ideal. Noddings (2013b) said,

> I will argue that 'equality of quality' in education cannot be achieved by forcing all students to take exactly the same course of study, nor can the ideal of a democratic classless society be actualized by establishing only one model of excellence. (p. 187)

Noddings (2013b) noted that giving each student an identical experience did not equate to equality in education. Different students needed different accommodations to be successful and to receive a quality education. Noddings (2013b) in essence advocated that differentiating instruction was vital to student success. Noddings (2013b) deduced how the *Paideia* would further marginalize populations: "The *Paideia* selects a form of education traditionally associated with an academically privileged class…" (p. 191). Differentiation of instruction is a vitally important to the educational process in correctional facilities. Inmates enter corrections with a wide range of educational experiences. In order to meet the needs of these marginalized populations and give them

an equal, quality, and fair education, educators must take into account the needs of each inmate-student.

The South Carolina Department of Corrections is in many ways a microcosm of how society functions. There are rules and laws that inmates must follow. Inmates may engage in certain activities. All inmates have assigned jobs. There are consequences for not completing their assigned jobs satisfactorily. Cultures that are prevalent in society are also present in the Department of Corrections.

During the so-called "culture wars," there was an attempt to assimilate people from other cultures into the Anglo-American culture. "The attempt to make Anglo-American culture the dominant culture of the United States came from that sense of superiority, which was challenged by the civil rights movement and the new immigration" (Spring, 2014, p. 410). The members of the minority populations wanted their children to have access to equality in education, and they wanted an end to segregation. The European Americans who held the power in the school systems saw this as an opportunity to assimilate these cultures into what had been defined as the "American culture." This forced assimilation was an attempt to destroy the deeply held cultures of various populations. This action led to many legal issues. The abuses of power by European Americans during the civil rights movement are prime examples of the "legal issues" that arose. Even today, tensions and even some legal issues surface from Anglo-American policies.

The "culture war" has affected education in the U.S. Department of Corrections. People from marginalized cultures are overrepresented in the inmate populations (Vogel & Porter, 2016, p. 515). In order to educate these inmate-students successfully, education

cannot be applied using the methods used in public schools to assimilate these cultures into the Anglo-American culture. Just as any other student in a traditional school, inmate-students must be educated without experiencing attacks on their backgrounds. "Opponents of multiculturalism argued that the public schools should emphasize a single culture—traditional Anglo-American culture" (Spring, 2014, p. 407). This approach has been ineffective for members of various cultures when they were not incarcerated and is not likely to be successful while they are incarcerated. Educators must be conscious of multicultural education because students come from many different backgrounds and beliefs. Schramm-Pate, Lussier, and Jeffries (2008) state,

> Our task is to not only include the perspectives of "others" so that students understand the felt needs and realities of our nation's peoples but also to enable students to examine the origins and assumptions that underlie the mainstream framework that divides the nation into "North" and "South," "us" and "them," "rich" and "poor," "black" and "white" and to analyze alternative frameworks for understanding people and the planet-past, present, and future. (p. 2)

While there are similarities in the backgrounds of inmates, they also come from diverse backgrounds making multicultural education essential to reach them.

Realizing individual and collective human capital. As a part of the rehabilitation of the inmates in SCDC, educational opportunities are offered to the inmates who seek to make changes in their lives. These opportunities are offered in an effort to give inmate-students an increased chance of successfully integrating into society upon their release from prison. Obtaining a National Career Readiness Certificate via ACT WorkKeys is a way for inmate-students to show prospective employers the skills they possess and the

changes they have made in their lives. The education of inmate-students can be analyzed using the frame of human capital. "Simply stated, human capital refers to the role of education in growing the economy and helping graduates find jobs" (Spring, 2014, p. 236).

When inmates are released from prison, they may find it difficult to obtain gainful employment. This inability to find employment may lead them back to the lifestyle that initially landed them in prison. However, the longer inmates spend in prison, the greater financial burden they place on the state and taxpayers. For example, "In Fiscal Year 2012 (July 1, 2011 – June 30, 2012), SCDC expended $348.8 million in state appropriated funds, for a per inmate cost of $15,316 per year ($41.85 per day)" (South Carolina Department of Corrections, 2015a, para. 3). When the inmates find gainful employment, they are more likely to be able to support themselves and their families by utilizing their human capital. Education increases the ability of people to find jobs and enhances the amount of money they can earn while employed (Nally, Lockwood, Knutson, & Ho, 2012, p. 80). Statistics published by the United States Department of Labor's Bureau of Labor Statistics (2014) have indicated a positive correlation between education level and average yearly salary. Additionally, these statistics have shown a negative correlation between education level and unemployment rates (United States Department of Labor, Bureau of Labor Statistics, 2014, Table 1).

ACT WorkKeys has implications for workers' employment status and wages earned. Zimmer (2012) found a negative correlational relationship between time unemployed and ACT WorkKeys achievement. "The time to employment analysis indicates a general reduction of unemployment time with higher ACT WorkKeys scores"

(Zimmer, 2012, para. 6). Additionally, there was a positive correlation between ACT WorkKeys achievement and subsequent wages. "The wage after test results also showed a strong relationship between scoring well and higher wages" (Zimmer, 2012, para. 7).

Developing human capital through education is essential to U.S. society. Horace Mann recognized this early in the formation of the common school. Horace Mann (1952) said,

> Under the Providence of God, our means of education are the grand machinery by which the "raw material" of human nature can be worked up into inventors and discoverers, into skilled artisans and scientific farmers, into scholars and jurists, into the founder of the benevolent institutions, and the great expounders of ethical and theological science. (p. 37)

The concern for developing human talent and human capital continued to persist in the history of our education system. "In its 1912 report, the Committee on Industrial Education directly related concerns about developing human capital to concerns about global competition" (as cited in Spring, 2014, p. 245). In order for the United States to compete with other countries in the modern global economy, the nation must develop its talent. The development of the nation's talent occurs through education. Merle Curti (1966) stated, "To promote the efficiency of business at home and to enable it to compete with foreign rivals for markets, commercial and other special types of education were advocated and gradually developed" (p. 223).

The vast majority of inmates housed in SCDC will be returning to society. The many profitable talents they possess must be developed so that they can be successful and contributing members to the U.S. economy in today's competitive global economy.

Achieving at a high performance level on ACT WorkKeys may aid inmates in finding profitable employment that adds to the United States' collective human capital.

Low-SES Black males are overrepresented in prisons and underrepresented in higher education. This inequity has led to an inability among this population to realize their individual human capital. The oppressive factors that created this discrepancy are still functioning in today's economy and society. A conscious effort must be made to fight against and eliminate these factors.

In the last 40 years, many changes have occurred in the United States and world economies. The United States competes economically with countries such as China, Japan, and Germany. Companies from various countries manufacture goods and render services and compete for business in the same markets. Some of the aforementioned countries have been rapidly gaining on the United States in business and technological innovation. Many educators believe complacency in U.S. schools and citizens is a reason that U.S. advancement on these fronts has remained relatively stagnant, compared to the performance of other countries. Many politicians have expressed the belief that the focus on curricula in education is a cause. Students from these rapidly developing countries have been outperforming U.S. students, particularly in science and mathematics. These observations have led to many changes in U.S. education. Almost every U.S. president in the past 40 years has made this issue a point of contention and set out to leave a legacy on the education system. These educational policies have spilled over into correctional education and influenced the goals and missions of educators in the prison environment.

In the early 1970s, schools began to publish standardized test scores. These scores were not only an indication of students' performance, but also of the schools'

(Mann, 2014, p. 429). The United States was falling behind globally in education and economically. "It was during the Reagan years from 1980 to 1988 that American schools were committed to the goal of improving the nation's ability to compete in world markets by educating a globally competitive workforce" (Spring, 2014, p. 430). The Reagan administration called for a study to determine what was happening (Spring, 2014, p. 430). The name of this study and subsequent report was *A Nation at Risk*. The report's findings produced sweeping changes:

> One of the high points in the Reagan administration was the issuance, in 1983, of a report, *A Nation at Risk*, which blamed public schools for America's difficulties in competing with Japan and West Germany in world markets. The allegedly poor academic quality of American public schools was seen as the cause of productivity rates lower than those of Japan and West Germany, as well as declining U.S. lead in technological development. (Spring, 2014, p. 430)

This report led to increased government power in education. Furthering the push for education to improve the U.S. economy and the ability of companies to compete globally, the George H. W. Bush administration developed the Goals 2000 educational plan. "Similar to the rhetoric of the Reagan administration, these plans were presented as necessary for improving the ability of U.S. companies to compete in international markets" (Spring, 2014, p. 431). The Clinton administration further perpetuated and supported the Goals 2000 plan. A few years later, during the George W. Bush administration, the No Child Left Behind Act (2002) was enacted. This legislation was largely bipartisan. "Essentially, among other things, this legislation nationalized federal accountability standards for the purpose of educating global workers" (Spring, 2014,

p. 440). President Barack Obama's administration has left its mark on education as well. The Race to the Top Act was enacted during this administration. "President Barack Obama's administration initiated a series of educational reforms designed to link American school policy to global corporate competition" (Spring, 2014, p. 445).

However, not all educators have agreed that the recent trends in education have been best for students. Some believe that educational systems are essentially creating a society in which people complete a job or task without thinking:

> Today, jobs have had the thinking elements removed in systems devised by administrators. In teaching, this is seen in prescriptive curricula targeting passing tests rather than meeting student needs. So, knowledge work is not growing but is concentrated in a diminishing elite. This conflicts with educational goals to fit greater numbers of students for the knowledge economy and neglects personal and practical intelligences giving more possibilities. (Sage, 2014, p. 3)

Although students' needs may be neglected by preparing them for specific jobs in the global market, these workers are meeting the needs of the economy by completing an essential task. This is why career education is so vital. Students must have the opportunity to obtain experiences with various careers so they can choose a path that is right for them and meets their personal needs. Due to low expectations from teachers and society in general, students from poverty often do not have these opportunities. As Gorski (2013) states, "I hear a lot of talk these days about having high expectations for every student, but the unfortunate reality is that low-income students disproportionately are subject to the lowest-order, most rote, and least engaging teaching" (p. 121).

It is clear that U.S. leaders see a connection between education and economic standing across the globe. People recognize that education is a critical factor in U.S. ability to compete globally; these educational ideals have infiltrated much of the educational systems, including correctional education. Inmates in correctional systems are an economic burden and drain on state and federal budgets. Many inmates return to prison because they return to the lifestyle that initially landed them in prison as evidenced by inmates with prior commitments and convictions (South Carolina Department of Corrections, 2016a). Many people resort to these lifestyles because they do not have any other options:

> A subjective explanation for this is there is a lack of educating the public on the benefits of having education programs within the penal system and the overall costs that could be saved on housing repeat offenders. The great concern is if the offender population cannot read, write or do math, they will be a repeat offender. Should we choose to ignore educating them, we choose to ignore creating well rounded individuals today who will be our neighbors tomorrow. (Gallo & Amos, 2013, p. 21)

By providing low-SES Black males with the opportunity for an education during incarceration, educators hope they will be prepared with skills and credentials to obtain gainful employment. This gainful employment should be a help to the economy, in contrast to the scenario in which people return to prison and thus continue to burden the economy.

Conceptual framework. The conceptual foundation of this research project was that instruction targeted toward a goal such as WorkKeys performance could have a

positive impact on inmate-student performance. This targeted instruction could be prescribed to inmate-students on an individual basis based on their performances on a preliminary assessment. The ACT KeyTrain program was based on the concept of differentiated instruction. In addition, the KeyTrain program applied Lev Vygotsky's theory of the ZPD. Scaffolding was another concept essential to the KeyTrain program.

Differentiation of instruction. Differentiation of instruction is a powerful concept in education that is encouraged in most school systems. In a traditional school, students are grouped by chronological age. Most students in a particular classroom are in the same grade and approximately the same age. However, they can be very different developmentally. In order to provide adequate instruction to all students, the teacher must facilitate and tailor instruction that is specific to each student's needs (Gadzikowski, 2016, p. 12).

> However, this instruction must tap into students' prior knowledge, and be arranged so that students develop this effortless retrieval of knowledge. Whole class instructional methods do not necessarily support this, because the goal of whole class instruction often fails to take into consideration prior experiences and the students' unique ways of organizing and structuring prior knowledge. Educators are left with those methods and techniques that individualize instruction for each learner. (Rayfield, Croom, Stair, & Murray, 2013, p. 172)

This individualization of instruction is differentiation. Accurate pre-assessments are the key to creating an effective instructional plan to improve student performance through understanding student needs for learning (Tomlinson & Moon, 2013, p. 29). In differentiation, educators must be proficient using various types of assessments.

Formative assessment is a type of valuable assessment often overlooked and misused. Summative assessments are most often used in classrooms. Tomlinson and Moon (2013) discussed the difference in formative and summative assessments: "Whereas the intent of formative assessment is to improve instructional outcomes, summative assessment is intended to measure and evaluate student outcomes" (p. 19). In addition, formative assessments can dictate what a student learns, indicate to teachers what students have mastered, and offer diagnostic capabilities while not being punitive—because formative assessment grades should not count. In sum, formative assessments are essential for effective differentiation of instruction (Tomlinson & Moon, 2013, p. 20).

The need for differentiation of instruction is great in a room of students who are similar in age and educational opportunities because students are becoming more diverse (Tomlinson, Brimijoin, & Narvaez, 2008, p. 1). However, as students age, the need for differentiation increases, because variation in educational opportunities increases. This need for differentiation of instruction is magnified in a correctional setting: The educational levels of inmates within SCDC range from elementary-level to doctoral-level education. Even in a classroom of inmate-students who are all working toward a GED, there is great variation in functioning levels: Some inmate-students are functioning at an elementary school level, and others are functioning at a level similar to that of a college student as evidenced by TABE and GED scores. In an effort to meet the wide range of needs of these inmate-students, differentiation is a necessity. Differentiation is an important concept for publishers such as ACT that specialize in curricula and resources for specific goals; they must be able to create materials that are prescriptive in nature to guide student learning.

The application of differentiation to ACT KeyTrain. Teachers and/or instructors can differentiate instruction through product, process, and/or content. In ACT KeyTrain, the program differentiate instruction through content. The product and process are the same for each inmate-student-participant. However, the content is not always the same. The program presents content to inmate-student-participants based on pretest scores. The program differentiates for each inmate-student-participant in each of three subtests based on their pretest scores. The better an inmate-student-participant's pretest scores are, the more difficult the content is that is given to them.

Zone of proximal development. Vygotsky introduced the ZPD theory during the latter years of his life. "The ZPD is the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers" (Vygotsky, 1978, p. 86). This theory is the basis or root of differentiation of instruction (Huebner, 2010, p. 79). The theory of the ZPD holds that in order for students to learn, they must be given instructional tasks at a level of difficulty that is just beyond what they can do by themselves (Wass & Golding, 2014, p. 671). If students receive work that is within the limit of what they can do on their own, they are simply practicing a skill they have mastered or are very close to mastering (Wass & Golding, 2014, p. 674). The students only advance if they are presented with instructional materials that are more difficult. The students may need help in completing assignments. This is where new learning is initiated (Wass & Golding, 2014, p. 679).

> Teachers may use the zone of proximal development (ZPD) to bridge the gap between what a learner can do without help and what a learner can do with

> assistance. Vygotsky (1978) argue[d] that learner's thinking and problem solving ability fall into three categories: those that can be performed independently, those that can be performed with assistance, and those that cannot be performed even with assistance. Those that cannot be performed even with assistance are those that lie beyond the ZPD. (Siyepu, 2013, p. 3)

Teachers can facilitate student learning when they help students learn difficult material. However, the instruction does not necessarily have to come from the teacher. Other students in the class who have already mastered material at that level can help other students. This is an important concept for the KeyTrain program to employ with the low-SES Black male inmate-students at TyRCI to ensure that inmate-students are working on skills that are new and challenging to them specifically. Adequate test performance on the Adaptive KeyTrain pretest allows exemptions for lower levels of instruction, which ensures inmate-students work within their ZPD.

The application of ZPD to ACT KeyTrain. The ZPD is vital to the operation and instruction of the ACT KeyTrain program. After inmate-student-participants take the pretests, the program assigns students to a level (1-7) based on their performance. If an inmate-student-participant scores a level 4, they exempt levels 1-3 as they are deemed to have mastered that content. The inmate-student-participant will then work on level 4 as it is content that is just beyond what they have successfully mastered on their own. The program guides them through the difficult content that is just beyond what they can do on their own until they demonstrate mastery through the integrated quizzes. By consistently having inmate-student-participants work in this manner, they are working in their ZPD.

Scaffolding. Scaffolding is another concept central to the implementation of the KeyTrain program. As inmate-student-participants progress through the lessons for the levels, the program shows students how to read a problem, how to set up the problem, and then how to arrive at the solution for the problem. "Scaffolding involves limiting the complexity of activity that is required for solving a task to a degree that is suitable to the learner" (Weigend, 2014, p. 293). The process of scaffolding, as described by Ginat (2009), reflects the method by which the KeyTrain program works:

> The primary guidelines of scaffolding are the following: (1) begin with what students can do; (2) establish a shared goal; (3) actively identify student difficulties and needs; (4) provide tailored assistance; (5) aim for reduced frustration during the activity process; (6) provide encouraging feedback; (7) maintain pursuit of the goal, while offering tips and support; (8) reflect on the activity process, while illuminating points of difficulty, and elaborating on the key aspects that led to success; and (9) aim at internalization, and generalization of the elaborated aspects, in order to develop independence. (p. 3)

When students take the Adaptive KeyTrain pretest, the program places them at the appropriate level based on their test performance. Their performance scores indicate they have mastered the skills of the levels from which they are exempted. The skills students did not master are the focus of instruction in the individual program of study. By progressing through the levels within the course of the program, the skills build on each other and get progressively more difficult. The skills from the exempted levels are not specifically modeled and are used to complete the problems of the higher levels. The program gives frequent feedback via the skills assessments at the end of each lesson for

the respective the levels.

The application of scaffolding to ACT KeyTrain. ACT KeyTrain guides students through the learning and thought process in solving problems. The program also provides students with feedback detailing why one response is correct and other responses are incorrect. This guidance through the process of learning the content is indicative scaffolding.

Conclusion

Populations of people have been marginalized for hundreds of years based on class, gender, and/or race. In the United States, Black males of low socioeconomic status (SES) are one such population. This marginalization by society has led to further marginalization represented by receiving fewer opportunities for a quality education and disproportionate rates of incarceration. The incarceration makes life in society more difficult because a stigma is attached to former inmates who seek to gain employment.

There is hope for those who are incarcerated. Through educational opportunities offered in correctional facilities, Black males who are frequently marginalized can gain marketable skills that lead to gainful employment. One educational opportunity offered to inmate-students in the SCDC is ACT WorkKeys. ACT WorkKeys maybe a valuable credential employers use to assess the abilities of a prospective employee.

CHAPTER 3

METHODOLOGY

Introduction

The purpose of Chapter Three is to describe the action research methods used to collect data in TyRCI of the SCDC. Data were collected from 50 low-SES Black male inmate-student-participants. The goal of the present action research was to improve and predict the ACT WorkKeys scores for these low-SES Black male inmate-student-participants at Tyger River Correctional Institution where data collection took place in 2016. The identified problem of practice for this dissertation in practice was to determine the effectiveness of the ACT KeyTrain program for 50 low-SES Black male inmate-student-participants in improving and predicting performance on the ACT WorkKeys examination. This goal was of vital importance to the PUSD and the SCDC because ACT WorkKeys is one of the educational opportunities offered to inmate-students in an effort to improve the reintegration of inmates into society through reduced recidivism.

The chapter begins with a description of the research design, the participant selection and the research site. The chapter also discusses the data collection and analysis process and/or plan. An action research approach was appropriate for this study because it was applied specifically to a local population of low-SES Black male inmate-students in a single correctional facility. A quantitative design was most appropriate as the goal was to determine statistical growth from a pretest to a posttest and to determine a

statistical correlation between two data sets. The findings of this study are not generalizable to another population of inmate-students.

Research Design

Research objectives. The goal of this action research study was to evaluate the effectiveness of the KeyTrain program for identifying inmate-student readiness and improving low-SES Black male inmate-student performance on the ACT WorkKeys assessments. The first objective was to describe or predict inmate-student readiness for the ACT WorkKeys assessments as measured using the Adaptive KeyTrain pretests and the Adaptive KeyTrain posttests as a part of the instructional process. The second objective was to describe the effectiveness of the instructional materials in improving ACT WorkKeys performance.

Research question. The primary research question guiding this particular action research study emerged from reflection on the aforementioned issues. The research question was, "How effective is the ACT KeyTrain program at predicting and improving ACT WorkKeys performance for 50 low socioeconomic-status Black male inmate-student-participants in South Carolina?"

Research design. The quantitative action research design was the most logical to use. This research can also be described as one-group pretest-posttest design. In determining an improvement in performance from a pretest to a posttest, a statistical *t* test was utilized. A correlation test was used to determine the relationship between the ACT KeyTrain posttest and the ACT WorkKeys assessments. In regards to action research, Mertler (2014) says, "its purpose is also to improve one's own professional judgment and to give insight into better, more effective means of achieving desirable educational

outcomes" (p. 12). The findings from this study have been used to make instructional decisions for the inmate-students of TyRCI. Mertler (2014) stated, "Action research offers a process by which current practice can be changed toward better practice" (p. 13). The findings have been communicated to PUSD district office personnel, who can use the research to make decisions at other institutions within SCDC. A quantitative research design was most appropriate to answer the research question.

Participants. The inmate-student-participants were 50 low SES Black males enrolled in educational services at TyRCI. The teacher-participant is Jane McHale, the Title 1 Teacher at TyRCI. I will be referred to the as the researcher-participant. I am the principal at TyRCI. As the data collector, I offered inmate-students the opportunity participate in the study. Furthermore, I setup inmate-student-participant accounts in ACT KeyTrain and recorded data from the program. I also coordinated the administration of the ACT WorkKeys examination. Finally, I conducted the data reflection meeting with the inmate-student-participants and the teacher-participant.

Participant selection. The participants in the study comprised 50 low-SES Black male inmate-student-participants in the school population at TyRCI that met the PUSD eligibility requirements for receiving the WorkKeys assessment. A sample of 50 inmate-student-participants was chosen because this was the approximate number of inmate-students who typically met the qualifications for the study in one fiscal year. The inmate-student-participants at TyRCI were 18 years old and older. Twenty-five inmate-student-participants were between the ages of 18 and 21. Eight inmate-student-participants were between the ages of 22 and 27. Nine inmate-student-participants were between the ages of 28 and 33. Eight inmate-student-participants were between the ages of 34 and 45.

Inmate-student-participants who were 21 years old or less were classified as Education Finance Act (EFA) inmate-students. Inmate-student-participants who were 22 years old and older were classified as Adult Basic Education (ABE) inmate-students. For this study, both EFA and ABE inmate-student-participants were included. Thirty-five participants reported they did not have a high school diploma or a GED. Forty-one participants reported they received free lunch while in school, and nine participants reported they received reduced price lunch (see Table 3.1).

At the time of this writing, the KeyTrain program was available through the Title I program in the school. EFA inmate-student-participants had a regularly scheduled time to attend the Title I class. After ABE inmate-student-participants were identified as viable candidates for ACT WorkKeys, they were scheduled a time to attend a class in the Title I computer laboratory. All inmate-student-participants signed a consent form giving permission to include them in the study (see Appendix A – Informed Consent Form). Inmate-students who elected not to participate in the study were not subjected to punitive action. They were allowed to continue their progression through the academic program like any other inmate-student. However, no data were collected from the inmate-students who elected not to participate. For inmate-students who did participate, concealing their identity was of the utmost importance. Their unique six-digit SCDC number was used for identification purposes. However, the numbers were scrambled and only identifiable by the researcher-participant.

Research site. The research site was TyRCI in Enoree, South Carolina. At the time of this study, TyRCI was a state prison directed by the SCDC. The school inside the institution operated as one of the EFA high schools as a part of PUSD. With

Table 3.1 Participant Demographic Data

Participant Research #	Participant Age Range	Participant Race/Ethnicity	Participant Highest Level of Education	Participant School Lunch Status	Participant Prior Work Status	Participant Prior Income	Mother Race/Ethnicity	Father Race/Ethnicity
282308	1	3	6	1	3	1	3	3
282540	1	3	4	1	1	1	3	3
282894	1	3	1	1	1	1	3	3
277442	2	3	5	1	2	1	3	3
272900	3	3	2	1	2	1	3	3
282708	1	3	4	1	2	1	3	3
283410	1	3	4	1	4	6	3	3
246308	5	3	5	1	4	3	3	3
248874	5	3	7	1	4	3	3	3
251607	5	3	7	1	3	2	3	3
283367	1	3	4	1	2	1	3	3
248050	3	3	4	1	1	1	3	3
280844	2	3	5	2	3	2	3	3
279899	1	3	4	1	2	N/A	3	3
283427	1	3	8	1	2	1	3	3

Table 3.1 Continued

Participant Research #	Participant Age Range	Participant Race/Ethnicity	Participant Highest Level of Education	Participant School Lunch Status	Participant Prior Work Status	Participant Prior Income	Mother Race/Ethnicity	Father Race/Ethnicity
283716	1	3	6	1	3	1	3	3
283667	1	3	8	1	4	1	3	3
283583	1	3	3	1	2	N/A	3	3
233039	3	3	8	1	2	1	3	3
258762	3	3	8	2	2	N/A	3	3
274288	3	3	7	2	4	4	3	3
282392	1	3	3	1	2	1	3	3
283117	1	3	4	1	2	1	3	3
272738	2	3	4	1	3	4	3	3
222611	4	3	4	2	4	3	3	3
283044	3	3	4	1	4	1	3	3
284511	1	3	5	1	2	N/A	3	3
278141	3	3	5	1	2	3	3	3
270641	2	3	6	2	4	N/A	3	3
261032	3	3	5	1	2	4	3	3
277544	1	3	8	1	2	1	3	3
284265	1	3	4	1	2	1	3	3

Table 3.1 Continued

Participant Research #	Participant Age Range[a]	Participant Race/Ethnicity[b]	Participant Highest Level of Education[c]	Participant School Lunch Status[d]	Participant Prior Work Status[e]	Participant Prior Income[f]	Mother Race/Ethnicity[b]	Father Race/Ethnicity[b]
282330	2	3	1	1	2	N/A	3	3
283280	1	3	7	1	3	1	3	3
225330	4	3	7	2	2	N/A	3	3
284324	1	3	3	1	3	1	3	3
283909	1	3	3	1	4	2	3	3
269674	2	3	7	1	3	3	3	3
210253	5	3	7	1	4	4	3	3
283839	1	3	4	1	2	1	3	3
284321	1	3	5	1	2	1	3	3
284351	1	3	4	1	4	2	3	3
284091	1	3	5	1	4	1	3	3
271366	2	3	8	1	2	N/A	3	3
283324	1	3	4	1	2	3	3	3
250698	5	3	5	1	3	1	3	3
279589	3	3	8	2	2	2	3	3
273331	2	3	4	1	3	2	3	6
238563	5	3	3	2	3	1	3	3
282626	1	3	8	2	2	N/A	3	3

Notes.

[a]Participant Age Range values: 1=16-21, 2=22-27, 3=28-33, 4=34-39, and 5=40-45.

[b]Race/Ethnicity values: 3=Black/African American and 6=Hispanic/Latino.

[c]Highest Level of Education: 1=7th Grade, 2=8th Grade, 3=9th Grade, 4=10th Grade, 5=11th Grade, 6=12th Grade, 7=High School Graduate, and 8=GED.

[d]Participant School Lunch Status: 1=Free Lunch and 2= Reduced Price Lunch.

[e]Prior Work Status: 1=Not employed not looking for work, 2=Not employed looking for work, 3=Employed looking for other work, and 4=Employed not looking for other work.

[f]Participant Prior Income: 1=under $5,000, 2=$5,001-$15,000, 3=$15,001-$25,000, 4=$25,001-$35,000, 5=$35,001-$45,000, and 6=$45,000+.

approximately 3,000 inmate-students, PUSD was the largest adult education program in South Carolina. Each school within PUSD had goals they tried to meet to help the district meet its larger goals. For the 2014–2015 fiscal year, the goals for TyRCI were 50 GEDs, 50 NCRCs through WorkKeys, 245 vocational certificates, and 20 on-the-job training certificates. The 2014 fiscal year goals for PUSD were 1,000 GEDs, 1,300 NCRCs through WorkKeys, 2,300 vocational certificates, and 1,000 on-the-job training certificates (Reagan, 2014, p. 2607). At the time of this study, TyRCI housed approximately 1,250 inmates. Of the 1,250 inmates, approximately 180 inmates were enrolled in educational programs.

The school at TyRCI offered academic courses designed to prepare inmate-students for the GED and the WorkKeys. In addition to academic courses, TyRCI offered vocational courses in heating, ventilation, and air conditioning (HVAC), brick masonry, automotive collision, and automotive mechanics. Passing the vocational courses led to certificates that indicated levels of proficiency in the respective fields. In order to advance in a vocational program, an inmate-student had to spend a minimum amount of time in class and meet specific competencies in the vocational field. The instructional hours varied depending upon the level of certificate an inmate-student was attempting.

Of the 1,250 inmates housed at TyRCI, approximately 60% did not have a verified GED or a high school diploma. Agency-wide within SCDC, 30% of inmates who did not have a high school diploma or GED read at or above the ninth-grade level (Reagan, 2014, p. 2606). Given these statistics, approximately 225 inmates at any given time at TyRCI were ready for the GED curriculum, and consequently, the WorkKeys

assessment. However, a high turnover rate existed as inmates entered and exited the institution for various reasons, including sentence expiration, hardships, and/or custody level changes. EFA inmate-students were required by SCDC Policy to attend school. ABE inmate-students were served in educational programs on a select basis and availability. For inmates, there was a strong incentive for attending school, earning a NCRC, earning a GED, and/or earning a vocational certificate. Inmates who achieved one of these goals were eligible to work in prison industries (PI). At TyRCI, three facilities within the institution manufactured hardwood flooring. Inmates who were afforded the opportunity to work in PI were paid by the hour. The money was deposited into an account called a Cooper Account (each inmate at SCDC had a Cooper Account because they were not allowed to possess money). Inmates could use these funds to make purchases from the canteen, pay child support, or pay victim restitution. Many inmates who worked in this area were able to leave SCDC with a sizable sum of money to get a fresh start in society. Additionally, upon release, the hardwood floor manufacturer offered some inmates full-time employment at one of its facilities around the state.

Ethical assurances.

Permission. Prior to collecting any data from inmate-students, consent was obtained from participants using an informed consent form (see Appendix A – Informed Consent Form). Inmate-students were not required to participate. Even after beginning the study and giving consent for participation in the study, inmate-student-participants could withdraw from the study at any time.

Voluntary participation. Inmate-student-participants who elected to participate in this study were afforded an opportunity to receive more intensive ACT WorkKeys study on the ACT KeyTrain in preparation for the actual ACT WorkKeys assessments. However, participation was voluntary, and there was no punitive action for not participating.

Confidentiality. A potential risk of participation was the identification of personal test score data. However, the researcher-participant took steps to protect the identity of participants. Confidentiality of all research participants was paramount. Inmate-student-participants were identifiable by a six-digit number assigned to them by the researcher-participant and only known by the researcher-participant.

The identity of the research subjects remained confidential at all times during the implementation of this project. The data and results recorded in this study remain confidential. They are stored in a locked cabinet in the researcher-participant's office. The results of the research are included in a dissertation and have been disseminated to interested parties. However, no identifying information was included.

Data collection and analysis.

Data collection. Participants completed a Research Participation Demographics Survey (RPDS) to identify the category of low-SES Black male inmate-students (see Appendix B – Research Participation Demographics Survey). Inmate-students were asked questions concerning their racial identity, high school lunch status prior to incarceration, education status, work status prior to incarceration, annual taxable income prior to incarceration, parent racial identity, parent work status, parent annual taxable income, and parent education status.

To address the question concerning the effectiveness of the KeyTrain program at improving WorkKeys performance, the quantitative data consisted of the KeyTrain pretest and posttest scores. Understanding the pretest and posttest scores recorded from the KeyTrain program required an understanding of the method by which the assessments were scored. For each subtest, the questions were divided into levels of difficulty. The skills required to answer the questions at higher skill levels successfully built on the skills of the lower level questions. The KeyTrain program used this information to determine students' assessment scores and the levels at which they began their studies. Table 3.2 shows how the assessments were scored. The program administered different questions each time, so the test was not the same for each participant. The test length varied depending upon the level of success students demonstrated as they progressed through the test (ACT, 2014, p. 1).

The KeyTrain pretest statistical mean was compared with the statistical mean of the posttest. The difference between the sets and the standard deviation were calculated. To address the question concerning the effectiveness of the KeyTrain program at predicting performance on the WorkKeys assessment, the correlation coefficient was calculated between the Adaptive KeyTrain posttest and the official WorkKeys score from ACT. The correlation elements consisted of (a) Adaptive KeyTrain Reading for Information posttest and WorkKeys Reading for Information, (b) Adaptive KeyTrain Locating Information posttest and WorkKeys Locating Information, (c) Adaptive KeyTrain Applied Mathematics posttest and WorkKeys Applied Mathematics, and (d) Adaptive KeyTrain Total Battery posttest and WorkKeys Total Battery. All tests were determined by a statistical analysis using *t* tests. A data collection sheet was kept

Table 3.2 The Adaptive KeyTrain Pretest

Courses	Block Questions	If >= 75% correct…	If <75% correct…
Applied Mathematics	A-4 questions at level 3	Go to B…	Go to C…
	B-4 questions at level 4	Go to C…	Score 3, start at 3
Reading for Information	C-4 questions at level 5	Go to D…	Score 4, start at 4
	D-4 questions at level 6	Go to E…	Score 5, start at 5
(8-20 Questions)	E-4 questions at level 7	Score 7, start at 7	Score 6, start at 6
	F-4 questions at level 1	Score 1, start at 1	Score 0, start at 1
	G-4 questions at level 2	Score 2, start at 2	Go to F…
Locating Information	A-4 questions at level 3	Go to B…	Go to G…
	B-4 questions at level 4	Go to C…	Score 3, start at 3
(8-20 Questions)	C-4 questions at level 5	Go to D…	Score 4, start at 4
	D-4 questions at level 6	Score 6, start at 6	Score 5, start at 5
	E-4 questions at level 1	Score 1, start at 1	Score 0, start at 1
	F-4 questions at level 2	Score 2, start at 2	Go to F…

(ACT, 2014, p. 1).

on each inmate-student-participant and maintained by the researcher-participant (see Appendix C – Data Collection Work Sheet).

Several quantitative variables were measured in this study. Independent variables included race, SES, Adaptive KeyTrain Reading for Information pretest, Adaptive KeyTrain Locating Information pretest, Adaptive KeyTrain Applied Mathematics pretest, and inmate-student-participant work ethic. The official WorkKeys scores comprised one of the dependent variables. One particular set of data was used as both an independent and a dependent variable. For the correlational *t* test calculations of the ability of the KeyTrain program to predict performance on the WorkKeys assessments, the Adaptive KeyTrain Reading for Information posttest scores, the Adaptive KeyTrain Locating Information posttest scores, and the Adaptive KeyTrain Applied Mathematics posttest scores were used as independent variables. However, in the assessment of the ability of the KeyTrain program to improve performance on the WorkKeys assessments, the scores were used as the dependent variable. After collecting and analyzing the above data, the researcher-participant was ready to move to the next stage.

Through the course of this research project, certain controls had to be maintained in order to establish relationships between the variables being studied. One such closely monitored control variable was the amount of time inmate-student-participants spent studying the KeyTrain program. Giving some inmate-student-participants more time to study the curricula, compared to other inmate-student-participants, could have improved their scores because of the extra study time, as opposed to the quality of the instructional resources. Therefore, making the instructional program available to all participants for two weeks leading up to the actual assessment was important.

Another closely monitored control variable was the use of additional instructional resources. The teachers at TyRCI use many instructional resources in their daily practice. In an effort to improve ACT WorkKeys performance, materials from Steck-Vaughn and McGraw-Hill were purchased and used. However, for the researcher-participant to conduct a reliable study of the KeyTrain program, inmate-student-participants were allowed to use only these resources. If inmate-student-participants had been allowed to access additional resources, changes in performance could have been deemed a result of those resources, rather than a result of the resources intended to be used in the study.

Additionally, inmate-student-participant work ethic was closely monitored during the progression through the program. The KeyTrain computer program logged the amount of time inmate-student-participants spent on each subsection and level in addition to the grade the inmate-student-participant received on the skills assessment at the end of each level. Quality study time (QST) was a statistic derived for this study that aimed to quantify and measure inmate-student-participant work ethic. QST was calculated by multiplying the grade percent earned on a level times the score the inmate-student-participant earned on the posttest times hours spent in study for that level times hours spent on the posttest. This statistic was useful in identifying inmate-student-participants who were not truly studying the materials in the program but were simply "clicking" their way through the program. The Likert rating scale used by the teacher-participant and the inmate-student-participants was used to monitor and assess inmate-student-participant work ethic (see Appendix D – Work Ethic Survey and Appendix E – Attitude Survey).

Another control variable that was kept constant was SES. This study focused on improving the performance of inmate-students who came from poverty and were likely to

return to impoverished conditions after leaving the SCDC. SES was self-reported on the RPDS. Additionally, participants were limited to low SES Black inmate-students. The self-reported race indicated on the RPDS was used to determine eligibility for inclusion in the research.

Hypotheses. The null and alternative hypotheses studied in this research project were as follows:

- $H1_0$: There will be no difference between the Adaptive KeyTrain Pretest scores and the Adaptive KeyTrain Posttest scores for low-SES Black male inmate-student-participants at TyRCI as a result of completing the KeyTrain program.
- $H1_a$: There will be a statistically significant increase between Adaptive KeyTrain Pretest scores and Adaptive KeyTrain Posttest scores for low-SES Black male inmate-student-participants at TyRCI as a result of completing the KeyTrain program.
- $H2_0$: There will be no relationship between the Adaptive KeyTrain Posttest scores and the official WorkKeys scores for low-SES Black male inmate-student-participants of TyRCI.
- $H2_a$: There will be a positive correlation between the Adaptive KeyTrain Posttest scores and the official ACT WorkKeys scores for low-SES Black male inmate-student-participants of TyRCI.

Using the KeyTrain program fulfilled two purposes: (a) to prepare incarcerated inmate-students for the WorkKeys assessments and (b) to provide a method to predict inmate-student performance on the WorkKeys assessments. The KeyTrain program

appeared to be a worthwhile focus for this study because of previously described financial implications. The KeyTrain program was expected improve the WorkKeys performance for low-SES Black male inmate-student-participants at TyRCI. The researcher-participant expected to find a positive difference in Adaptive KeyTrain Pretest scores and Adaptive KeyTrain posttest scores by subtest and Total Battery. Additionally, the Adaptive KeyTrain posttest scores were expected to identify inmate-student-participants who had the necessary skills to be successful on the WorkKeys assessments. This finding should be demonstrated by a strong positive correlation between the Adaptive KeyTrain posttest scores and the WorkKeys scores by subtest and total battery, as determined by a statistical analysis *t* test. The Adaptive KeyTrain posttest scores should show a predictive ability of WorkKeys performance because ACT designed the Adaptive KeyTrain assessments specifically for the WorkKeys.

Data analysis. The goal at the conclusion of this study was to be able to show a correlational relationship. With correlational research, researchers cannot establish causation. "Simply because two variables are related, a researcher cannot conclude that one causes the other" (Mertler, 2014, p. 98). However, the findings of the research can be used to make predictions. "Although we cannot use the results of a correlational study to explain causation, we can use them for purposes of future predictions" (Mertler, 2014, p. 98). The current study was intended to predict the relationship between the completion of the KeyTrain program and improvements between the Adaptive KeyTrain pretest and the Adaptive KeyTrain posttest. This relationship was determined using a paired statistical analysis *t* test. Additionally, the study was aimed at establishing the predictive ability of the Adaptive KeyTrain posttests in relation to the official WorkKeys scores.

The predictive ability was determined using a statistical correlation. After the study, the results of the research and the data were presented to the research participants.

Reflection on data with participants. As inmate-student-participants finished the program and took the ACT WorkKeys assessment, they were given an opportunity to communicate how well they felt the ACT KeyTrain program prepared them for the WorkKeys assessment (see Appendix E – Attitude Survey). At the conclusion of the study, the inmate-student-participants who remained in the institution were called to a meeting in the education facility. The inmate-student-participants were each given a copy of their personal results as well as details about the overall study findings. Additionally, the findings of the study were presented to them in a digital presentation. After the presentation, the inmate-student-participants were allowed to ask questions about the research.

After the action plan meeting with inmate-student-participant, a meeting was held with the teacher-participant. The teacher-participant was the Title I teacher who helped the inmate-student-participants navigate the ACT KeyTrain program in the computer laboratory. The data from the research study was shared with the teacher-participant. The researcher-participant answered the teacher-participant's questions about data collection and the results.

Devising an action plan. As a part of the reflection meeting with the inmate-student-participants and teacher-participant, an action plan for future implementation was discussed. The researcher-participant proposed a data-supported ACT KeyTrain plan. The researcher-participant conducted a discussion with inmate-student-participants to get their recommendations for future implementation of ACT KeyTrain. Further, as a part of

a satisfaction survey (see Appendix F – Inmate Satisfaction Survey), inmate-student-participants were asked for similar information in an anonymous platform so inmate-student-participants could share any further thoughts or reflections they did not wish to share with the whole group. (They were allowed to provide their name if they wanted to have a private discussion with the researcher-participant).

The teacher-participant also shared thoughts about the effectiveness of the program and made recommendations for potential future implementation. The teacher-participant then completed a satisfaction survey (see Appendix G – Teacher Satisfaction Survey). With the information from the meeting with the inmate-student-participants and the teacher-participant, an action plan was developed for submission to the agency and district office.

The feedback from the inmate-student-participants and teacher-participant was synthesized and integrated into the report and the action plan for the agency. As a part of the agreement to conduct research in the South Carolina Department of Corrections, a copy of the final report will be submitted to the Division Director of Research and Statistics for the agency. Additionally, the report and the action plan developed from the participant meeting will be submitted to the PUSD District Office for their review. With permission of the PUSD District Office supervisors, the findings of the research will be presented at a bimonthly school leaders' meeting and shared with colleagues at other schools in SCDC. Additionally, if the results from the study prove to be powerful, the work may be submitted to a teacher organization for possible publication in their periodical in an effort to disseminate the research findings to other educators.

Conclusion

ACT WorkKeys is an important goal and financial investment for the PUSD and the SCDC; hence, an intensive investigation was needed to gauge the effectiveness of the instructional resources purchased to improve performance. With the aim to determine an improvement in performance and to determine a predictive ability using statistics gathered during the data collection process, a quantitative action research design was the most logical to use. After the data were gathered and analyzed, the leaders of PUSD and educators of TyRCI were able to make instructional decisions concerning ACT WorkKeys based on data and research, as opposed to relying on previously used less reliable measures.

CHAPTER 4

FINDINGS AND INTERPRETATION OF RESULTS

Introduction

The purpose of Chapter Four is to present the findings and the implication for the findings for the present study that describes the value of the NCRC that has been established in South Carolina, and the process for obtaining the NCRC. Data were collected from 50 low-SES Black male inmate-student-participants. The goal of the present action research was to improve and predict the ACT WorkKeys scores for these low-SES Black male inmate-student-participants at Tyger River Correctional Institution where data collection took place in 2016 over 35 weeks. The identified problem of practice for this dissertation in practice was to determine the effectiveness of the ACT KeyTrain program for 50 low-SES Black male inmate-student-participants in improving and predicting performance on the ACT WorkKeys examination. This goal was of vital importance to the PUSD and the SCDC because ACT WorkKeys is one of the educational opportunities offered to inmate-students in an effort to improve the reintegration of inmates into society through reduced recidivism.

The chapter begins with a contextualization of the findings and implications in relation to the action research process as it relates to the identified problem of practice, research question and purpose for the study. The chapter also recapped the data collection strategy and describes the ongoing analysis and reflection of the data represented in broad

themes patterns and codes as it relates to the problem of practice, research question and purpose of the study.

One of the seven core beliefs that the Palmetto Unified School District emphasizes is the importance of formal education to reduce crime rates. "Education reduces crime" (Reagan, 2014, p. 2604). Reagan's rationale is that by improving inmates' formal schooling skills (e.g., the core curricula of mathematics, science, English, and social studies) and by advancing their education in the penal system, inmates will improve their ability to obtain gainful employment in the United States upon their release from the penal system. Offering educational opportunities to improve employment possibilities correlates to reduced recidivism. As a part of those educational opportunities, inmate-students may work toward a NCRC via ACT WorkKeys, which is "a nationally recognized job skills assessment that measures real world skills that employers have identified as being critical to job success. The assessment helps educators identify and narrow the gap between students' skills and employment needs" (Reagan, 2014, p. 2607). In addition to enabling inmate-students to be more productive during the term of their sentences, educators may increase the likelihood of gainful employment for the former inmate-students upon their release because the NCRC is a nationally recognized credential.

Research question. The primary research question guiding this particular action research study emerged from reflection on the aforementioned issues. The research question was, "How effective is the ACT KeyTrain program at predicting and improving ACT WorkKeys performance for 50 low socioeconomic-status Black male inmate-student-participants in South Carolina?" Answering this question effectively may allow

this research to establish a better method (performance-wise, time-wise, and economically) to help inmate-students prepare for and obtain the NCRC.

Data Collection and Analysis Strategy.

Participants. The inmate-student-participants were 50 low SES Black males enrolled in educational services at TyRCI. The teacher-participant is Jane McHale, the Title 1 Teacher at TyRCI. I will be referred to the as the researcher-participant. I am the principal at TyRCI.

Observations. Inmate-student-participants' ability to navigate the computer program and their engagement with the material were observed by the teacher-participant. The teacher-participant noted her findings from the observations on the Work Ethic Survey (see Appendix D – Work Ethic Survey).

Surveys. A RPDS was distributed to inmate-students at TyRCI. On the RPDS, inmates were asked questions concerning their racial identity, high school lunch status prior to incarceration, education status, work status prior to incarceration, annual taxable income prior to incarceration, parent racial identity, parent work status, parent annual taxable income, and parent education status to determine demographic data. The self-reported race, high school lunch status, and/or work status variables indicated on the RPDS were used to determine eligibility for inclusion in the research study (see Table 3.1). SES was the constant control variable. Additionally, participants were limited to Black male inmate-students.

Data collection work sheet. A quantitative data collection sheet was kept on each inmate-student-participant and maintained by the researcher-participant (see Appendix C – Data Collection Work Sheet) for pre-test and post-test data for the ACT KeyTrain

Program. A paired *t* test was used to determine any growth in performance between the two tests. The data collection sheet also provided a space to record ACT WorkKeys scores. A correlation test was used to determine the relationship between the ACT KeyTrain post-test and ACT WorkKeys scores. Quality Study Time (QST) was recorded on the data collection worksheet as well. QST was derived for this study to quantify and measure inmate-student-participant work ethic. QST was calculated by multiplying the grade percent earned on a level times the score the inmate-student-participant earned on the posttest times hours spent in study for that level times the number of hours spent on the posttest.

Findings of the Study

Data were collected from 50 low-SES Black male inmate-student-participants, these inmate-student-participants completed the requirements of the ACT KeyTrain program and then were able to take the ACT WorkKeys. The raw data are reported in Table 4.1 and Table 4.2.

ACT KeyTrain performance improvement. A paired *t* test was employed to determine whether a significant improvement in inmate-student-participant performance occurred as a result of the use of the ACT KeyTrain program. The risk level, or alpha level, was set at .05. No significant difference was found in performance in the scores for the ACT KeyTrain Reading for Information pretest ($M = 3.88$, $SD = 1.30$) and the ACT KeyTrain Reading for Information posttest ($M = 3.60$, $SD = 1.44$), $t(50) = 1.68$, $p = .11$. There was no significant difference in performance in the scores for the ACT KeyTrain Locating Information pretest ($M = 3.48$, $SD = 1.16$) and the ACT KeyTrain Locating

Table 4.1 Participant ACT KeyTrain Results

	Reading for Information			Locating Information			Applied Mathematics			Total Battery		
Research#	Pretest	Level QST	Posttest	Pretest	Level QST	Posttest	Pretest	Level QST	Posttest	Average QST	PreTest Total Battery	PostTest Total Battery
282308	2	1.68	4	3	0.68	4	3	0.94	3	1.10	2	3
282540	5	0.47	3	5	0.00	4	2	1.63	3	0.70	2	3
282894	4	8.18	3	4	0.25	2	3	2.87	4	3.77	3	2
277442	3	0.52	2	4	5.72	5	4	0.11	3	2.12	3	2
272900	3	4.18	4	1	0.41	3	2	1.35	3	1.98	1	3
282708	3	11.02	5	4	3.50	5	3	2.78	4	5.77	3	4
283410	5	0.50	2	5	0.49	4	4	4.23	5	1.74	4	2
246308	3	0.72	2	3	0.95	4	3	0.56	2	0.74	3	2
248874	5	6.58	4	3	5.99	6	7	11.62	5	8.07	3	4
251607	2	26.96	6	5	0.50	2	3	4.23	3	10.56	2	2
283367	5	1.51	5	5	2.00	5	4	1.35	4	1.62	4	4
248050	4	0.44	2	3	0.88	3	4	1.64	4	0.99	3	2
280844	4	10.92	5	5	0.93	4	5	8.50	5	6.78	4	4
279899	4	0.21	3	3	1.76	5	4	3.49	5	1.82	3	3

Table 4.1 Continued

	Reading for Information			Locating Information			Applied Mathematics			Total Battery		
Research#	Pretest	Level QST	Posttest	Pretest	Level QST	Posttest	Pretest	Level QST	Posttest	Average QST	PreTest Total Battery	PostTest Total Battery
283427	6	9.75	6	4	3.52	5	5	3.15	4	5.47	4	4
282626	4	0.22	3	4	0.10	4	6	0.95	4	0.42	4	3
283716	5	1.44	2	3	0.96	3	3	0.14	1	0.84	3	1
283667	6	1.27	3	5	1.65	6	7	21.79	7	8.24	5	3
283583	5	3.38	6	5	1.77	5	4	2.90	3	2.69	4	3
233039	5	18.29	7	5	4.13	5	3	5.47	6	9.30	3	5
258762	5	43.69	7	3	5.42	5	4	6.37	4	18.49	3	4
274288	6	0.86	3	5	2.02	5	6	2.93	4	1.94	5	3
282392	3	1.68	3	3	1.21	4	3	0.51	3	1.13	3	3
283117	2	6.87	4	4	2.53	4	4	8.47	4	5.96	2	4
272738	2	0.67	3	3	1.33	4	3	0.58	2	0.86	2	2
222611	6	0.04	2	1	0.58	4	4	1.02	3	0.55	1	2
283044	2	0.20	1	3	0.09	2	3	0.19	2	0.16	2	1
284511	3	2.19	4	3	0.43	3	3	2.79	4	1.80	3	3
278141	4	0.63	2	4	4.02	5	5	1.97	5	2.21	4	2

Table 4.1 Continued

	Reading for Information			Locating Information			Applied Mathematics			Total Battery		
Research#	Pretest	Level QST	Posttest	Pretest	Level QST	Posttest	Pretest	Level QST	Posttest	Average QST	PreTest Total Battery	PostTest Total Battery
270641	3	0.15	2	2	0.05	3	2	0.41	3	0.20	2	2
261032	3	4.05	4	4	1.16	3	4	1.67	3	2.29	3	3
277544	5	2.96	3	4	0.00	0	3	0.30	3	1.08	3	0
284265	4	2.56	4	3	0.09	2	1	0.54	4	1.06	1	2
238563	5	2.92	5	2	0.09	2	3	3.93	5	2.31	2	2
282330	3	1.56	3	2	0.18	2	2	0.67	3	0.80	2	2
283280	2	0.50	3	4	0.03	4	4	0.56	3	0.36	2	3
225330	3	6.54	4	4	0.68	3	4	1.42	3	2.88	3	3
284324	5	0.69	5	3	0.40	3	3	0.53	3	0.54	3	3
283909	3	2.00	4	3	2.15	5	4	8.13	5	4.09	3	4
269674	3	0.76	4	3	0.75	5	4	1.63	4	1.05	3	4
210253	2	0.26	2	3	0.17	3	5	0.50	3	0.31	2	2
283839	5	8.21	4	3	0.32	3	4	8.29	5	5.60	3	3
284321	3	0.97	4	4	0.21	4	4	0.44	4	0.54	3	4
284351	4	2.56	3	4	1.78	4	3	1.06	3	1.80	3	3

Table 4.1 Continued

	Reading for Information			Locating Information			Applied Mathematics			Total Battery		
Research#	Pretest	Level QST	Posttest	Pretest	Level QST	Posttest	Pretest	Level QST	Posttest	Average QST	PreTest Total Battery	PostTest Total Battery
271366	2	0.65	2	5	0.46	3	4	11.09	6	4.07	2	2
283324	3	0.18	2	3	0.15	3	3	0.51	3	0.28	3	2
250698	5	2.18	3	3	0.99	3	4	0.26	2	1.14	3	2
279589	6	0.52	6	2	0.71	5	4	0.49	3	0.58	2	3
273331	3	0.09	2	0	0.03	1	3	0.56	3	0.23	0	1
284091	6	4.52	5	5	2.93	4	5	5.05	4	4.17	5	4

Table 4.2 Participant ACT WorkKeys Results

	Reading for Information		Locating Information		Applied Mathematics		Total Battery
Research#	Scale Score	Level	Scale Score	Level	Scale Score	Level	Level
282308	80	5	72	3	73	3	3
282540	80	5	74	3	76	4	3
282894	81	5	73	3	75	4	3
277442	80	5	78	4	72	3	3
272900	77	4	73	3	76	4	3
282708	79	5	74	3	75	4	3
283410	77	4	77	4	77	4	4
246308	78	4	70	2	68	1	1
248874	80	5	78	4	83	6	4
251607	79	5	73	3	77	4	3
283367	80	5	78	4	82	6	4
248050	77	4	75	4	79	5	4
280844	78	4	77	4	79	5	4
279899	78	4	75	4	76	4	4
283427	82	6	78	4	82	6	4
282626	80	5	78	4	81	5	4

Table 4.2 Continued

	Reading for Information		Locating Information		Applied Mathematics		Total Battery
Research#	Scale Score	Level	Scale Score	Level	Scale Score	Level	Level
283716	77	4	77	4	71	3	3
283667	81	5	78	4	83	6	4
283583	77	4	77	4	78	5	4
233039	81	5	77	4	80	5	4
258762	83	6	76	4	79	5	4
274288	85	7	78	4	80	5	4
282392	77	4	75	4	77	4	4
283117	79	5	79	4	76	4	4
272738	77	4	74	3	77	4	3
222611	81	5	77	4	79	5	4
283044	74	3	72	3	72	3	3
284511	75	3	74	3	75	4	3
278141	78	4	75	4	82	6	4
270641	76	4	77	4	81	5	4
261032	76	4	74	3	74	3	3
277544	79	5	76	4	78	5	4
284265	75	4	77	4	75	4	4

Table 4.2 Continued

Research#	Reading for Information		Locating Information		Applied Mathematics		Total Battery
	Scale Score	Level	Scale Score	Level	Scale Score	Level	Level
238563	78	4	73	3	78	5	3
282330	81	5	80	5	81	5	5
283280	77	4	73	3	77	4	3
225330	77	4	78	4	80	5	4
284324	77	4	75	4	74	3	3
283909	81	5	72	3	75	4	3
269674	75	4	74	3	78	5	3
210253	78	4	76	4	78	5	4
283839	75	4	76	4	75	4	4
284321	75	4	76	4	76	4	4
284351	80	5	73	3	74	3	3
284091	81	5	77	4	77	4	4
271366	79	5	76	4	78	5	4
283324	72	2	71	2	72	3	2
250698	74	3	73	3	67	1	1
279589	78	4	77	4	78	5	4
273331	75	4	76	4	67	1	1

Information posttest (M = 3.70, SD = 1.27); $t(50) = 1.68$, $p = .13$. There was no significant difference in performance in the scores for the ACT KeyTrain Applied Mathematics pretest (M = 3.74, SD = 1.19) and the ACT KeyTrain Applied Mathematics posttest (M = 3.68, SD = 1.15); $t(50) = 1.68$, $p = .36$. There was no significant difference in performance in the scores for the ACT KeyTrain Total Battery pretest (M = 2.82, SD = 1.02) and the ACT KeyTrain Total Battery posttest (M = 2.74, SD = 1.00); $t(50) = 1.68$, $p = .31$.

ACT KeyTrain performance improvement accounting for quality study time (QST). A paired t test was used after sorting the data set by QST. Then each subtest was sorted using QST. The 50% with the highest QST for each subtest was then used in each of the following t tests. 50% of the sample was used for this calculation as a method to remove participants that did not demonstrate good work ethic. No statistically significant difference was found in performance in the scores for the ACT KeyTrain Reading for Information pretest (M = 3.96, SD = 1.17) and the ACT KeyTrain Reading for Information posttest (M = 4.36, SD = 1.25); $t(25) = 1.71$, $p = .08$. There was a statistically significant difference in performance in the scores for the ACT KeyTrain Locating Information pretest (M = 3.84, SD = 0.85) and the ACT KeyTrain Locating Information posttest (M = 4.48, SD = 0.87); $t(25) = 1.71$, $p = .002$. There was no statistically significant difference in performance in the scores for the ACT KeyTrain Applied Mathematics pretest (M = 4.16, SD = 1.21) and the ACT KeyTrain Applied Mathematics posttest (M = 4.14, SD = 1.00); $t(25) = 1.71$, $p = .12$.

After sorting for the top 50% of average QST for the Total Battery data set, no statistically significant difference was found in performance in the scores from the ACT

KeyTrain Total Battery pretest (M = 3.16, SD = 0.99) and the ACT KeyTrain Total Battery posttest (M = 3.16, SD = 0.85); $t(25) = 1.71$, $p = .50$. A similar trend occurred in the data for the 75% with the highest QST. A statistically significant difference was found in performance in the scores for the ACT KeyTrain Reading for Information pretest (M = 4.08, SD = 1.38) and the ACT KeyTrain Reading for Information posttest (M = 4.92, SD = 1.26); $t(13) = 1.78$, $p = .04$. There was a statistically significant difference in the performance in the scores for the ACT KeyTrain Locating Information pretest (M = 4.08, SD = 0.76) and the ACT KeyTrain Locating Information posttest (M = 4.85, SD = 0.55); $t(13) = 1.78$, $p = .01$. There was no statistically significant difference in performance in the scores for the ACT KeyTrain Applied Mathematics pretest (M = 4.38, SD = 1.33) and the ACT KeyTrain Applied Mathematics posttest (M = 4.92, SD = 1.04); $t(13) = 1.78$, $p = .09$. When sorting for the top 75% of average QST for the Total Battery, there was no statistically significant difference in performance in the scores from the ACT KeyTrain Total Battery pretest (M = 3.23, SD = 1.01) and the ACT KeyTrain Total Battery posttest (M = 3.62, SD = 0.87); $t(13) = 1.78$, $p = .17$.

ACT KeyTrain performance improvement accounting for work ethic as determined by the teacher-participant. A paired t test was used after sorting the data set by work ethic as determined by the teacher-participant using the Work Ethic Survey (see Appendix D – Work Ethic Survey). The statistical mean was taken for each of the four survey questions answered by the teacher-participant to derive a work ethic score. The 50% with the highest work ethic was then used in each of the following t tests (see Table 4.3).

Table 4.3 Teacher-Participant Work Ethic Responses

Research#	Question 8	Question 9	Question 10	Question 11	Teacher Average
282308	4	4	4	4	4.0
282540	3	3	4	3	3.3
282894	3	3	4	3	3.3
277442	3	2	5	2	3.0
272900	5	5	3	4	4.3
282708	4	4	4	4	4.0
283410	4	4	4	4	4.0
246308	3	3	1	3	2.5
248874	5	5	5	5	5.0
251607	4	4	4	4	4.0
283367	4	4	4	4	4.0
248050	4	2	4	2	3.0
280844	4	3	5	5	4.3
279899	3	3	5	3	3.5
283427	4	3	5	3	3.8
282626	4	2	2	2	2.5
283716	4	3	3	2	3.0

Table 4.3 Continued

Research#	Question 8	Question 9	Question 10	Question 11	Teacher Average
283667	4	3	4	2	3.3
283583	3	3	2	2	2.5
233039	5	5	3	4	4.3
258762	5	5	5	4	4.8
274288	5	4	5	3	4.3
282392	4	3	4	3	3.5
283117	4	3	4	3	3.5
272738	4	3	4	4	3.8
222611	2	2	3	3	2.5
283044	2	2	1	2	1.8
284511	4	4	4	3	3.8
278141	4	3	4	3	3.5
270641	3	3	4	4	3.5
261032	4	4	3	3	3.5
277544	3	3	3	3	3.0
284265	4	3	4	3	3.5
238563	5	4	2	4	3.8
282330	3	4	2	5	3.5

Table 4.3 Continued

Research#	Question 8	Question 9	Question 10	Question 11	Teacher Average
283280	1	1	4	1	1.8
225330	3	4	3	3	3.3
284324	4	3	2	3	3.0
283909	4	3	4	3	3.5
269674	4	4	4	4	4.0
210253	4	4	3	4	3.8
283839	4	3	3	3	3.3
284321	4	2	4	3	3.3
284351	4	4	4	3	3.8
284091	5	5	5	5	5.0
271366	4	4	4	4	4.0
283324	4	4	4	5	4.3
250698	4	3	4	3	3.5
279589	3	4	3	4	3.5
273331	3	2	4	3	3.0

Notes. In this survey, 1 denotes a response of Strongly Disagree, 2 denotes a response of Somewhat Disagree, 3 denotes a response of Somewhat Agree, 4 denotes a response of Agree, and 5 denotes a response of Strongly Agree.

There was no statistically significant difference in performance in the scores for the ACT KeyTrain Reading for Information pretest (M = 3.78, SD = 1.34) and the ACT KeyTrain Reading for Information posttest (M = 3.94, SD = 1.46); $t(32) = 1.70$, $p = .29$. There was a statistically significant difference in performance in the scores for the ACT KeyTrain Locating Information pretest (M = 3.50, SD = 1.11) and the ACT KeyTrain Locating Information posttest (M = 3.91, SD = 1.12); $t(32) = 1.70$, $p = 0.05$. There was no statistically significant difference in performance in the scores for the ACT KeyTrain Applied Mathematics pretest (M = 3.72, SD = 1.22) and the ACT KeyTrain Applied Mathematics posttest (M = 3.88, SD = 1.04); $t(32) = 1.70$, $p = .25$. There was no statistically significant difference in performance in the scores for the ACT KeyTrain Total Battery pretest (M = 2.84, SD = 0.99) and the ACT KeyTrain Total Battery posttest (M = 3.00, SD = 0.92); $t(32) = 1.70$, $p = 0.20$.

Predictive ability of ACT KeyTrain. A statistical correlation was employed to determine whether there was significant predictive ability in inmate-student-participant performance on ACT WorkKeys using the ACT KeyTrain program. The risk level, or alpha level, was set at .05. First, regarding the ability of the ACT KeyTrain Reading for Information subtest to predict low-SES Black male inmate-student-participant performance on the ACT WorkKeys Reading for Information subtest, the Pearson correlation coefficient indicated a statistically significant positive correlation between the two variables, $r = 0.31$, $n = 50$, $p = .03$. The linear relationship in ACT KeyTrain Reading for Information performance can explain 9.6% of the variation in ACT WorkKeys Reading for Information performance. Figure 4.1 displays a XY scatterplot of

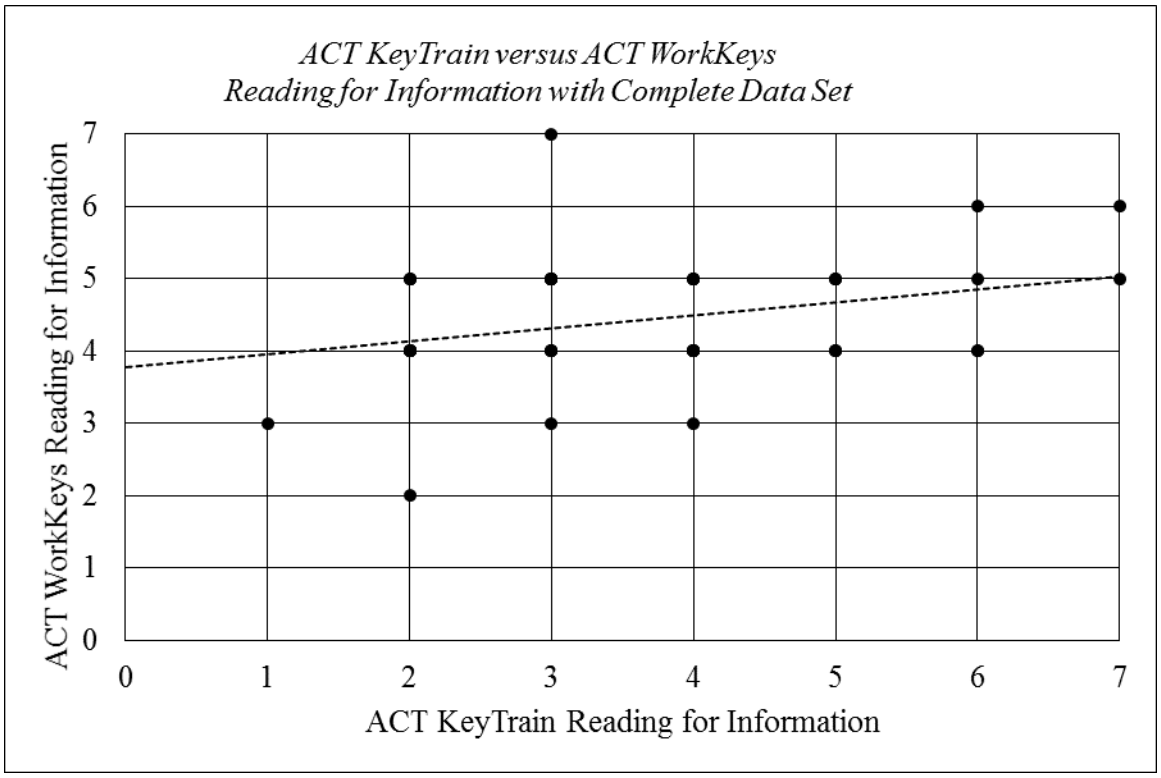

Figure 4.1. XY scatterplot of Reading for Information with complete data set.

ACT KeyTrain Reading for Information scores versus ACT WorkKeys Reading for Information scores.

Second, regarding the ability of the ACT KeyTrain Locating Information subtest to predict low-SES Black male inmate-student-participant performance on the ACT WorkKeys Locating Information subtest, the Pearson correlation coefficient indicated a statistically nonsignificant weak positive correlation between the two variables, $r = 0.09$, $n = 50$, $p = .54$. The linear relationship in ACT KeyTrain Locating Information performance can explain 0.8% of the variation in ACT WorkKeys Locating Information performance. Figure 4.2 displays a XY scatterplot of ACT KeyTrain Locating Information scores versus ACT WorkKeys Locating Information scores.

Third, regarding the ability of the ACT KeyTrain Applied Mathematics subtest to predict low-SES Black male inmate-student-participant performance on the ACT WorkKeys Applied Mathematics subtest, the Pearson correlation coefficient indicated a statistically significant positive correlation between the two variables, $r = 0.55$, $n = 50$, $p < .001$. The linear relationship in ACT KeyTrain Applied Mathematics performance can explain 30.3% of the variation in ACT WorkKeys Applied Mathematics performance. Figure 4.3 displays a XY scatterplot of ACT KeyTrain Applied Mathematics scores versus ACT WorkKeys Applied Mathematics scores.

Fourth, regarding the ability of the ACT KeyTrain Total Battery to predict low-SES Black male inmate-student-participant performance on the ACT WorkKeys Total Battery, the Pearson correlation coefficient indicated a statistically significant positive correlation between the two variables, $r = 0.28$, $n = 50$, $p = .05$. The linear relationship in ACT KeyTrain Total Battery performance can explain 7.8% of the variation in ACT

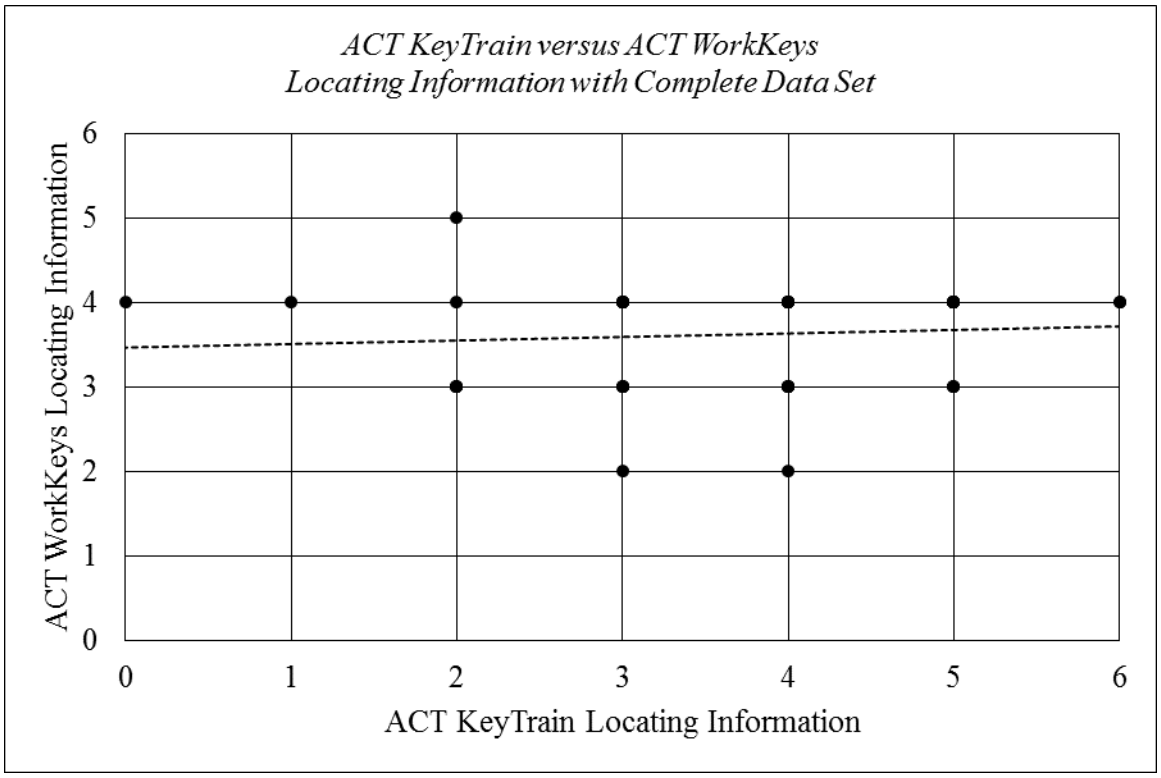

Figure 4.2. XY scatterplot of Locating Information Data with complete data set.

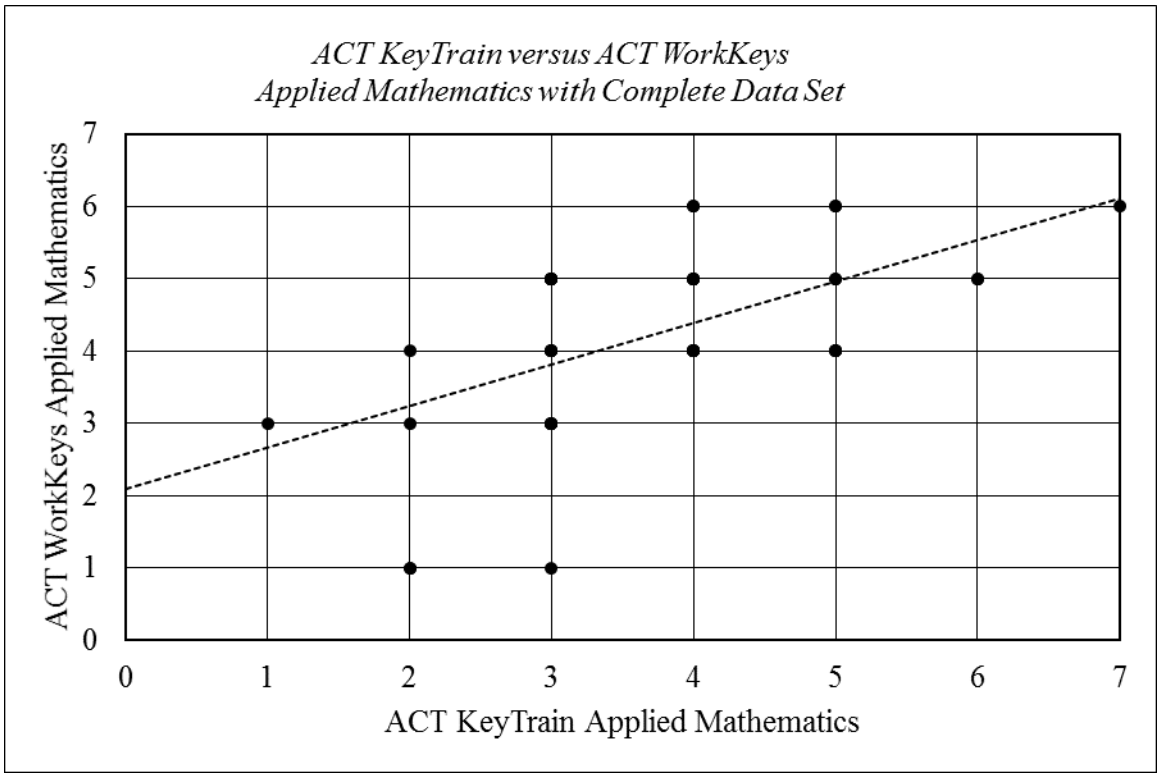

Figure 4.3. XY scatterplot of Applied Mathematics with complete data set.

WorkKeys Total Battery performance. Figure 4.4 displays a XY scatterplot of ACT KeyTrain Total Battery scores versus ACT WorkKeys Total Battery scores.

Predictive ability of ACT KeyTrain accounting for quality study time (QST). A statistical correlation was employed to determine whether there was significant predictive ability in inmate-student-participant performance on ACT WorkKeys using the ACT KeyTrain program while accounting for QST. In the following calculations, the top 50% QST was used for each subtest correlation calculation in an effort to remove participants that did not demonstrate good work ethic. The risk level, or alpha level, was set at .05. First, regarding the ability of the ACT KeyTrain Reading for Information subtest to predict low-SES Black male inmate-student-participant performance on the ACT WorkKeys Reading for Information subtest while accounting for QST, the Pearson correlation coefficient indicated a positive correlation between the two variables, r = 0.37, n = 25, p = .07. The linear relationship in ACT KeyTrain Reading for Information performance can explain 13.7% of the variation in ACT WorkKeys Reading for Information performance. Figure 4.5 displays a XY scatterplot of ACT KeyTrain Reading for Information scores versus ACT WorkKeys Reading for Information scores when accounting for QST.

Second, regarding the ability of the ACT KeyTrain Locating Information subtest to predict low-SES Black male inmate-student-participant performance on the ACT WorkKeys Locating Information subtest while accounting for QST, the Pearson correlation coefficient indicated a positive correlation between the two variables, r = 0.28, n = 25, p = .18. The linear relationship in ACT KeyTrain Locating Information performance can explain 7.8% of the variation in ACT WorkKeys Locating Information

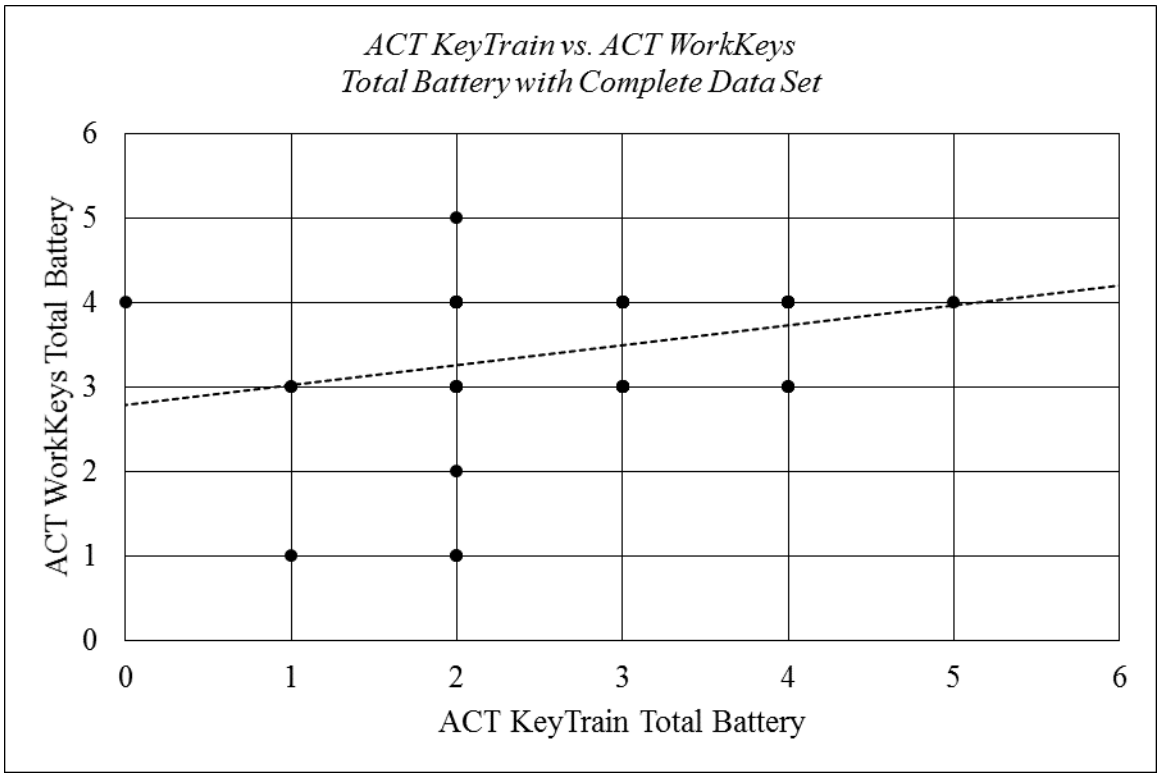

Figure 4.4. XY scatterplot of Total Battery with complete data set.

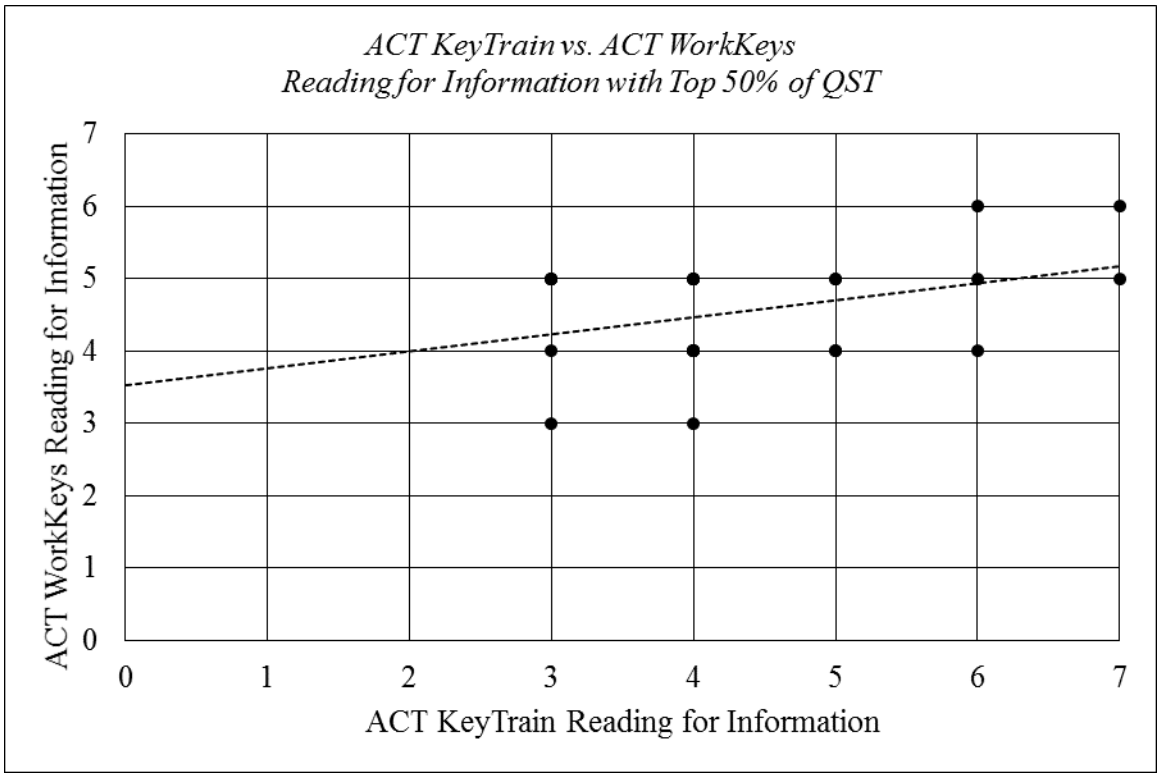

Figure 4.5. XY scatterplot of Reading for Information data with top 50% of QST.

performance. Figure 4.6 displays a XY scatterplot of ACT KeyTrain Locating Information scores versus ACT WorkKeys Locating Information scores when accounting for QST.

Third, regarding the ability of the ACT KeyTrain Applied Mathematics subtest to predict low-SES Black male inmate-student-participant performance on the ACT WorkKeys Applied Mathematics subtest while accounting for QST, the Pearson correlation coefficient indicated a positive correlation between the two variables, r = 0.46, n = 25, p = .02. The linear relationship in ACT KeyTrain Applied Mathematics performance can explain 21.2% of the variation in ACT WorkKeys Applied Mathematics performance. Figure 4.7 displays a XY scatterplot of ACT KeyTrain Applied Mathematics scores versus ACT WorkKeys Applied Mathematics scores when accounting for QST.

Fourth, regarding the ability of the ACT KeyTrain Total Battery to predict low-SES Black male inmate-student-participant performance on the ACT WorkKeys Total Battery while accounting for QST, the Pearson correlation coefficient indicated a positive correlation between the two variables, r = 0.35, n = 25, p = .08. The linear relationship in ACT KeyTrain Total Battery performance can explain 12.3% of the variation in ACT WorkKeys Total Battery performance. Figure 4.8 displays a XY scatterplot of ACT KeyTrain Total Battery scores versus ACT WorkKeys Total Battery scores when accounting for QST.

Predictive ability of ACT KeyTrain accounting for work ethic. A statistical correlation was employed to determine whether there was significant predictive ability in inmate-student-participant performance on ACT WorkKeys using the ACT KeyTrain

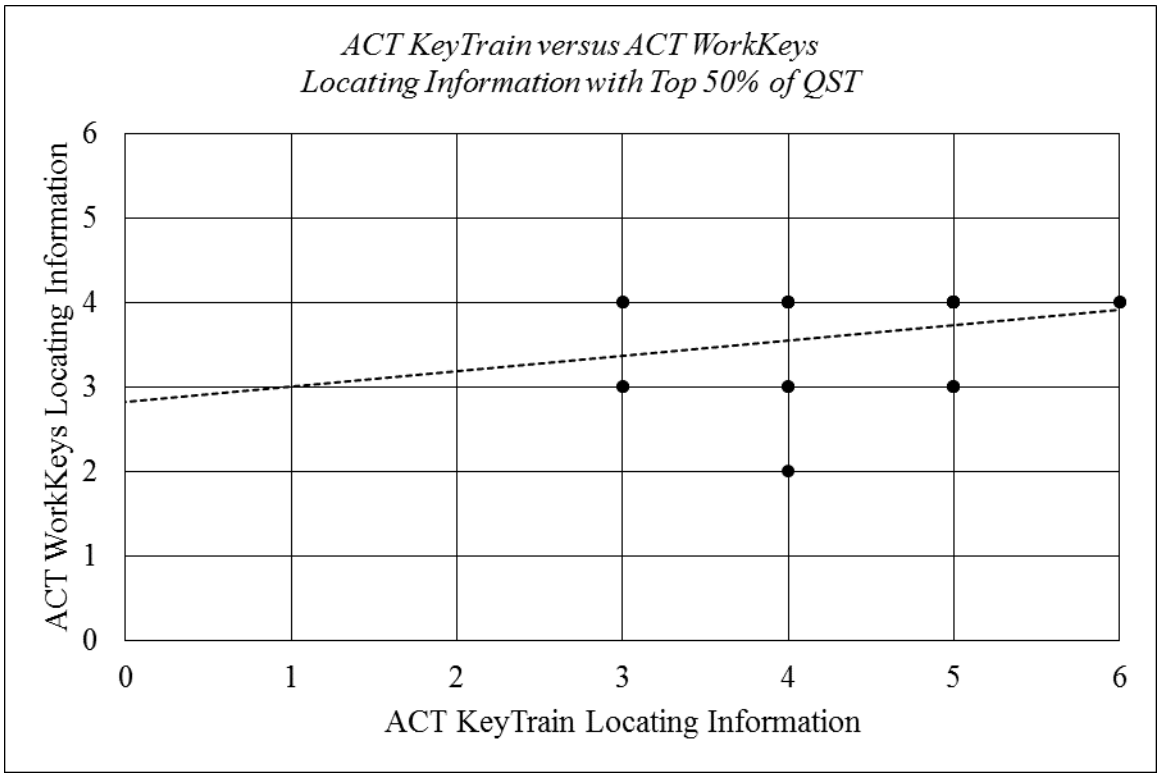

Figure 4.6. XY scatterplot of Locating Information data with top 50% of QST.

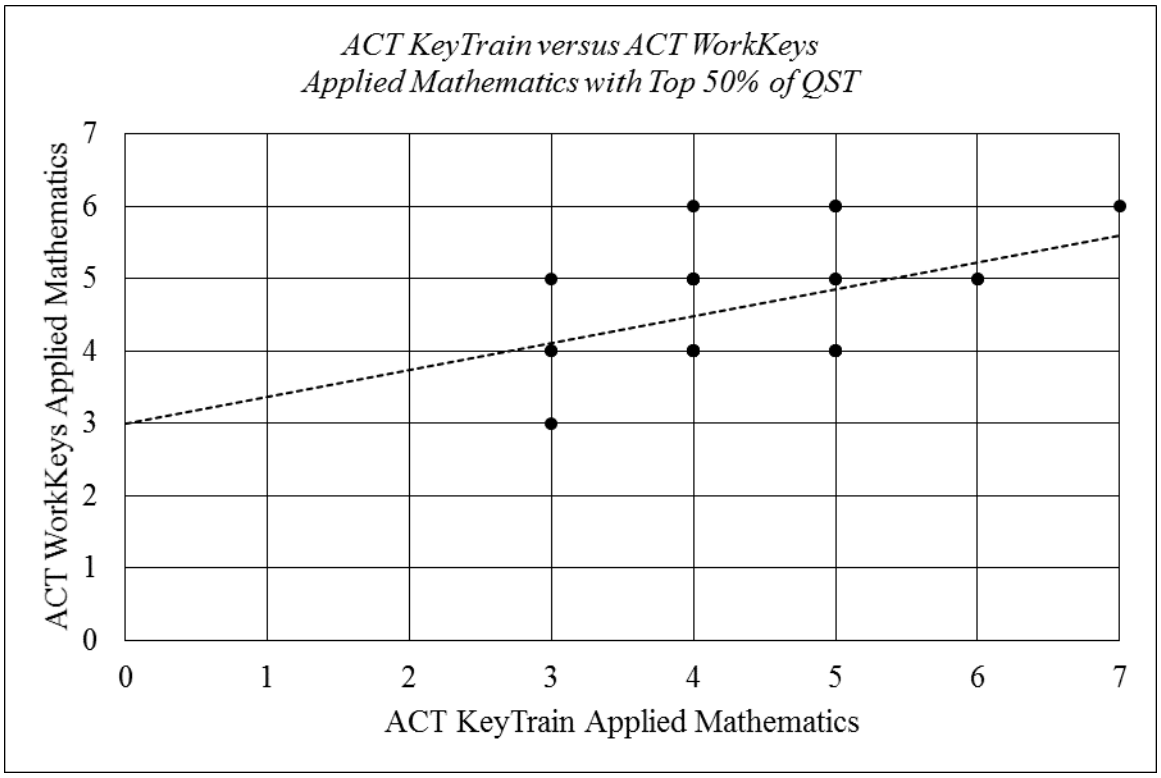

Figure 4.7. XY scatterplot of Applied Mathematics data with top 50% of QST.

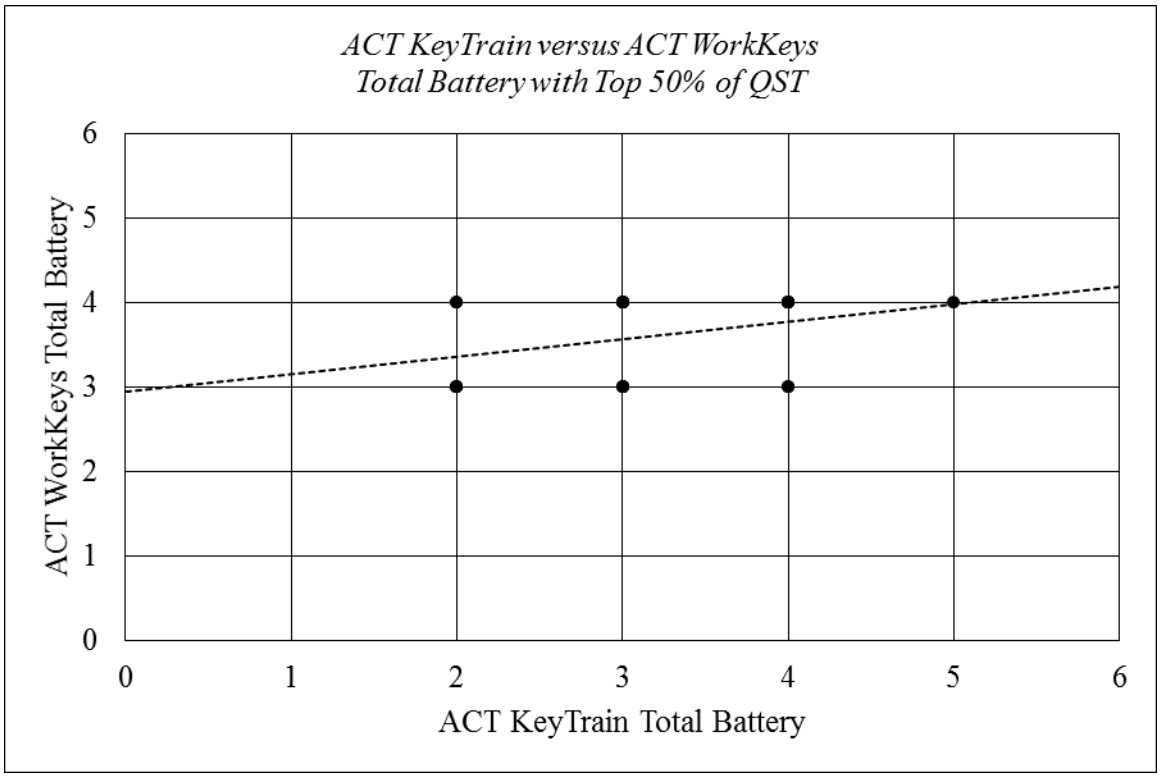

Figure 4.8. XY scatterplot of Total Battery data with top 50% of QST.

program, using data locating on the student data collection sheets. In the following calculations, the top 50% work ethic as determined by the teacher-participant was used for each correlation calculation (see Table 4.3). The risk level, or alpha level, was set at .05. First, regarding the ability of the ACT KeyTrain Reading for Information subtest to predict low-SES Black male inmate-student-participant performance on the ACT WorkKeys Reading for Information subtest, the Pearson correlation coefficient indicated a statistically significant positive correlation between the two variables, $r = 0.39$, $n = 32$, $p = .03$. The linear relationship in ACT KeyTrain Reading for Information performance can explain 15.2% of the variation in ACT WorkKeys Reading for Information performance. Figure 4.9 displays a XY scatterplot of ACT KeyTrain Reading for Information scores versus ACT WorkKeys Reading for Information scores when accounting for work ethic.

Second, regarding the ability of the ACT KeyTrain Locating Information subtest to predict low-SES Black male inmate-student-participant performance on the ACT WorkKeys Locating Information subtest, the Pearson correlation coefficient indicated a statistically nonsignificant positive correlation between the two variables, $r = 0.18$, $n = 32$, $p = .33$. The linear relationship in ACT KeyTrain Locating Information performance can explain 3.2% of the variation in ACT WorkKeys Locating Information performance. Figure 4.10 displays a XY scatterplot of ACT KeyTrain Locating Information scores versus ACT WorkKeys Locating Information scores when accounting for work ethic.

Third, regarding the ability of the ACT KeyTrain Applied Mathematics subtest to predict low-SES Black male inmate-student-participant performance on the ACT WorkKeys Applied Mathematics subtest, the Pearson correlation coefficient indicated a

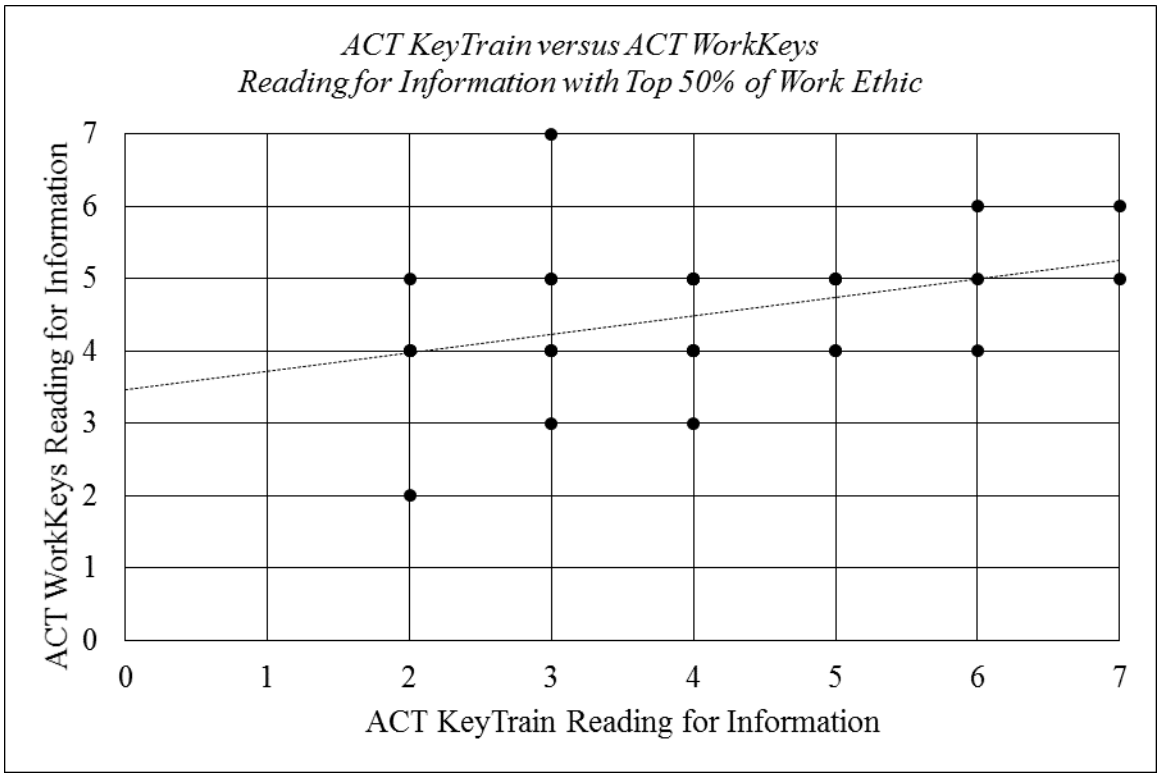

Figure 4.9. XY scatterplot of Reading for Information data with top 50% of work ethic.

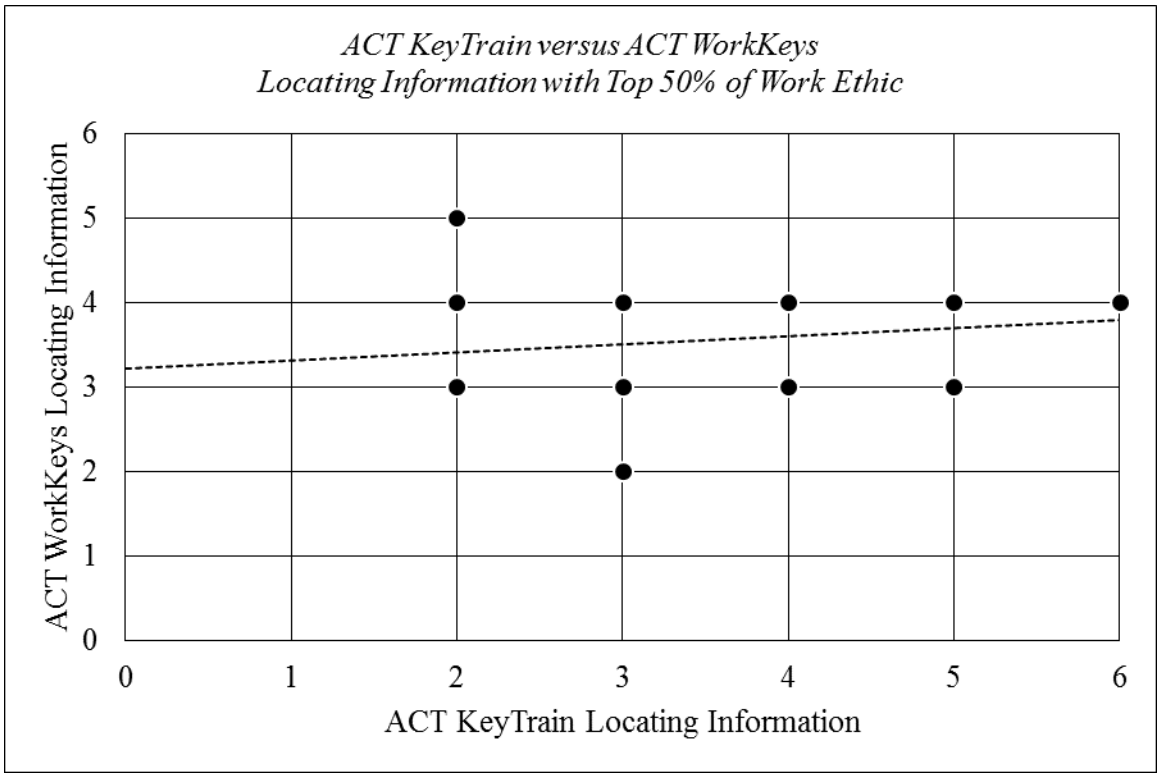

Figure 4.10. XY scatterplot of Locating Information data with top 50% of work ethic.

statistically significant positive correlation between the two variables, $r = 0.51$, $n = 32$, $p = 3.0 \times 10^{-3}$. The linear relationship in ACT KeyTrain Applied Mathematics performance can explain 26.0% of the variation in ACT WorkKeys Applied Mathematics performance. Figure 4.11 displays a XY scatterplot of ACT KeyTrain Applied Mathematics scores versus ACT WorkKeys Applied Mathematics scores when accounting for work ethic.

Fourth, regarding the ability of the ACT KeyTrain Total Battery to predict low-SES Black male inmate-student-participant performance on the ACT WorkKeys Total Battery, the Pearson correlation coefficient indicated a statistically nonsignificant positive correlation between the two variables, $r = 0.19$, $n = 32$, $p = .31$. The linear relationship in ACT KeyTrain Total Battery performance can explain 3.6% of the variation in ACT WorkKeys Total Battery performance. Figure 4.12 displays a XY scatterplot of ACT KeyTrain Total Battery scores versus ACT WorkKeys Total Battery scores when accounting for work ethic.

Ongoing analysis and reflection. During an early analysis and interpretation of the data, it appeared as if there was no improvement in inmate-student-participant performance. Since the data set was incomplete, the results were unreliable when sorted for QST. Due to the preliminary analysis, I felt as if none of the results would prove to be significant. However, my hasty conclusion raised a concern about preconceived notions or expectations of results. I expected the data to show an appreciable improvement in ACT WorkKeys performance between the pretest and the posttest. Additionally, I expected research participants to be more diligent in their study of the material with the prospect of earning a NCRC.

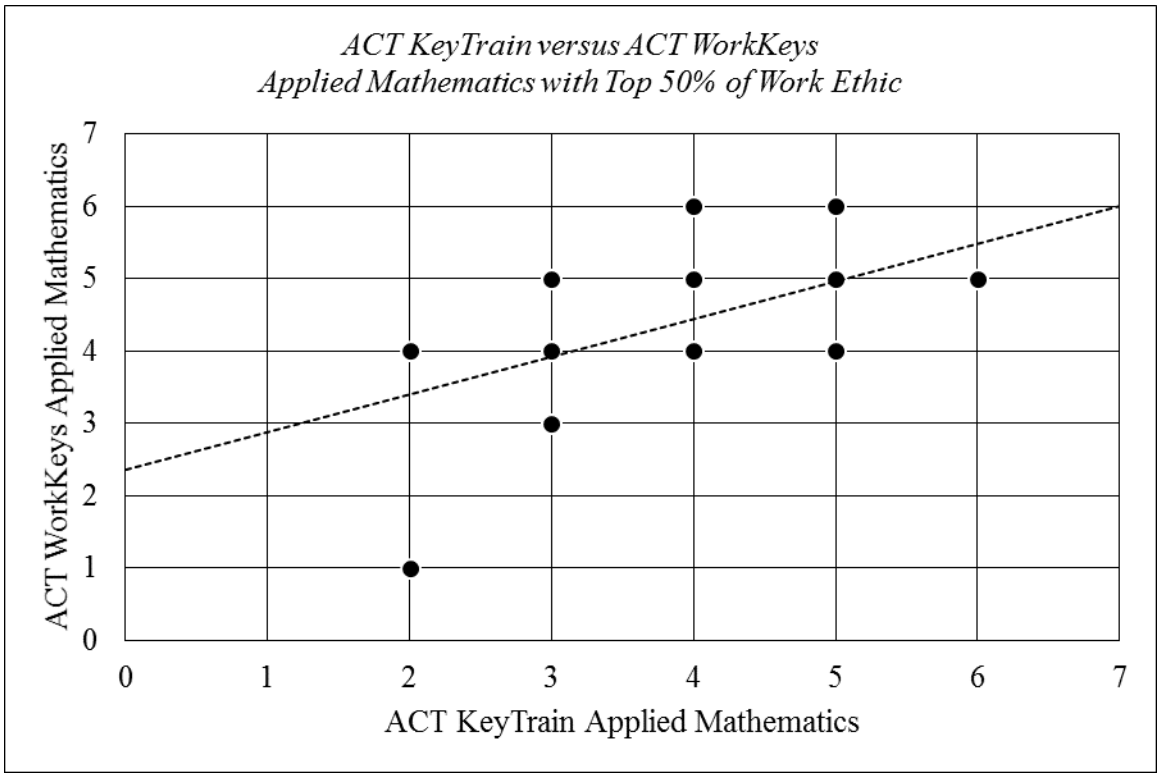

Figure 4.11. XY scatterplot of Applied Mathematics data with top 50% of work ethic.

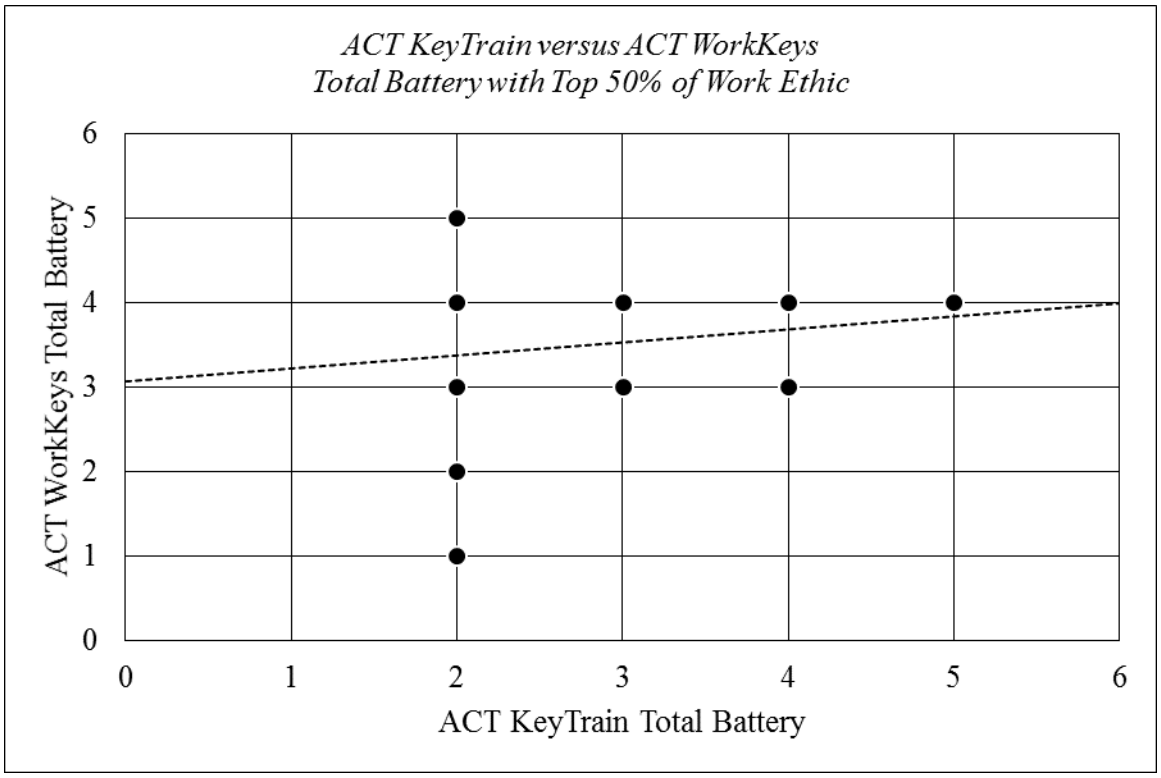

Figure 4.12. XY scatterplot of Total Battery data with top 50% of work ethic.

There was a major test of endurance during the course of the data collection. Research participant attendance was occasionally an issue. The environment (a correctional facility) was often the cause. In a correctional facility, security comes first. Sometimes a security issue creates circumstances where inmate-student-participants do not make it to school. Movements throughout TyRCI are restrictive. This difficulty in getting research participants to class was often stressful and tough to endure.

Reflective stance. During an interim analysis, I discovered that I no longer needed to collect TABE data on the research participants. An initial research question aimed at determining how well TABE would predict ACT WorkKeys performance. However, after I removed that question from this study there was no further need for TABE data. Additionally, I modified the calculation method for QST. As I collected data, I noticed variables that should be included in the QST calculation. Initially, I intended to calculate QST by multiplying the level skills assessment grade by the amount of time spent studying the material for that level. However, that calculation method failed to take into account a research participant's work ethic when taking the ACT Adaptive KeyTrain Posttest. I noticed research participants rushing through the posttest and getting scores lower than the pretest. Therefore, I modified the method for calculating QST to account for those variables. QST was calculated by multiplying the grade percent earned on a level times the score the inmate-student-participant earned on the posttest times hours spent in study for that level times the number of hours spent on the posttest.

As I reflected on the data, I continued to think the research participants should be completing more than the single level assigned by the Adaptive KeyTrain Pretest.

However, I did not make this modification for this study, as it would have potentially skewed results. Furthermore, completing all levels of the program would have be quite time consuming and not particularly feasible in the academic setting at TyRCI.

Interpretation of the Results of the Study

ACT KeyTrain performance improvement. In terms of the entire data set, the results of the study indicate that the Reading for Information ACT KeyTrain curriculum did not improve performance for low-SES Black male inmate-student-participants, when comparing scores from the Reading for Information Adaptive KeyTrain pretest to the posttest. The data indicated a decrease in performance from the pretest to the posttest; however, the data were not statistically significant. In terms of the entire data set, for the variable Locating Information, the ACT KeyTrain curriculum did not improve performance for low-SES Black male inmate-student-participants, when comparing scores from the Locating Information Adaptive KeyTrain pretest to the posttest. The data indicated an increase in performance from the pretest to the posttest; however, the data were not statistically significant. In terms of the entire data set, for Applied Mathematics, the ACT KeyTrain curriculum did not improve performance for low-SES Black male inmate-student-participants, when comparing scores from Applied Mathematics Adaptive KeyTrain pretest to the posttest. The data indicated a decrease in performance from the pretest to the posttest; however, the data were not statistically significant. In terms of the entire data set, for the Total Battery variable, the ACT KeyTrain curriculum did not improve performance for low-SES Black male inmate-student-participants from the Adaptive KeyTrain Total Battery pretest to the posttest. The data indicated a decrease in

performance from the pretest to the posttest; however, the data were not statistically significant.

ACT KeyTrain performance improvement accounting for quality study time (QST). After the data were examined for the top 50% of QST by subtest, the results of the study indicated that the Reading for Information ACT KeyTrain curriculum did not improve performance for low-SES Black male inmate-student-participants from the Reading for Information Adaptive KeyTrain pretest to the posttest. The data indicated an increase in performance from the pretest to the posttest; however, the data were not statistically significant. After examining the data for the top 50% of QST by subtest, the results of the study indicated that the Locating Information ACT KeyTrain curriculum improved performance for low-SES Black male inmate-student-participants from the Locating Information Adaptive KeyTrain pretest to the posttest. The data indicated an increase in performance from the pretest to the posttest, and the data were statistically significant. After examining the data for the top 50% of QST by subtest, the results of the study indicated that the Applied Mathematics ACT KeyTrain curriculum did not improve performance for low-SES Black male inmate-student-participants from Applied Mathematics Adaptive KeyTrain pretest to the posttest. The data indicated a slight decrease in performance from the pretest to the posttest; however, the data were not statistically significant. Of note, because the data used were more selective in regards to the Applied Mathematics QST, the lower the *p*-value, the closer the value was to significance. For the complete data set, the *p*-value was .36. For the top 50% of QST for Applied Mathematics, the *p*-value was .12. For the top 75% of QST for Applied Mathematics, the *p*-value was .08. After examining the data for QST, the results of the

study indicated that the Total Battery ACT KeyTrain curriculum improved performance for low-SES Black male inmate-student-participants from the Total Battery Adaptive KeyTrain pretest to the posttest. The data showed no increase in performance from the pretest to the posttest for the top 50% of QST and an increase in performance for the top 75% of QST; however, the data were not statistically significant. Despite the lack of statistical significance, it was noted that because the data used were more selective in regards to the Total Battery QST, the lower the *p*-value, the closer the value was to significance. For the complete data set, the *p*-value was .31. For the top 50% of QST for total battery, the *p*-value was .50. For the top 75% of QST for total battery, the *p*-value was .17.

ACT KeyTrain performance improvement accounting for work ethic from teacher-participant survey. After examining the data for the top 50% of work ethic as determined by the teacher-participant, the results of the study indicated that the Reading for Information ACT KeyTrain curriculum did not improve performance for low-SES Black male inmate-student-participants from the Reading for Information Adaptive KeyTrain pretest to the posttest. The data indicated an increase in performance from the pretest to the posttest; however, the data were not statistically significant. After examining the data for the top 50% of work ethic as determined by the teacher-participant, the results of the study indicated that the Locating Information ACT KeyTrain curriculum improved performance for low-SES Black male inmate-student-participants from the Locating Information Adaptive KeyTrain pretest to the posttest. The data indicated an increase in performance from the pretest to the posttest, and the finding was statistically significant. After examining the data for the top 50% of work

ethic as determined by the teacher-participant, the results of the study indicated that the Applied Mathematics ACT KeyTrain curriculum did not improve performance for low-SES Black male inmate-student-participants from Applied Mathematics Adaptive KeyTrain pretest to the posttest. The data indicated an increase in performance from the pretest to the posttest; however, the data were not statistically significant. After examining the data for the top 50% of work ethic as determined by the teacher-participant, the results of the study indicated that the Total Battery of ACT KeyTrain curriculum did not improve performance for low-SES Black male inmate-student-participants from the Total Battery Adaptive KeyTrain pretest to the posttest. The data indicated an increase in performance from the pretest to the posttest; however, the data were not statistically significant. Despite the lack of statistical significance, the *p*-value was lower for the data set sorted by work ethic, compared to the complete data set, except for Reading for Information.

Predictive ability of ACT KeyTrain. After examining the complete data set in regards to the ACT KeyTrain Reading for Information posttest, compared to the ACT WorkKeys Reading for Information test, the data indicated a moderate, positive correlation. The data indicated the result was statistically significant. After examining the complete data set in regards to the ACT KeyTrain Locating Information posttest when compared to the ACT WorkKeys Locating Information test, the data indicated a weak, positive correlation. The data indicated the result was not statistically significant. After examining the complete data set in regards to the ACT KeyTrain Applied Mathematics posttest when compared to the ACT WorkKeys Applied Mathematics test, the data indicated a moderate, positive correlation. The data indicated the result was

statistically significant. After examining the complete data set in regards to the ACT KeyTrain Total Battery posttest, compared to the ACT WorkKeys Total Battery test, the data indicated a weak, positive correlation. The data indicated the result was statistically significant.

Predictive ability accounting for quality study time (QST). After examining the data for inmate-student-participants in the top 50% of QST by subtest, in regards to the ACT KeyTrain Reading for Information posttest when compared to the ACT WorkKeys Reading for Information test, the data indicated a moderate, positive correlation. However, the data indicated the result was not statistically significant. After examining the data for inmate-student-participants in the top 50% of QST by subtest, in regards to the ACT KeyTrain Locating Information posttest when compared to the ACT WorkKeys Locating Information test, the data indicated a weak, positive correlation. The data indicated the result was not statistically significant. After examining the data for inmate-student-participants in the top 50% of QST by subtest, in regards to the ACT KeyTrain Applied Mathematics posttest when compared to the ACT WorkKeys Applied Mathematics test, the data indicated a moderate, positive correlation. The data indicated the result was statistically significant. After examining the data for inmate-student-participants in the top 50% of average QST, in regards to the ACT KeyTrain Total Battery posttest when compared to the ACT WorkKeys Total Battery test, the data indicated a moderate, positive correlation. The data indicated the result was not statistically significant.

Predictive ability of work ethic teacher-participant survey. After examining the data for inmate-student-participants in the top 50% of work ethic as determined by the

teacher-participant using the Work Ethic Survey (see Appendix D – Work Ethic Survey), in regards to the ACT KeyTrain Reading for Information posttest when compared to the ACT WorkKeys Reading for Information test, the data indicated a moderate, positive correlation. However, the data indicated the result was statistically significant. After examining the data for inmate-student-participants in the top 50% of work ethic as determined by the teacher-participant using the Work Ethic Survey (see Appendix D – Work Ethic Survey), in regards to the ACT KeyTrain Locating Information posttest when compared to the ACT WorkKeys Locating Information test, the data indicated a weak, positive correlation. The data indicated the result was not statistically significant. After examining the data for inmate-student-participants in the top 50% of work ethic by subtest, in regards to the ACT KeyTrain Applied Mathematics posttest when compared to the ACT WorkKeys Applied Mathematics test, the data indicated a moderate, positive correlation. The data indicated the result was statistically significant. After examining the data for inmate-student-participants in the top 50% of work ethic, in regards to the ACT KeyTrain Total Battery posttest when compared to the ACT WorkKeys Total Battery test, the data indicated a weak, positive correlation. The data indicated the result was not statistically significant.

Conclusion

The primary research question "*How effective is the ACT KeyTrain program at predicting and improving ACT WorkKeys performance for 50 low socioeconomic-status, Black, male inmate-student-participants in South Carolina?"* drove the data collected in this study that implies that the ACT KeyTrain program was not effective in improving ACT WorkKeys performance for 50 low-SES Black male inmate-student-participants at

TyRCI. However, when accounting for inmate-student-participant work ethic, the data collected in this study showed that the ACT KeyTrain program was somewhat effective in improving ACT WorkKeys performance for 50 low-SES Black male inmate-student-participants at TyRCI. Additionally, the data collected in this study indicated ACT Adaptive KeyTrain post-test performance had a positive correlation to ACT WorkKeys performance for 50 low-SES Black male inmate-student-participants at TyRCI. Therefore, the ACT KeyTrain program was determined to be effective in predicting ACT WorkKeys performance for 50 low-SES Black male inmate-student-participants at TyRCI.

The first null hypothesis was that there would be no difference between the Adaptive KeyTrain pretest scores and the Adaptive KeyTrain posttest scores for low-SES Black male inmate-student-participants at TyRCI after completing the KeyTrain program. The data collected and analyzed in this study provided insufficient evidence to reject the first null hypothesis.

The second null hypothesis was that there would be no relationship between the Adaptive KeyTrain posttest scores and the official WorkKeys scores for low-SES Black male inmate-student-participants of TyRCI. The data collected and analyzed in this study provided sufficient evidence to reject the second null hypothesis. Therefore, the alternative hypothesis was accepted. The alternative hypothesis was "There will be a positive correlation between the Adaptive KeyTrain posttest scores and the official ACT WorkKeys scores for low-SES Black male inmate-student-participants of TyRCI."

The data collected during this research provides and speaks to new possibilities for this institution. Specifically, ACT KeyTrain seems to be an adequate predictor of low

SES Black male inmate-student-participant performance on ACT WorkKeys. The ACT Adaptive KeyTrain Pretests may serve as a means of identifying other inmates in TyRCI that are ready for ACT WorkKeys. This improved method of identification could lead to the education staff serving the inmate population with ACT WorkKeys opportunities with more efficiency.

CHAPTER 5

SUMMARY AND DISCUSSION

Introduction

The purpose of Chapter Five is to summarize and discuss the findings and the action plan that results from the present study that describes the value of the Nation Career Readiness Certificate (NCRC) that has been established in South Carolina, and the process for obtaining the NCRC. Data were collected from 50 low-SES Black male inmate-student-participants. The goal of the present action research was to improve and predict the ACT WorkKeys scores for these low-SES Black male inmate-student-participants at Tyger River Correctional Institution where data collection took place in 2016. The identified problem of practice for this dissertation in practice was to determine the effectiveness of the ACT KeyTrain program for 50 low-SES Black male inmate-student-participants in improving and predicting performance on the ACT WorkKeys examination.

The chapter begins with a summary of the context for this action research as well as a summary of the findings. The chapter continues by presenting the action plan that resulted from the data reflection meetings and the findings in relation to the action research process as it relates to the identified problem of practice, research question and purpose for the study. The chapter concludes with a discussion of future research that may extend the findings of this research.

Research question. The primary research question guiding this particular action research study emerged from reflection on the aforementioned issues of the marginalization of low SES Black males. The research question was "How effective is the ACT KeyTrain program at predicting and improving ACT WorkKeys performance for 50 low socioeconomic-status Black male inmate-student-participants in South Carolina?"

Key questions. During the course of this action research study, a few key questions emerged. Some of the questions that arose were as follows:

- Would the use of ACT KeyTrain help identify viable ACT WorkKeys candidates in an effort to serve more inmates?
- Would completing the entire ACT KeyTrain curriculum lead to more a greater change in performance?
- What is the right amount of time that should be allotted to inmate-student-participants for program completion?
- Would PUSD be willing to provide funding to set up a computer laboratory and provide a full-time instructor for the use to ACT KeyTrain in an effort to serve a larger percentage of the inmate population?

Research recap. The primary research question guiding this particular action research study emerged from reflection on the aforementioned issues. The research question was "How effective is the ACT KeyTrain program at predicting and improving ACT WorkKeys performance for 50 low socioeconomic-status Black male inmate-student-participants in South Carolina?"

Participants. The inmate-student-participants were 50 low SES Black males enrolled in educational services at TyRCI. Participation in educational services at TyRCI and responses to the RPDS was the method used to identify inmate-student-participants. The teacher-participant is Jane McHale, the Title 1 Teacher at TyRCI. I am the principal and researcher-participant at TyRCI.

Research setting. The setting for this action research was TyRCI in Enoree, SC. TyRCI is one of 24 correctional institutions in the SCDC. TyRCI houses approximately 1,250 male inmates. Approximately 61% of the inmate population in the SCDC identify themselves as Black (South Carolina Department of Corrections, 2016a)

Data collection strategy. Data were collected via the RPDS concerning inmate-student-participants' racial identity, high school lunch status prior to incarceration, education status, work status prior to incarceration, annual taxable income prior to incarceration, parent racial identity, parent work status, parent annual taxable income, and parent education status (see Appendix B – Research Participation Demographics Survey). The teacher-participant recorded data concerning inmate-student-participant work ethic via observations as noted on the Work Ethic Survey (see Appendix D – Work Ethic Survey). The researcher-participant maintained a quantitative data collection sheet for each inmate-student-participant (see Appendix C – Data Collection Work Sheet) for pre-test and post-test data for the ACT KeyTrain Program. The data collection sheet also provided a space to record ACT WorkKeys scores. A paired *t* test was used to determine any growth in performance between the two tests. A correlation test was used to determine the relationship between the ACT KeyTrain post-test and ACT WorkKeys scores. Quality Study Time (QST) was recorded on the data collection worksheet as

well. QST was derived for this study to quantify and measure inmate-student-participant work ethic. QST was calculated by multiplying the grade percent earned on a level times the score the inmate-student-participant earned on the posttest times hours spent in study for that level times the number of hours spent on the posttest.

Focus of the Study

ACT KeyTrain is a web-based curriculum developed to help all students perform better on WorkKeys. The focus of this action research study was to determine the effectiveness of ACT KeyTrain in improving and predicting ACT WorkKeys performance for 50 low-SES Black male inmate-student-participants at TyRCI. To determine improved performance, participants' performance growth between the pretest and the posttest was measured after applying the treatment of the ACT KeyTrain curriculum. To determine ability to predict performance, a correlation coefficient was calculated between the participants' ACT KeyTrain Posttest and the ACT WorkKeys assessment.

Overview/Summary of the Study

Action Researcher. As the action researcher and a researcher-participant, I had an action role as the curriculum leader in this study. Inside the research setting, I serve as the principal of the school. A responsibility of serving in this position is the decision making process about the curriculum that was to be taught in the classrooms, specifically the use of ACT KeyTrain for ACT WorkKeys preparation. I monitored inmate-student-participant progress and maintained the data collection worksheets. I was the only participant involved in the data analysis process. I organized and facilitated the reflection meetings with the inmate-student-participants and the teacher-participant. I served as an

"outsider" in relation to data collection on a daily basis. In this part of the study, I logged into my ACT KeyTrain account to collect data without directly interacting with the inmate-student-participants. However, I was an "insider" in that I directed data collection.

There were some associated challenges working as an action researcher in conjunction with my position and responsibilities as the school principal. An obstacle I faced was a preconceived bias in that I assumed there would be significant growth across all three subtests for the entire inmate-student-participant population. I was reluctant to admit that inmate-student-participant work ethic had a significant impact on the findings. The environment I conducted the research in was another obstacle that I faced. Security issues often dictate whether students were able to get to class and/or the computer laboratory. Safety is the primary concern in a prison environment. The diligence of all involved parties helped overcome this obstacle. A final obstacle was juggling the responsibilities as the school principal and the researcher-participant. Ensuring that each action was in the best interest of the inmate-student-participant, the school, and the action research was of vital importance.

Effectiveness in improving performance. One of the major points of this study was to determine how effective ACT KeyTrain was in improving performance for 50 low-SES Black male inmate-student-participants at TyRCI on ACT WorkKeys. The data collected in this study indicated that the ACT KeyTrain program was not effective in improving ACT WorkKeys performance for 50 low-SES Black male inmate-student-participants at TyRCI. In fact, there was a slight decrease in inmate-student-participant performance between the pretest and posttest in ACT KeyTrain in Reading for

Information, Applied Mathematics, and the Total Battery. However, there was a slight increase in inmate-student-participant performance between the pretest and the posttest in ACT KeyTrain in Locating Information. However, the evidence collected proved to be insufficient to reject the null hypothesis.

Inmate-student-participant work ethic was accounted for in this study using a derived statistic, QST. When taking into account QST, the data revealed a greater increase in performance. However, except for Reading for Information and Locating Information, these results were not statistically significant, although they did move closer to statistical significance when compared to the entire data set.

Effectiveness in predicting performance. Another major point of this study was to determine how effective ACT KeyTrain was in predicting performance for 50 low-SES Black male inmate-student-participants at TyRCI on ACT WorkKeys. The data collected in this study indicated ACT Adaptive KeyTrain posttest performance had a positive correlation to ACT WorkKeys performance for 50 low-SES Black male inmate-student-participants at TyRCI. Therefore, the ACT KeyTrain program was determined to be effective in predicting ACT WorkKeys performance for 50 low-SES Black male inmate-student-participants at TyRCI. In Reading for Information, a moderate positive correlation was found between the ACT Adaptive KeyTrain posttest and the ACT WorkKeys test. For this subtest, there was sufficient evidence to reject the null hypothesis. In Locating Information, there was a weak positive correlation between the ACT Adaptive KeyTrain posttest and the ACT WorkKeys test. However, for this subtest, there was insufficient evidence to reject the null hypothesis. In Applied Mathematics, there was a moderate positive correlation between the ACT Adaptive KeyTrain posttest

and the ACT WorkKeys test. For this subtest, there was sufficient evidence to reject the null hypothesis. In the total battery, there was a weak positive correlation between the ACT Adaptive KeyTrain posttest and the ACT WorkKeys test. There was sufficient evidence to reject the null hypothesis and to accept the alternative hypothesis.

Action Plan: Implications of the Findings

Attitude survey. When research participants completed the ACT WorkKeys assessment, they were administered an attitude survey (see Appendix E – Attitude Survey). Question 1 collected participants' opinions regarding the helpfulness of the Reading for Information section of the ACT KeyTrain curriculum. Approximately 65% of participants reported ACT KeyTrain Reading for Information was helpful; approximately 6% reported it was not. Figure 5.1 shows the distribution of inmate-student-participant responses to Question 1 (see Table 5.1 and Figure 5.1).

Question 2 asked participants if they felt they had put forth satisfactory effort to be successful using the Reading for Information section of the ACT KeyTrain curriculum. Approximately 85% of participants reported they had put satisfactory effort toward success in ACT KeyTrain Reading for Information; approximately 2% reported they did not. Figure 5.2 shows the distribution of inmate-student-participant responses to Question 2 (see Table 5.1 and Figure 5.2).

Question 3 collected participants' opinions regarding the helpfulness of the Locating Information section of the ACT KeyTrain curriculum. Approximately 75% of participants reported ACT KeyTrain Locating Information was helpful; approximately 6% reported it was not. Figure 5.3 shows the distribution of inmate-student-participant responses to Question 3 (see Table 5.1 and Figure 5.3).

Table 5.1 Participant Attitude Survey Responses

Research#	Question 1	Question 2	Question 3	Question 4	Question 5	Question 6	Question 7
282308	5	5	4	5	4	4	5
282540	4	3	4	3	4	3	4
282894	2	4	4	4	2	3	4
277442	4	4	4	4	4	4	5
272900	4	4	5	5	5	5	5
282708	5	5	5	5	3	4	5
283410	3	3	3	3	5	5	4
246308	4	4	4	4	4	4	4
248874	4	4	4	4	4	4	4
251607	4	4	2	4	3	4	4
283367	4	4	4	4	4	4	4
248050	3	4	4	4	4	4	5
280844	5	5	5	5	5	5	5
279899	4	3	4	3	4	3	4
283427	4	4	4	4	4	4	4
282626	5	5	5	5	5	5	5
283716	5	5	4	4	3	4	5
283667	3	5	4	5	5	5	2

Table 5.1 Continued

Research#	Question 1	Question 2	Question 3	Question 4	Question 5	Question 6	Question 7
283583	5	5	5	5	5	5	5
233039	5	5	5	5	5	5	5
258762	5	5	5	5	5	5	5
274288	4	4	4	4	4	4	4
282392	1	3	5	4	5	4	5
283117	3	4	3	3	4	4	4
272738	2	4	4	4	3	3	4
222611	3	4	2	4	3	4	2
283044	4	4	5	5	5	5	4
284511	3	5	4	5	3	4	5
278141	5	4	4	4	5	5	5
270641	4	4	3	4	3	4	4
261032	5	3	4	3	3	4	4
277544	3	3	3	3	3	3	3
284265	4	4	4	4	4	4	4
238563	3	1	3	2	1	2	1
282330	4	4	3	4	4	4	4
283280	3	4	2	3	4	5	4
225330	4	5	4	5	4	5	5

Table 5.1 Continued

Research#	Question 1	Question 2	Question 3	Question 4	Question 5	Question 6	Question 7
284324	4	4	4	4	4	4	4
283909	3	5	3	5	3	5	4
269674	3	4	4	5	3	4	5
210253	3	3	4	4	4	4	3
283839	3	4	5	5	5	5	4
284321	4	4	3	4	4	5	5
284351	4	5	5	5	3	5	4
284091	5	5	5	5	5	5	5
271366	3	4	3	4	3	4	4
283324	3	5	3	5	4	5	5
250698	4	4	4	4	4	4	4
279589	3	4	4	4	4	3	4
273331	4	5	4	4	3	4	5

Notes. In this survey, 1 denotes a response of Strongly Disagree, 2 denotes a response of Somewhat Disagree, 3 denotes a response of Somewhat Agree, 4 denotes a response of Agree, and 5 denotes a response of Strongly Agree.

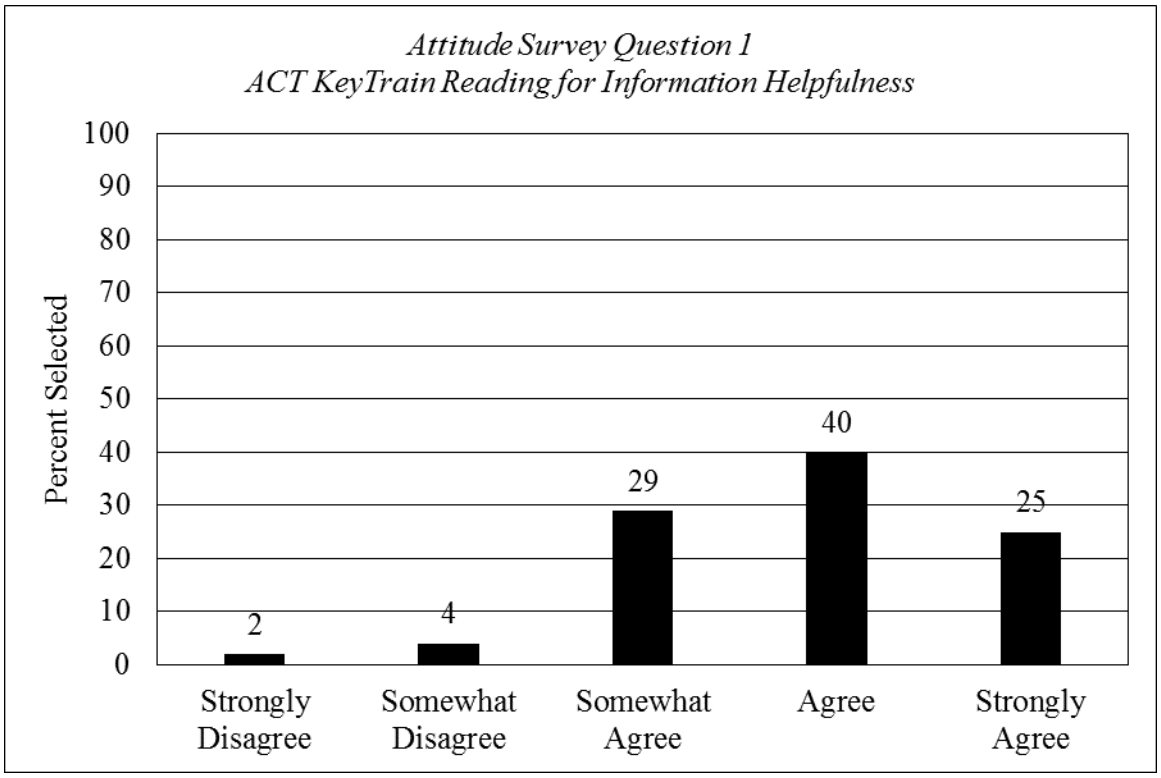

Figure 5.1. Attitude Survey Question 1 regarding ACT KeyTrain Reading for Information helpfulness.

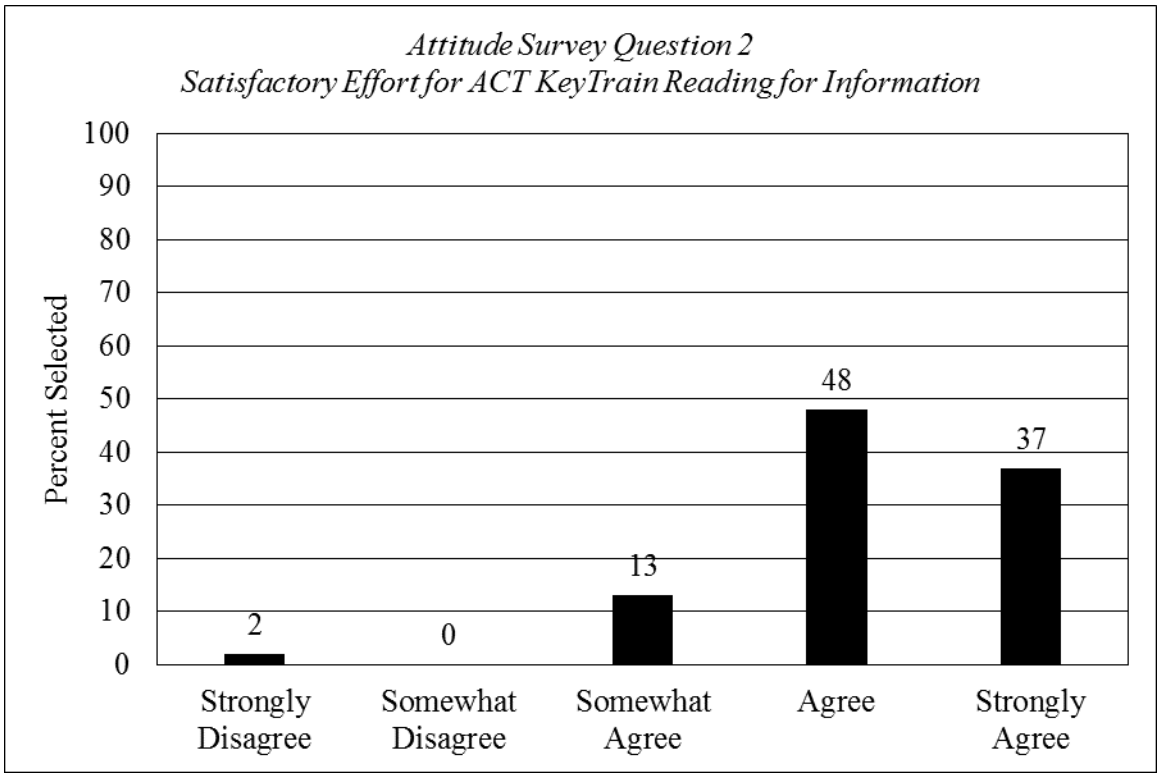

Figure 5.2. Attitude Survey Question 2 regarding effort in ACT KeyTrain Reading for Information.

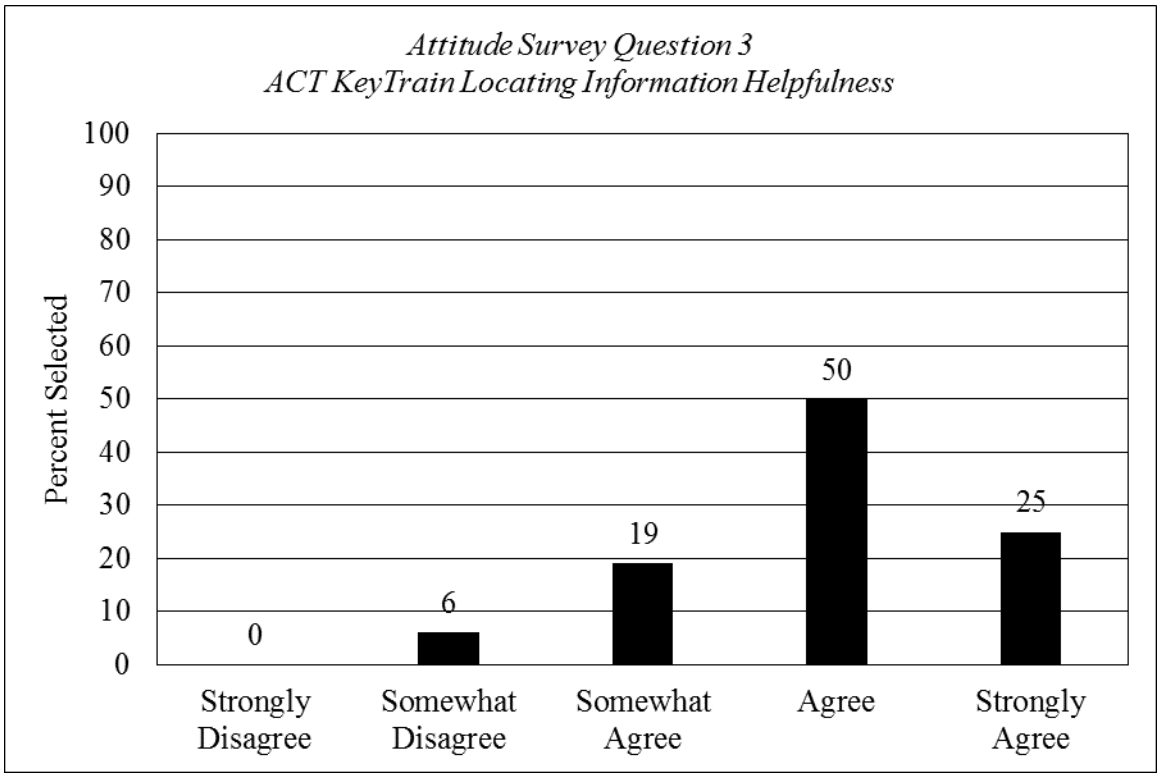

Figure 5.3. Attitude Survey Question 3 regarding ACT KeyTrain Locating Information helpfulness.

Question 4 asked participants if they felt they had put forth satisfactory effort to be successful using the Locating Information section of the ACT KeyTrain curriculum. Approximately 84% of participants reported they had put satisfactory effort toward success in ACT KeyTrain Locating Information; approximately 2% reported they did not. Figure 5.4 shows the distribution of inmate-student-participant responses to Question 4 (see Table 5.1 and Figure 5.4).

Question 5 collected participants' opinions regarding the helpfulness of the Applied Mathematics section of the ACT KeyTrain curriculum. Approximately 69% of participants reported ACT KeyTrain Applied Mathematics was helpful; approximately 4% reported it was not. Figure 5.5 shows the distribution of inmate-student-participant responses to Question 5 (see Table 5.1 and Figure 5.5).

Question 6 asked participants if they felt they had put forth satisfactory effort to be successful using the Applied Mathematics section of the ACT KeyTrain curriculum. Approximately 88% of participants reported they had put satisfactory effort toward success in ACT KeyTrain Applied Mathematics; approximately 2% reported they did not. Figure 5.6 shows the distribution of inmate-student-participant responses to Question 6 (see Table 5.1 and Figure 5.6).

Question 7 asked participants if they felt the ACT KeyTrain curriculum was beneficial to their success on the ACT WorkKeys exam. Approximately 90% of participants reported ACT KeyTrain Applied Mathematics was helpful; approximately 6% reported it was not. Figure 5.7 shows the distribution of inmate-student-participant responses to Question 7 (see Table 5.1 and Figure 5.7).

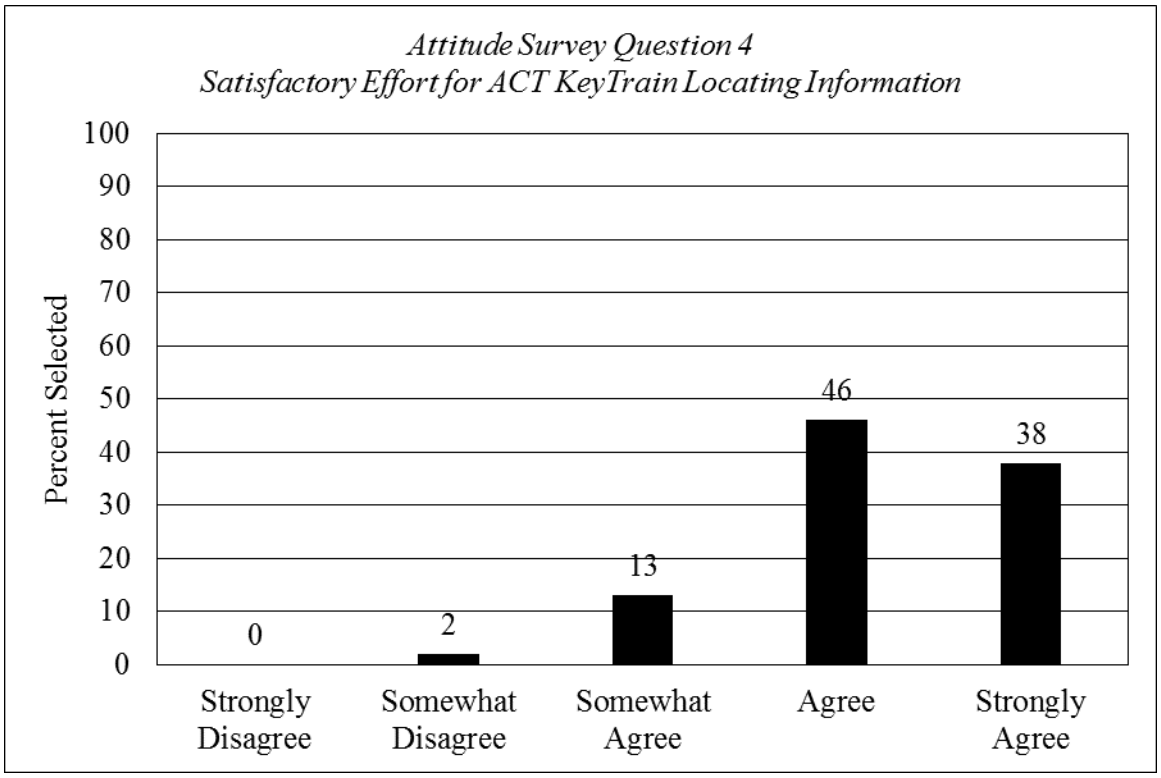

Figure 5.4. Attitude Survey Question 4 regarding effort in ACT KeyTrain Locating Information.

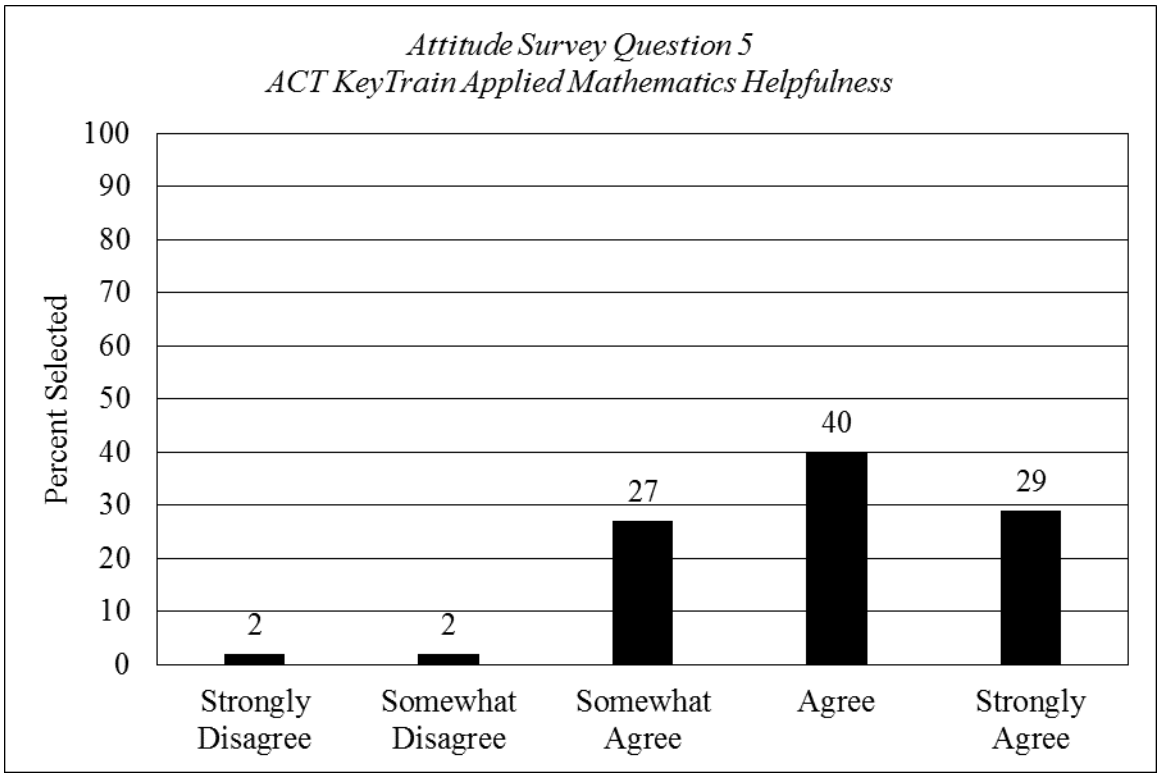

Figure 5.5. Attitude Survey Question 5 regarding ACT KeyTrain Applied Mathematics helpfulness.

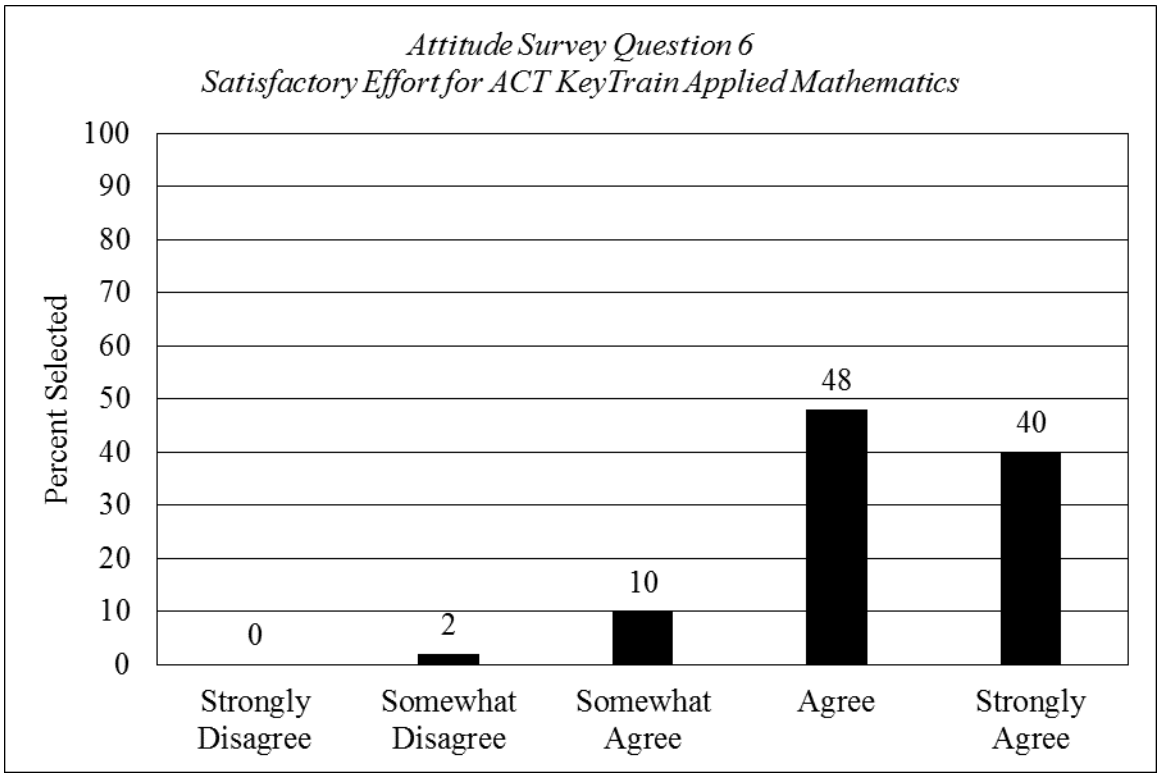

Figure 5.6. Attitude Survey Question 6 regarding effort in ACT KeyTrain Applied Mathematics.

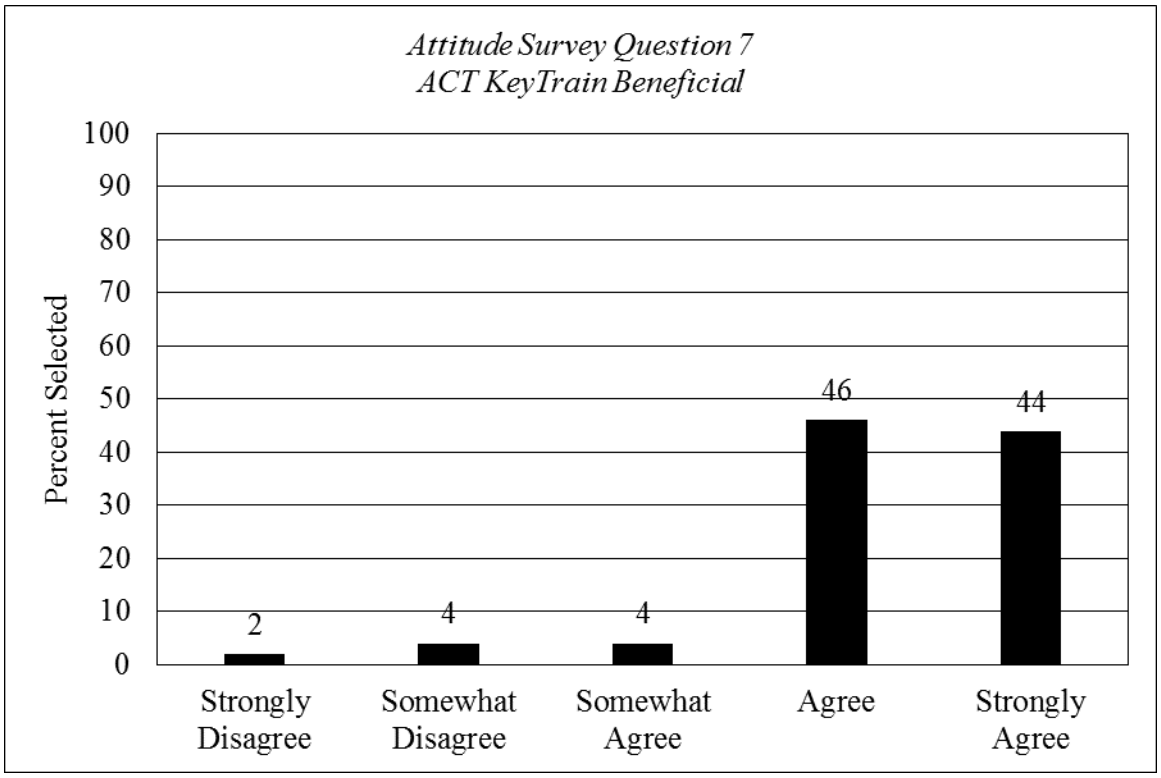

Figure 5.7. Attitude Survey Question 7 ACT KeyTrain Beneficial.

Reflection meeting with the research participants. Of the 50 low-SES Black male inmate-student-participants who participated in this study, 43 of the research participants were still present at Tyger River Correctional Institution after the study was completed. The 43 remaining research participants were invited to attend the data reflection meeting. Of the 43 research participants who were invited, 32 research participants attended the meeting. In the data reflection meeting, the data from the study were presented to the inmate-student-participants through a digital presentation. The data were also provided on a printed handout. The data were discussed and explained to participants to ensure understanding. The inmate-student-participants were then asked a series of questions about the ACT KeyTrain program. After the questions and discussion period, the participants were asked to complete a satisfaction survey (see Appendix F – Inmate Satisfaction Survey) prior to being dismissed.

During the discussion in the data reflection meeting, the research participants provided valuable feedback. When asked if they felt the ACT KeyTrain program adequately prepared them for ACT WorkKeys, the responses from the inmate-student-participants indicated that the program succeeded in preparing them. One participant responded, "Yes it helped. I was rusty with my skills." Another participant said, "The program provides lots of detail." Another participant said, "The program breaks down the concepts, teaches, and tells why things are right and/or wrong."

When asked if they felt they received adequate time with the program, two participants indicated they needed more time. Specifically, one participant said, "We needed more time, specifically with Locating Information." When asked if they learned

anything new from the program, two participants indicated they had learned new skills. One participant said, "The program even helped with the GED."

The data from the Inmate Satisfaction Survey (see Appendix F – Inmate Satisfaction Survey) were collected and compiled for the 32 inmate-student-participants who responded. When asked if they felt the ACT KeyTrain program adequately prepared them for the ACT WorkKeys, 90.6% of inmate-student-participants indicated they agreed ACT KeyTrain did adequately prepare them for ACT WorkKeys; 9.4% disagreed. When asked if they felt they had received adequate time to use ACT KeyTrain, 90.6% of inmate-student-participants indicated they agreed they had received adequate time to prepare with ACT KeyTrain; 9.4% disagreed. When asked if they felt they had learned new academic skills from their use of ACT KeyTrain, 90.6% of inmate-student-participants agreed they had learned new skills; 9.4% disagreed. When asked if they felt they had learned new academic skills from their use of ACT KeyTrain, 90.6% of inmate-student-participants agreed they had learned new skills; 9.4% disagreed. When asked if they felt inmate-students should continue to use ACT KeyTrain to prepare for ACT WorkKeys, 100% of inmate-student-participants agreed the use of ACT KeyTrain should continue. When asked if they felt the use of ACT KeyTrain should be expanded to allow inmate-students time to complete the entire program, 90.6% of inmate-student-participants agreed use should be expanded; 9.4% disagreed. Some other feedback gleaned from the surveys was presented in the form of written responses. One participant said, "The program helps you with your weak points." Another participant said, "It shows you what you got wrong and gives you the correct answer." Another participant said, "I could have used more time on each level."

Reflection meeting with the teacher-participant. After the data reflection meeting with the research participants, a meeting was held with the teacher-participant. The teacher-participant indicated that based on the data and observations, she agreed the ACT KeyTrain program adequately prepared inmate-student-participants for the ACT WorkKeys. The teacher-participant indicated that she strongly agreed that inmate-student-participants were allowed adequate time to use ACT KeyTrain in preparation for ACT WorkKeys. The teacher-participant agreed that the time invested by the inmate-student-participants in ACT KeyTrain was beneficial. The teacher-participant agreed that inmate-students should continue to use ACT KeyTrain to prepare for ACT WorkKeys. Finally, the teacher-participant somewhat agreed that ACT KeyTrain use should be expanded so inmate-students could complete the entire program.

Action plan. Based on the feedback provided from the research participants and the teacher-participant, the researcher-participant recommended action plan was to continue to use the ACT KeyTrain program to prepare inmate-students for ACT WorkKeys. The use of the program should be expanded to all inmate-students within Tyger River Correctional Institution. The ACT Adaptive KeyTrain Pretest should be administered to inmate-students. Inmate-students should be provided with adequate time to work all the way through the program from the point they start. The data collected from future use will continue to be monitored and analyzed by the researcher-participant (the school principal in this case). The researcher-participant will collect data throughout the remainder of the 2017 school year and report to PUSD supervisors.

Despite the results of survey administered during the reflection meeting, the data indicates that the product does not seem to resonate with all inmate-student-participants.

The data indicated there was some disconnect between the inmate-student-participant's work ethic and the value/importance of ACT WorkKeys. This disconnect was evidenced by the large number of students that did not demonstrate high levels of work ethic and/or QST. As a part of the action plan, the researcher-participant will make an effort to bridge this gap. The researcher-participant will inform students of the value of the NCRC at an orientation prior to beginning their study in ACT KeyTrain. This orientation will include employment data as it relates to incarceration, a history of ACT WorkKeys, how ACT WorkKeys and the subsequent NCRC relate to employment, and the potential benefits of ACT KeyTrain if adequately utilized. The researcher-participant will closely monitor QST and the improvement in performance to ensure there is an improvement in work ethic and intrinsic motivation. By improving work ethic and intrinsic motivation, the program will be more effective in improving ACT WorkKeys performance for all inmate-students.

Further, teachers should use additional resources in the classroom outside of the computer laboratory to enhance inmate-student learning in preparation for ACT WorkKeys. Some inmate-student-participants were more comfortable working in a paper-and-pencil format because they were incarcerated before computers became widely available. Thus, some inmate-student-participants were uncomfortable working on the computer platform.

Facilitating educational change. After completion of this study, in an effort to provide educational services to more inmates within the SCDC, PUSD has decided to use the program in all 24 institutions in the agency to identify which inmates would be good candidates for ACT WorkKeys. Inmates who do not wish to enroll in adult education but

would like to obtain a NCRC will be allowed to take the ACT Adaptive KeyTrain pretest for each of the three subtests. In the event inmates score at least a 3 on each subtest, they will be deemed good candidates and will be allowed to take the ACT WorkKeys. These inmates will also be afforded computer laboratory time to improve their skills if they wish. In the event inmates score below a 3 on any of the three subtests, they will be provided time to improve their skills. After they have worked through the program, they will be allowed to take the ACT Adaptive KeyTrain pretest again. Then, if inmates score above 3 on all subtests, they will be allowed to take ACT WorkKeys. If inmates continue to score less than a 3, they will be classified as bad candidates for ACT WorkKeys and will not be allowed to take the exam. School leaders at each of the 24 institutions will manage this data.

Suggestions for Future Research

Several recommendations for future research can be made. The first suggestion involves studying the impact of greater implementation of ACT KeyTrain within TyRCI. When participants agreed to participate in this action research study, they began the ACT KeyTrain program by completing the ACT KeyTrain Pretest for each subtest. After completing the subtest, participants were asked to complete only the level assigned to them. For example, if participants scored a 3 on the ACT KeyTrain Pretest, they were asked to complete only Level 3 of the curriculum before taking the ACT KeyTrain Posttest. A wider implementation of the program would require inmate-students to complete the entire curriculum from the point at which their specific pretest placed them. Thus, participants who scored a 3 would have to complete levels 3 through 6 prior to taking the posttest.

Another suggestion for future research is to follow up with inmate-student-participants that earned a NCRC through ACT WorkKeys while incarcerated. The focus of this research should be to determine if obtaining the NCRC has impacted inmate-student-participants' return to society and to gain insight as to inmate-student-participant perception of the NCRC usefulness. This impact could be measured by the usefulness of the NCRC in finding gainful employment through a survey measuring inmate-student-participant perception. Improving ones chances of career opportunities is a cited benefit of the NCRC. This research would prove to be quite difficult. The reason for this challenge is SCDC policy that prohibits contact between agency employees and former inmates. However, an attempt could be made to obtain special permission.

Another suggestion for future research is to study the impact of more widespread implementation of ACT KeyTrain in other SCDC institutions. This action research project was implemented only with inmate-student-participants from Tyger River Correctional Institution. However, there are 23 other prisons in the SCDC that offer educational programming. Perhaps other institutions would have results that are significant for their specific location and could contribute to agency decision-making processes.

Another suggestion for future research on predicting ACT WorkKeys performance is the predictive ability of TABE for WorkKeys performance. TABE is another academic measure that inmate-students with in TyRCI and other correctional facilities commonly use. If TABE proved to be a good predictor of success, it could then be used to signal when inmate-students should begin preparing for ACT WorkKeys.

A final suggestion for future research is to cross cultural barriers to check for bias. In this action research project, only low-SES Black male inmate-students participated. In future research, the use of ACT KeyTrain could be expanded to include other demographic groups. There exists the possibility that ACT KeyTrain is culturally biased to favor Whites. In addition, female inmate-students should be provided an opportunity to participate in future research.

Conclusion

The data collected in this study indicated that the ACT KeyTrain program was not effective in improving ACT WorkKeys performance for 50 low-SES Black male inmate-student-participants at TyRCI. There was a slight decrease in inmate-student-participant performance between the pretest and posttest in ACT KeyTrain for Reading for Information, Applied Mathematics, and the Total Battery. However, there was a slight increase in inmate-student-participant performance between the pretest and the posttest in ACT KeyTrain in Locating Information. Additionally, the data collected in this study indicated ACT Adaptive KeyTrain posttest performance had a positive correlation to ACT WorkKeys performance for 50 low-SES Black male inmate-student-participants at TyRCI. Therefore, the ACT KeyTrain program was determined to be effective in predicting ACT WorkKeys performance for 50 low-SES Black male inmate-student-participants at TyRCI. In Reading for Information, there was a moderate positive correlation between the ACT Adaptive KeyTrain posttest and the ACT WorkKeys test. In Locating Information, there was a weak positive correlation between the ACT Adaptive KeyTrain posttest and the ACT WorkKeys test. However, for this subtest there was insufficient evidence to reject the null hypothesis. In Applied Mathematics, there

was a moderate positive correlation between the ACT Adaptive KeyTrain posttest and the ACT WorkKeys test. For this subtest, there was sufficient evidence to reject the null hypothesis. In the Total Battery, there was a weak positive correlation between the ACT Adaptive KeyTrain posttest and the ACT WorkKeys test. There was sufficient evidence to reject the null hypothesis and to accept the alternative hypothesis.

The research-participants indicated the ACT KeyTrain program was generally beneficial to their preparation for the examination. Based on the results of the data and the reflections of the research participants, the recommendation is for ACT KeyTrain to continue to be used for ACT WorkKeys preparation. In the future, inmate-students will be provided more time to work through the program. However, preparation should not be solely limited to ACT KeyTrain because the results indicated there was no significant improvement in performance. The data indicated ACT KeyTrain was effective in predicting performance and teachers could use it at TyRCI to determine which inmate-students are ready for the assessment.

Serving a population that has experienced many forms of oppression lead to the formation of some empathy. Black males have experience oppression from the beginning of history in the United States. Furthermore, people have experience oppression that come from impoverished conditions. Due to oppression based on race, many Black males are also impoverished. Society has force Black males into legal matters and the justice system as a means of survival and to provide for their families resulting from these oppressive conditions. Once incarcerated, society heaps an additional layer of oppression and marginalization upon them. By providing inmate-students with skills and educational opportunities, SCDC and PUSD are making an effort to rehabilitate low SES

Black male inmates and make their skills more marketable for jobs once they return to society.

References

ACT. (2014). The Adaptive KeyTrain Pretest. Retrieved from http://www.keytrain.com/keytrain.asp

ACT. (2016). National career readiness certificate. Retrieved from https://www.act.org/content/act/en/products-and-services/workforce-solutions/act-national-career-readiness-certificate.html

Adams, M. (2013). Introduction. In M. Adams, W. Blumenfeld, C. Castaneda, H. Hackman, M. Peters, & X. Zuniga (Eds.), *Readings for diversity and social justice* (3rd ed., pp. xxvi-xxxii). New York, NY: Routledge.

Adler, M. (1982). *The Paideia proposal: An educational manifesto*. New York, NY: MacMillan.

Adler, M. (2013). The Paideia proposal. In D. Flinders & S. Thornton (Eds.), *The curriculum studies reader* (4th ed., pp. 183–186). New York, NY: Routledge. (Original work published 1982).

American Psychological Association. (2015). Socioeconomic status. Retrieved from http://www.apa.org/topics/socioeconomic-status/

Arnett, P. (1998, Winter). Liberty check printers prepares for the future. *Work Keys USA, 5*(1), 1–25. Retrieved from http://files.eric.ed.gov/fulltext/ED418222.pdf

Berrebi, D. (2011, April 1). Poverty and crime: Breaking a vicious cycle of discrimination. Retrieved from http://www.poverties.org/poverty-and-crime.html

Bolin, B. (2011). The career readiness certificate: The foundation for stackable credentials. *Techniques: Connecting Education and Careers, 86*(8), 26–28.

Borden, C., Richardson, P., & Meyer, S. (2012). Establishing successful postsecondary academic programs: a practical guide. *Journal of Correctional Education, 63*(2), 6–26.

Brinkley-Etzkorn, K. & Ishitani, T. (2016). Computer-based GED testing: Implications for students, programs, and practitioners. *Journal of Research & Practice for Adult Literacy, Secondary & Basic Education, 5*(1), 28-48.

Brown, B. (2008). From cellblocks to classrooms: Reforming inmate education to improve public safety. Retrieved from http://www.lao.ca.gov/2008/crim/inmate_education/inmate_education_021208.aspx.

Brown, M., & Rios, S. (2014). Can a workplace credentialing program improve inmate literacy? *Journal of Correctional Education, 65*(2), 59–83.

Cantrell, D. (2013). Correctional education as democratic citizenship education. *Journal of Correctional Education, 64*(1), 2–12.

Cubberley, E. (2015). *Public education in the United States: A study and interpretation of American educational history* (classic reprint ed.). London, SW: FB&c Ltd. (Original work published in 1919).

Curti, M. (1966). *The social ideas of American educators* (3rd ed.). Totowa, NJ: Littlefield, Adams & Co. (Original work published in 1935).

Data Recognition Corporation. (2015). TABE testing. Retrieved from http://www.ctb.com/ctb.com/control/productFamilyViewAction?productFamilyId=608&p=products

Davis, L., Bozick, R., Steele, J., Saunders, J., & Miles, J. (2013, August 22). Education and vocational training in prisons reduces recidivism, improves job outlook. Retrieved from http://www.rand.org/news/press/2013/08/22.html

Dolan, K., & Carr, J. (2015). The poor get prison: The alarming spread of the criminalization of poverty. Retrieved from http://www.ips-dc.org/wp-content/uploads/2015/03/IPS-The-Poor-Get-Prison-Final.pdf

Freire, P. (2000). *Pedagogy of the oppressed* (30th anniversary edition). New York, NY: Continuum.

Freire, P. (2013). Pedagogy of the oppressed. In D. Flinders & S. Thornton (Eds.), *The curriculum studies reader* (4th ed., pp. 157–166). New York, NY: Routledge. (Original work published 1968).

Gadzikowski, A. (2016). Everyday differentiation: How administrators support differentiation of curriculum and instruction in early childhood classrooms. *Exchange (19640406),* (227), 12-16.

Gallo, R., & Amos, C. (2013). The impact of post-secondary correctional education programs: Is it worth it? *Journal of Criminal Justice and Law Review, 3*(1/2), 13–21.

Ginat, D. (2009). Interleaved pattern composition and scaffolded learning. *ACM SIGCSE Bulletin, 41*(3), 109-109. doi:10.1145/1595496.1562915

Gorski, P. (2013). *Reaching and teaching students in poverty: Strategies for erasing the opportunity gap*. New York, NY: Teachers College Press.

Hater, J. (1992, August 14). Work Keys: Integrating Work Keys in the business environment. Paper presented at the Annual Convention of the American Psychological Association, Washington, DC. Retrieved from http://files.eric.ed.gov/fulltext/ED355380.pdf

Huebner, T. (2010). Differentiated instruction. *Educational Leadership, 67*(5), 79-81.

Hunt, T. (2002). *Impossible dream: Education & the search for panaceas*. New York, NY: Peter Lang USA.

Jancic, M. (1998). Does correctional education have an effect on recidivism? *Journal of Correctional Education, 49*(4), 152–161.

Johnson, A. (2013). The Social Construction of Difference. In M. Adams, W. Blumenfeld, C. Castaneda, H. Hackman, M. Peters, & X. Zuniga (Eds.), *Readings for diversity and social justice* (3rd ed., pp. 15-21). New York, NY: Routledge.

Klein, S., & Tolbert, M. (2007). Correctional education: Getting the data we need. *Journal of Correctional Education, 58*(3), 284–292.

Lichtenberger, E., & Ogle, J. (2006). The collection of post-release outcome data for the evaluation of correctional education programs. *Journal of Correctional Education, 57*(3), 230–238.

Mann, H. (1952). *Twelfth annual report: Covering the year 1848* (facsimile ed.). Boston, MA: Dutton and Wentworth. (Original work published in 1848).

Mertler, Craig A. (2014). *Action research: Improving schools and empowering educators* [Kindle version] (4th ed.). Thousand Oaks, CA: SAGE Publications.

Nally, J., Lockwood, S., Knutson, K., & Ho, T. (2012). An evaluation of the effect of correctional education programs on post-release recidivism and employment: an empirical study in Indiana. *Journal of Correctional Education, 63*(1), 69–89.

National Institute of Justice. (2014, June 17). Recidivism. Retrieved from http://www.nij.gov/topics/corrections/recidivism/Pages/welcome.aspx

Noddings, N. (2013a). *Caring: A relational approach to ethics & moral education* (2nd ed.). Berkeley, CA: University of California Press.

Noddings, N. (2013b). The false promise of the Paideia: A critical review of *The Paideia Proposal*. In D. Flinders & S. Thornton (Eds.), *The curriculum studies reader* (4th ed., pp. 187–194). New York, NY: Routledge.

Pitts, J., Griffin, O., & Johnson, W. (2014). Contemporary prison overcrowding: Short-term fixes to a perpetual problem. *Contemporary Justice Review, 17*(1), 124–139. http://dx.doi.org/10.1080/10282580.2014.883844

Rayfield, J., Croom, B., Stair, K., & Murray, K. (2011). Differentiating instruction in high school agricultural education courses: A baseline study. *Career and Technical Education Research, 36*(3), 171–185. doi:10.5328/cter36.3.171

Reagan, R. (2014). Division of education. In *2014 South Carolina Department of Corrections Agency Orientation Training Manual* (pp. 2600–2609). Columbia, SC: South Carolina Department of Corrections.

Reimer, J. (1996, January 26). *A review and critique of the Work Keys system*. Paper presented at the Annual Meeting of the Southwest Educational Research Association, New Orleans, LA. Retrieved from http://files.eric.ed.gov/fulltext/ED397091.pdf

Sage, R. (2014). Education in a capitalist society. *Education Today, 64*(3), 3–10.

Schramm-Pate, S., Lussier, R., & Jeffries, R. (2008). Introduction: Imagine no fences, no borders, no boundaries. In S. Schramm-Pate & R. Jeffries (Eds.), *Grappling with diversity* (1st ed., pp. 1-14). Albany, NY: State University of New York Press.

Schultz, D., & Stern, S. (2013). College and career ready? Perceptions of high school students related to WorkKeys assessments. *Career and Technical Education Research, 38*(2), 157–169. doi:10.5328/cter38.2.157

Siyepu, S. (2013). The zone of proximal development in the learning of mathematics. *South African Journal of Education, 33*(2), 1–13. doi:10.15700/saje.v33n2a714

Smith, E. J., & Harper, S. R. (2015). *Disproportionate impact of K-12 school suspension and expulsion on Black students in southern states.* Philadelphia, PA: University of Pennsylvania, Center for the Study of Race and Equity in Education.

South Carolina Department of Corrections. (2015a). *Frequently asked questions (FAQS).* Retrieved from http://www.doc.sc.gov/pubweb/faqs.jsp

South Carolina Department of Corrections. (2015b). Home page. Retrieved from http://www.doc.sc.gov/pubweb/

South Carolina Department of Corrections. (2016a). *Profile of inmates in institutional count.* Retrieved from http://www.doc.sc.gov/pubweb/research /InmatePopulationStats/ASOF_InstitutionalCountProfile_FY16.pdf

South Carolina Department of Corrections. (2016b). *Sentence length distribution of total inmate population*. Retrieved from http://www.doc.sc.gov/pubweb/research /InmatePopulationStatsTrend/ASOFTrendSentenceLengthDistributionFY12-16.pdf

South Carolina Department of Corrections, Palmetto Unified School District 1. (2015). Overview of the palmetto unified school district division of education. Retrieved from http://www.doc.sc.gov/pubweb/edu/pusd.jsp#overview

South Carolina Department of Education. (2016, December 2). ACT WorkKeys. Retrieved December 30, 2016, from http://ed.sc.gov/tests/high/act-workkeys/

Spring, J. (2014). *The American school, a global context: From the Puritans to the Obama administration* (9th ed.). New York, NY: McGraw-Hill Education.

Steurer, S., Linton, J., Nally, J., & Lockwood, S. (2010). The top-nine reasons to increase correctional education programs. *Corrections Today*, *70*(4), 40–43.

Tatum, B. (2013). Who Am I? In M. Adams, W. Blumenfeld, C. Castaneda, H. Hackman, M. Peters, & X. Zuniga (Eds.), *Readings for diversity and social justice* (3rd ed., pp. 6-9). New York, NY: Routledge.

Tomlinson, C. (2001). *How to differentiate instruction in mixed-ability classrooms*. Alexandria, VA: Association for Supervision and Curriculum Development.

Tomlinson, C., Brimijoin, K., & Narvaez, L. (2008). *The differentiated school: Making revolutionary changes in teaching and learning*. Alexandria, VA: Association for Supervision and Curriculum Development.

Tomlinson, C., & Moon, T. (2013). Assessment and differentiation: A framework for understanding. In *Assessment and student success in a differentiated classroom* (pp. 17–26). Alexandria, VA: Association for Supervision and Curriculum Development.

United States Department of Labor, Bureau of Labor Statistics. (2014, March 24). *Earnings and unemployment rates by educational attainment*. Retrieved from http://www.bls.gov/emp/ep_chart_001.htm

Vogel, M., & Porter, L. (2016). Toward a demographic understanding of incarceration disparities: race, ethnicity, and age structure. *Journal of Quantitative Criminology*,*32*(4), 515-530. doi:10.1007/s10940-015-9265-6

Vygotsky, L. (1978). Interaction between learning and development. In M. Cole, V. John-Steiner, S. Scribner, & E. Souberman (Eds.), *Mind in society: The development of higher psychological processes* (pp. 79–91). Cambridge, MA: Harvard University Press.

Vygotsky, L., & Kozulin, A. (2011). The dynamics of the schoolchild's mental development in relation to teaching and learning. *Journal of Cognitive Education and Psychology, 10*(2), 198–211.

Wass, R. & Golding, C. (2014). Sharpening a tool for teaching: The zone of proximal development. *Teaching in Higher Education, 19*(6), 671-684. doi: 10.1080/13562517.2014.901958

Weber, L. (2010). *Understanding race, class, gender, and sexuality.* (2nd ed.). New York, NY: Oxford University Press, Inc.

Weigend, M. (2014). The digital woodlouse – Scaffolding in science-related scratch projects. *Informatics in Education, 13*(2), 293–305. Retrieved from http://eric.ed.gov/?id=EJ1064355

Zimmer, T. (2012, November/December). *Assessment of the ACT WorkKeys Job Skills Test*. Retrieved from http://www.incontext.indiana.edu/2012/nov-dec/article3.asp

Zinth, J. (2013, February 1). Career/technical education: Not your father's vocational education. *The Progress of Education Reform*, *14*(1), 1–7. Retrieved from http://files.eric.ed.gov/fulltext/ED542108.pdf

Appendix A – Informed Consent Form

Dear _____:
(Please print your name here)

My name is Matthew Thompson, a graduate student and doctoral candidate in the Education Department at the University of South Carolina. I am working toward an Educational Doctorate in Curriculum and Instruction. Completing the following research is one of the requirements to matriculating through the doctoral program. The purpose of this form/letter is to formally invite you to participate in a research study aimed at improving ACT WorkKeys Performance.

The purpose of this research is to evaluate the effectiveness of the ACT KeyTrain program. Palmetto Unified School District has purchased site licenses for ACT KeyTrain. The program is designed to help improve inmate skills and subsequently inmate scores on ACT WorkKeys. By using the practice assessments in the ACT KeyTrain program, one may be able to more accurately predict inmate readiness and how well an inmate will score on WorkKeys.

You have been identified as an inmate-student ready for the ACT WorkKeys curriculum based on your most recent TABE results. If you agree to participate in this study, you will spend time in the Title I computer laboratory working on the ACT KeyTrain program to prepare you for the ACT WorkKeys. You will take a pretest in each of the three ACT WorkKeys subtests (Reading for Information, Locating Information, and Applied Mathematics). The pretest will use the results to create a course of study for you to improve your skills. After completing the prescribed course, you will take a posttest on the program to document your growth. At that time, you will be allowed to take the ACT WorkKeys. During the course of the study, data will be collected and documented to track your growth towards ACT WorkKeys success. The data collected will be ACT KeyTrain pretest scores, ACT KeyTrain posttest scores, time spent in ACT KeyTrain, and ACT WorkKeys scores. Inmate-student that elect to participate in the study will be involved for approximately one month. This is the expected time of completion from initial identification to the date you complete the ACT WorkKeys battery of tests.

A potential risk of participation would be the identification of personal test score data. However, steps will be taken to protect the identity of all participants involved. Confidentiality of all research participants will be paramount. Inmate-students will be identifiable by a six-digit number assigned to them by the researcher and only known by the researcher.

Inmate-students that elect to participate in this study will be afforded an opportunity to receive more intensive ACT WorkKeys study on the ACT KeyTrain in preparation for

the actual ACT WorkKeys assessments. However, participation is voluntary and there will be no punitive action for not participating.

The results and data recorded as a result of this study will be confidential. They will be stored in a locked cabinet in the office of the researcher. The identity of the research subjects will remain confidential at all times. The results of the research will be included in a dissertation and potentially disseminated to interested parties. However, no identifying information will be included.

As a research participant, any questions about your participation in this study should be directed to Matthew Thompson, school leader and researcher. Additionally, research participants may contact the University of South Carolina's Office of Research Compliance at (803)-777-7095.

Participation in this research is completely voluntary. There will be no punitive action taken against those that do not participate. By checking the appropriate line and signing below, you are acknowledging you do or do not wish to participate in this study. If you do elect to participate in this study and later would like to change your mind, you may withdraw from the study by submitting a written statement including your name, the date, and your SCDC number. Your cooperation in this matter will be greatly appreciated.

Sincerely,

Matthew Thompson
Doctoral Candidate
University of South Carolina

_____ I do not wish to participate in the aforementioned study.

_____ I do wish to participate in the aforementioned study.

_____
Inmate-Student-Participant Printed Name

_____
Inmate-Student-Participant SCDC #

_____
Inmate-Student-Participant Signature

_____
Date

Appendix B – Research Participation Demographics Survey

SCDC#:_____ Date: _____

Research Participation Demographics Survey

1. Please select your appropriate age range:
   _____ 16-21
   _____ 22-27
   _____ 28-33
   _____ 34-39
   _____ 40-45
   _____ 46+

2. Please select the racial/ethnic category with which you identify:
   _____ American Indian/Alaska Native
   _____ Asian
   _____ Black/African American
   _____ Native Hawaiian/Pacific Islander
   _____ White
   _____ Hispanic/Latino
   _____ Multiracial

3. What is your highest level of education obtained/completed:
   _____ 7th Grade
   _____ 8th Grade
   _____ 9th Grade
   _____ 10th Grade
   _____ 11th Grade
   _____ 12th Grade
   _____ High School Graduate
   _____ GED
   _____ Associate Degree
   _____ Bachelor Degree
   _____ Master Degree
   _____ Doctoral Degree

4. What was your lunch status during the majority of your time in elementary and secondary education?
   _____ Free Lunch
   _____ Reduced Price Lunch
   _____ Full Price Lunch

5. Immediately prior to incarceration, your work status was:
   _____ Not employed, not looking for work
   _____ Not employed, looking for work
   _____ Employed, but looking for other work
   _____ Employed, not looking for other work

6. Immediately prior to incarceration, your occupation was:_____.

7. Immediately prior to incarceration, your annual ***taxable*** income was:
   _____ under $5,000
   _____ $5,001-$15,000
   _____ $15,001-$25,000
   _____ $25,001-$35,000
   _____ $35,001-$45,000
   _____ $45,000+

8. Please select the racial/ethnic category with which your mother identifies:
   _____ American Indian/Alaska Native
   _____ Asian
   _____ Black/African American
   _____ Native Hawaiian/Pacific Islander
   _____ White
   _____ Hispanic/Latino
   _____ Multiracial

9. What is your highest level of education obtained/completed by your mother:
   _____ 7th Grade
   _____ 8th Grade
   _____ 9th Grade
   _____ 10th Grade
   _____ 11th Grade
   _____ 12th Grade
   _____ High School Graduate
   _____ GED
   _____ Associate Degree
   _____ Bachelor Degree
   _____ Master Degree
   _____ Doctoral Degree
   _____ Unknown

10. Immediately prior to your incarceration, your mother's work status was:
    _____ Not employed, not looking for work
    _____ Not employed, looking for work
    _____ Employed, but looking for other work
    _____ Employed, not looking for other work

11. Immediately prior to your incarceration, your mother's occupation was:
    _____.

12. Immediately prior to your incarceration, your mother's annual ***taxable*** income was:
    _____ under $5,000
    _____ $5,001-$15,000
    _____ $15,001-$25,000
    _____ $25,001-$35,000
    _____ $35,001-$45,000
    _____ $45,000+

13. Please select the racial/ethnic category with which your father identifies:
    _____ American Indian/Alaska Native
    _____ Asian
    _____ Black/African American
    _____ Native Hawaiian/Pacific Islander
    _____ White
    _____ Hispanic/Latino
    _____ Multiracial

14. What is your highest level of education obtained/completed by your father:
    _____ 7th Grade
    _____ 8th Grade
    _____ 9th Grade
    _____ 10th Grade
    _____ 11th Grade
    _____ 12th Grade
    _____ High School Graduate
    _____ GED
    _____ Associate Degree
    _____ Bachelor Degree
    _____ Master Degree
    _____ Doctoral Degree
    _____ Unknown

15. Immediately prior to your incarceration, your father's work status was:
    _____ Not employed, not looking for work
    _____ Not employed, looking for work
    _____ Employed, but looking for other work
    _____ Employed, not looking for other work

16. Immediately prior to your incarceration, your father's occupation was:
    _____.

17. Immediately prior to your incarceration, your father's annual ***taxable*** income was:
    _____ under $5,000
    _____ $5,001-$15,000
    _____ $15,001-$25,000
    _____ $25,001-$35,000
    _____ $35,001-$45,000
    _____ $45,000

Appendix C – Data Collection Work Sheet

Name: _____ SCDC#: _____

Data Collection Work Sheet

ACT KeyTrain Reading for Information Results					
Lesson	**Status**	**Date of Completion**	**Time in Study**	**Score**	**Quality Study Time (QST)**
Pretest					
Level 1					
Level 2					
Level 3					
Level 4					
Level 5					
Level 6					
Level 7					
Posttest					

ACT KeyTrain Locating Information Results					
Lesson	**Status**	**Date of Completion**	**Time in Study**	**Score**	**Quality Study Time (QST)**
Pretest					
Level 1					
Level 2					
Level 3					
Level 4					
Level 5					
Level 6					
Level 7					
Posttest					

ACT KeyTrain Applied Mathematics Results					
Lesson	**Status**	**Date of Completion**	**Time in Study**	**Score**	**Quality Study Time (QST)**
Pretest					
Level 1					
Level 2					
Level 3					
Level 4					
Level 5					
Level 6					
Level 7					
Posttest					

ACT WorkKeys Result				
Subtest	**Reading for Information**	**Locating Information**	**Applied Mathematics**	**Total Battery**
Test Date				
Scale Score				
Level Score				
Attainment				

Appendix D – Work Ethic Survey

Name: _____ **SCDC#: _____**

Work Ethic Survey

Questions 1-4 are to be completed by the teacher-participant at the conclusion of the ACT WorkKeys assessment. Please make only one selection for each question/item by circling the corresponding number.

1. The inmate-student participant was actively engaged in the ACT KeyTrain lessons as prescribed.

Strongly Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree
1	2	3	4	5

2. The inmate-student participant put forth satisfactory effort in their study/use of the ACT KeyTrain program.

Strongly Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree
1	2	3	4	5

3. The inmate-student participant had no difficulty navigating the ACT KeyTrain program.

Strongly Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree
1	2	3	4	5

4. The inmate-student participant showed growth in their ACT WorkKeys skills as a result of the ACT KeyTrain program.

Strongly Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree
1	2	3	4	5

Appendix E – Attitude Survey

Name: _____ **SCDC#: _____**

Attitude Survey

Questions 1-7 are to be completed by the inmate-student-participant at the conclusion of the ACT WorkKeys assessment. Please make only one selection for each question/item by circling the corresponding number.

1. The ACT KeyTrain lessons for the subtest Reading for Information were helpful.

Strongly Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree
1	2	3	4	5

2. As an inmate-student-participant, I gave satisfactory effort to be successful in the ACT KeyTrain lessons for the subtest Reading for Information.

Strongly Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree
1	2	3	4	5

3. The ACT KeyTrain lessons for the subtest Locating Information were helpful.

Strongly Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree
1	2	3	4	5

4. As an inmate-student-participant, I gave satisfactory effort to be successful in the ACT KeyTrain lessons for the subtest Locating Information.

Strongly Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree
1	2	3	4	5

5. The ACT KeyTrain lessons for the subtest Applied Mathematics were helpful.

Strongly Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree
1	2	3	4	5

6. As an inmate-student-participant, I gave satisfactory effort to be successful in the ACT KeyTrain lessons for the subtest Applied Mathematics.

Strongly Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree
1	2	3	4	5

7. Overall, the ACT KeyTrain lessons was beneficial to my success on ACT WorkKeys.

Strongly Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree
1	2	3	4	5

Appendix F – Inmate Satisfaction Survey

Name & SCDC#: (optional) _____

Inmate Satisfaction Survey

The following questions are to be completed by research participants at the conclusion of the reflection and action plan meeting. Please make only one selection for each question/item by circling the corresponding number.

1. The ACT KeyTrain program adequately prepared me for the ACT WorkKeys examination.

Strongly Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree
1	2	3	4	5

Additional Comments: _____
_____

2. Adequate time was allowed to prepare for ACT WorkKeys using ACT KeyTrain.

Strongly Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree
1	2	3	4	5

Additional Comments: _____
_____

3. I learned new academic skills as a result of my use of ACT KeyTrain.

Strongly Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree
1	2	3	4	5

Additional Comments: _____
_____

4. Inmate-students should continue to prepare for ACT WorkKeys using ACT KeyTrain.

Strongly Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree
1	2	3	4	5

Additional Comments: _____
_____

5. The use of ACT KeyTrain to prepare inmate-students for ACT WorkKeys should be expanded so inmate-students complete the entire program.

Strongly Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree
1	2	3	4	5

Additional Comments: _____
_____

Appendix G – Teacher Satisfaction Survey

Teacher Satisfaction Survey

The following questions are to be completed by the Title I Instructor at the conclusion of the reflection and action plan meeting. Please make only one selection for each question/item by circling the corresponding number.

1. The ACT KeyTrain program adequately prepared inmates for the ACT WorkKeys examination.

Strongly Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree
1	2	3	4	5

Additional Comments: _____
_____

2. Adequate time was allowed to prepare inmates ACT WorkKeys using ACT KeyTrain.

Strongly Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree
1	2	3	4	5

Additional Comments: _____
_____

3. The time invested by the inmate-student-participants in the ACT KeyTrain program was beneficial.

Strongly Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree
1	2	3	4	5

Additional Comments: _____
_____

4. Inmate-students should continue to prepare for ACT WorkKeys using ACT KeyTrain.

Strongly Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree
1	2	3	4	5

5. Additional Comments: _____
_____

6. The use of ACT KeyTrain to prepare inmate-students for ACT WorkKeys should be expanded so inmate-students complete the entire program.

Strongly Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree
1	2	3	4	5

Additional Comments: _____
_____