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Understanding the Impact of an ACT Intervention Course Through the Perspectives of Previous Students

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UNDERSTANDING THE IMPACT OF AN ACT INTERVENTION COURSE THROUGH THE PERSPECTIVES OF PREVIOUS STUDENTS

BY

APRIL CLEMENT

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UNDERSTANDING THE IMPACT OF AN ACT INTERVENTION COURSE THROUGH THE

PERSPECTIVES OF STUDENTS

BY

APRIL CLEMENT

Submitted to the Faculty of the Graduate School of
Eastern Kentucky University
in partial fulfillment of the requirements for the degree of
Doctorate in Educational Leadership & Policy Studies

2021
DEDICATION

I would like to dedicate this study to my family. Growing up in a small coal-mining town, it was often hard to picture life after my own high school graduation. However, my parents and grandmother always pushed me to follow my dreams. I am thankful for their encouragement and guidance that has taken me on this journey. I also want to recognize the sacrifices of my children, who watched me work tirelessly in our home office and our family vacations. They were always there to lend me their support with their sweet hugs and words of hope. Finally, I want to thank my husband for enduring this quest with me. His sense of humor always provides a good laugh when one is needed most. Most importantly, I want to thank God who provided me with the opportunity to help more students and work towards continuing my own education at the same time. God is there all the time.
ACKNOWLEDGEMENTS

During the course of this dissertation, I have had the privilege to have a group of mentors who have supported me during the process. I am incredibly grateful to my chair, Dr. Ann Burns. During the writing of this dissertation, my previous chair retired. However, Dr. Burns was willing to move from a committee member to my chair. I will always be grateful that she was accommodating and very helpful in this study. I would also like to thank Dr. Jamie-Marie Miller who joined my committee when Dr. Burns was moved as my committee chair. Dr. Miller was happy to help with the research approach and offered supportive suggestions during the study. Finally, I also would like to thank Dr. Raymond Lauk and Dr. James Davis who also served as my committee members and provided me with advice for my study.

I also want to thank the former students who agreed to be part of the study. Thank you for meeting with me and discussing the impact of this course. I really appreciate that you each took the time to give me the opportunity to interview you to help me understand what this class meant to you.

A thank you also goes to so many family members who supported me along this journey. I cannot imagine going through this process without them. First, I want to thank my parents for being there for me in the very beginning. As a college Freshman, I watched my parents fight back tears as they moved me into my dorm, they knew that their role in parenting at that moment had changed and my role as their child had evolved. I called my mom countless times and made her listen to endless English papers to seek her approval for the assignments. She never once
complained about listening to them all and when I asked for feedback, she always provided it. Thank you, mom! My dad has always believed in me and told me repeatedly that I could do anything that I put my mind to. He does not know this, but his statement was a reminder that I relied on so many sleepless nights. Thank you, Dad.

She is no longer with us, but my life would not be the same without my mamaw. She was my best friend, my first and last phone call. She listened to many tears, many worries, and many exciting moments in my life and never hesitated to pick up the phone to hear them all. Her college visits kept me from becoming anxious and allowed me to see the bright spot in everything. Her memory will always live on.

I also want to thank my sidekicks, my younger sisters, Crystal and Rose. They have been my support from the moment they were born. I am thankful for their love and strength throughout my life and this dissertation. Our phone calls and group texts give me the chance to vent, to rejoice, or simply just discuss the new “it” show. I am thankful for them every day!

I never knew what true love could mean until I had my own kids. It’s a different love when you are a parent. We have three boys and one girl. All our babies are NICU graduates and with that comes an overwhelming sense of gratitude and the urge to thank God for them every day. I am so thankful that they are here with us. Talan, my oldest, made me a mommy. He is now 15. Our relationship has also evolved, I now find myself getting the chance to talk with him about real world issues and so much more. It has been a pleasure to get into this new season of parenting him. Tanner is
12. I am so thankful for the wittiness and humbleness that he brings to the world. He reminds me that a hug can solve so many things. Next, I want to thank my little girl, Ava. She is so sweet and always wants to help in any way she can. I am so blessed to have a little girl like her as my daughter. Finally, I want to recognize my little man, Andrew. He battled his way through the NICU and keeps soaring through life. His ability to never give up, serves as a reminder to me, that when life gives you lemons, make lemonade.

It is a joy in life when you find a good teammate. Someone who pushes you to do all the things that you never thought you would do. I want to thank my husband, Eddie for being so different from me. It is because he is different that I have traveled to so many places, had so many adventures, and tried some amazing food. He is also someone who does not just stand by and watch me instead he joins in the fight. I am thankful that he is also working towards his dissertation with me, because it helps me to have him to lean on.
ABSTRACT

College admission exams have long been the determining factor in students' college acceptance as well as being used as a predictor of success in college. States across America also used college admission exams as a way to measure a school's success in multiple dimensions. This study examined the effect of placing participants in an ACT intervention course that provides them with instruction and material to help them in areas they were struggling in on the ACT. This study focused on an ACT test that participants took before taking the intervention course and a test after taking the course. Along with ACT scores, the participants were interviewed and asked a series of questions to help understand their perspective of the class. The results suggested that strategies with timing helped (a) participants; (b) teacher instruction and encouragement and (c) the repetition of practice of both full exams and questions in areas where the participants need additional support.
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I. Introduction

This qualitative study focused on the outcome of students who took an ACT school district. ACT is a standardized test that measures five core areas of the student’s skills which include: reading; math; English; science; and writing, and is used as a qualifier for higher education admittance (ACT, 2021). The research took three years to gather data and analyze test scores in order to understand how an ACT intervention course can improve student ACT scores. The sophomore students were placed in an intervention advisory course to help improve skills in reading, English, and math. All three academic areas play a dominant role in the ACT. College reading requires students to comprehend and make inferences in passages that the students have never seen. English primarily focuses on grammar. Math focuses on various algebra and geometry concepts (ACT, 2021). The ACT is a college admissions test that most colleges require before admitting students as undergraduates. Colleges also require students to meet benchmark scores on the specific sections of the test, or students invariably have to take remedial classes. This was an additional reason why it is imperative to help students be successful on this test.

The ACT test scores from the students who were in an intervention course disclosed that most of the students improved their ACT scores after participating in the intervention course. This data allowed me to understand the statistical impact collected from students who took the intervention course; however, it was important to understand the impact this course made on the students--from their own perspective. The population of students in this study were former seniors in high
school who had taken the ACT intervention course as sophomores. The benefit of interviewing these senior students for this study was to help educators understand the impact of an intervention course on students’ ACT scores—from their own perspective.

The former student participants in this dissertation study were encouraged to reflect on their ACT intervention course experience by answering open-ended questions. For example, the students were asked questions such as, “Reflecting on your ACT intervention course in your sophomore year, describe your experience and how you believe it impacted your subsequent ACT scores?” This data could help other high school educators to teach or improve upon an ACT intervention course in order to improve student ACT test scores. Asking these students, a series of open-ended questions encouraged them to provide rich details of their experiences, ultimately enabling educators to improve the design of their own ACT advisory class. For example, the students might have explained how particular strategies were more helpful than others, or whether it was just motivation from the teacher that helped them. These reflections and descriptions will provide schools a better opportunity to prepare their students for higher education, as well as attain scholarship funds that would otherwise prevent some underserved students the opportunity to obtain an advanced education.

Although the participants interviewed for this study took the course as former sophomores in high school, the former students’ strengths and weaknesses were analyzed in reading, English, and math. All prior student data were considered, which included MAP scores, and common assessments from their English II, Algebra II,
Geometry class. After analyzing the data, the students received skills and test preparation strategies four times a week for thirty minutes from a classroom teacher. The former students had an opportunity to take a mock ACT (practice ACT) twice before sitting for the ACT. The first mock ACT took place in the month of October. After this practice test, the test scores were analyzed again and if needed, the students were moved to a new intervention area, such as math or reading interventions. The next practice ACT took place in January. Once again, as needed, the students were moved to new areas of concern to prepare them for the ACT given to students in March. All sophomore teachers were given intervention lesson packets for each student to follow. Inside the packet, students also tracked their own results from each practice test to make them aware of their personal areas of growth. The packets were tailored according to the specific class that the students were enrolled in and focused on that area of growth.

The Development of this Study

Prior to hearing from students who were concerned with their ACT performance, no thoughts on becoming an administrator or completing my doctorate degree crossed my mind. However, a struggling student who asked for assistance with her ACT English score led me to the creation of the ACT intervention course. Kiara (pseudonym) was a junior, who wanted to enroll in English 101 and 102 the following school year. However, her ACT score in English was currently a 13. She was not college ready. She could not meet the English benchmark. Realizing that the majority of students within the high school needed assistance in their ACT test taking abilities,
the advisory classes were transformed into an ACT intervention course, helping students to improve their ACT scores. Over the winter break of that school year, all sophomore and junior advisory classes were changed to ACT intervention classes. In order to design the intervention courses to best suit each student, previous test scores and class grades were reviewed and analyzed.

According to The Princeton Review (2021), the reported that the highest score a student can achieve on the ACT is a 36. A score of 36 equates to answering every test question correctly except for one. Most colleges require students to achieve a score of at least 18 in English, 20 in reading, and 22 in the math portion of the test (Princeton Review, 2021). In March of the school year when Kiara approached me, and after completing the advisory class, Kiara earned the required score of 18 that she needed to enroll in the English 101 and 102 class for her senior year. This was the pivotal moment that made one realize how much of a difference this intervention class could make in the lives of many students. Kiara continued to receive support for other areas of the ACT and was moved to different intervention courses based on her needs. Upon graduating high school, Kiara had not only been accepted to college, but was entering higher education without the burden of being required to enroll in remedial courses. Kiara also earned over $60,000 in college scholarships. Teachers providing these interventions were not only changing their students' lives, but the lives of their families for generations to follow. Designing and implementing the ACT improvement plan demonstrated the academic growth possibilities that could help students like Kiara reach their full potential.
Background

Becoming enrolled in a school principal program and receiving the permission of the current school principal gave me the opportunity to put this ACT intervention program into place on a school-wide level. The doctoral program provided the opportunity to further understand what specifically made the difference when students took our ACT intervention class, and thus understand more about how the participating students improved throughout the course. This dissertation study, including the data and subsequent analysis, helps educators understand how intervention classes can improve student ACT scores. In order to retrieve the statistical data from practice ACT tests and real ACT exams about the intervention class in my high school, one group of students was followed for three years and interviewed after high graduation to share their experience about the effects of this study.

According to the high school’s website where students completed the ACT intervention course during their sophomore year, there were a total of 1,511 students enrolled. The demographics in this school comprised a racial makeup of 47% White, 30% Black, 14% Hispanic, 4% Asian. There were also 43% of students who qualified for free/reduced meals. In addition, we had a 6% population of English language learners, while a total of 9% of the students in this school received special education services. The participants in this study included 10-12 students from diverse backgrounds who were currently high school seniors.

Theoretical Framework
Throughout this study, there were two major theories that guided this research: Behavior Learning Theory and Gagne’s Theory of Instruction. These two theories served an approach towards my qualitative study. First, the Behavior Learning Theory teaching method discerned that around “exercises to provide the consistent repetition necessary for effective reinforcement of response pattern” (Behaviorism). Behaviorism also relies on positive reinforcements such as praise and encouragement (Behaviorism).

McLeod (2018) deemed that “a simple way to shape behavior was to provide feedback on learner performance...A variable-ratio produces the highest response rate for students learning a new task.” The feedback for students provided them with motivation from the teacher to continue to learn and be motivated to understand the material. “If a teacher wants to encourage students to answer questions in class they should praise them for every attempt (regardless of whether their answer was correct, or not)” (McLeod, 2018). This praise framed an accepting relationship between the student and teacher to encourage the student to attempt every question.

Participants in this study discussed the importance of the teacher’s encouragement. The participants explained that when teachers were involved, showed interest in their work, and showing encouragement for them to perform well, the students would typically encompass a more thorough understanding of the material taught. Conversely, less material was absorbed when participants felt that their teacher provided minimal encouragement.
Gagne’s Nine Events of Instruction identified and explained the conditions of learning. The nine events were: gain attention, inform learners of objectives, stimulate recall of prior learning, present the content, provide learning guidance, elicit performance (practice), provide feedback, assess performance, and enhance retention and transfer the job (Gagne’s). Among each of these nine events, one found criteria to help one understand their meaning.

The first event, to gain attention, requires the instructor to grab the attention of the students while they were presenting the material. There were various ways that instructors were able to do this such as multiple modes of information delivery such as using YouTube videos, social media, and surveys, etc. This strategy helped to make the learning process relevant to the student, and the student was more likely to retain the information (Gagne’s).

Second, informing learners of the objectives going to be taught was a way to ensure instructors were explaining to students what they were about to learn and do. The learning objectives should be presented at the beginning of the class (Gagne’s). This was especially important for the ACT intervention course because it gave students an opportunity to understand how the ACT course connected to their other classes. When students understood the material, they were receiving within their course, it enhanced their learning in other courses and they were more likely to be motivated to actively participate in the class.

Third, was stimulate recall of prior learning Per Gagne, this motivated students to rely on previous skills and build on them (Gagne’s). In the ACT intervention course,
instructors had the chance to rely on prior skill knowledge to help students grow in other areas. This was part of the daily format within the ACT intervention course schedule. After students completed practice questions, the instructors would review material and recall prior knowledge to help provide students with a better understanding of the content.

Fourth, present the content, the instructor will explain the content to the students. The instructor may do this through direct instruction, online platform, or a hybrid model (Gagne’s). When interviewing the participants, the majority preferred the teacher using a direct instruction model. Most students did not feel like they retained the information using an online system.

Fifth, provide learning guidance, instructors were expected to provide detailed expectations and instructions with the material (Gagne’s). During the ACT intervention course, instructors provided students with expectations for the content and the test itself. Students were also given test taking strategies to help improve their score on the test.

Sixth, elicit performance (practice), teachers were supposed to “allow students to apply knowledge and skill learned” (Gagne’s). The instructors were able to scaffold the assessment with smaller activities throughout the course. This gave students the chance to practice and receive feedback to check for their understanding.

Seventh, to provide feedback, teachers were asked to give individualized feedback on assignments with explanations (Gagne’s). During the ACT intervention course, the instructors all had smaller class sizes, which gave them an opportunity to
provide detailed feedback to students. It was important for them to give students immediate feedback during formative assessments to ensure that students understood the material before taking the ACT exam.

Eighth, to assess performance, teachers needed to “help students identify content areas they have not mastered” (Gagne’s). During the ACT intervention course, formatives and practice ACT exams were given to students throughout the class. This gave instructors the opportunity to identify which areas students were not mastering on the exam and what content they needed to re-teach. This support was essential to ensure students were provided with the specific support they needed.

Ninth, to enhance retention and transfer to the job, the ACT intervention course provided was very clear for students to understand its importance for college (Gagne’s). However, there were some students who wanted to attend technical school instead of college. Therefore, the instructors explained to those students how the ACT also plays a role in technical schools. For example, most technical schools require students to still meet benchmarks on the English and math portion of the ACT since most require those basic courses for their technical certifications. In doing this, the ACT intervention was relevant to almost every student and they understood its importance to their life after high school graduation.

Exploring these two major theories, Behavior Learning Theory and Gagne’s Theory of Instruction were necessary frameworks for the ACT intervention course. The need for intentional praise to encourage the former students to actively participate was essential for them to be successful. Along with Behavior Learning Theory, Gagne’s
Theory of Instruction played an important role in how the course was developed and implemented within the school. It was a model to give students the instruction and feedback that allowed them to grow and improve their scores not only on the exam but in their content classes as well.

Problem Statement

Finding research to understand high school student ACT scores and their impact on students also involved understanding how the scores impacted schools as a whole. There were very few resources for this type of information. There were also claims that students' grade point averages do not provide a strong indication of their knowledge. Camara, et al (2003) argued that “there is a strong suspicion that the increase in grade averages were not repeated to a corresponding increase in knowledge and skills possessed by today's students” (p. 2). Grades in high school were becoming more subjective and do not give a full view of the students' understanding of the subject matter. When students were taking the ACT, the results may suggest that courses did not prepare students for the test or for college. Camara, et al (2003) claimed that there were several reasons such as “pressure from students and parents and a reluctance on the part of teachers and professors to give low grades” (p. 2). Allensworth and Clark (2020) also argued that even though high grades were imperative and provide predictors of knowledge for success rates at colleges, “standardized test scores were often seen as more reliable and objective indicators of academic preparation than students' grades because all students were judged on the
same task under the same conditions.” This assists colleges receive a true reflection of the students' understanding of the material.

Looking closely at various accountability sites, I was able to determine which states require the ACT as part of their accountability model. There were 18 states that relied on the ACT to measure student performance in reading, math, and English for college readiness (Glad, 2021). Several peer-reviewed journals discuss the impact of students who do not meet college readiness benchmarks. For instance, Finn, Dunbar, and Welch (2018) explained that there was a relationship between college readiness benchmarks such as the ACT to how students will succeed in college. There was a correlation between an admissions test and students' first year grade point average (p. 168). The authors argued that “providing college readiness information to high school students was one way to address high remediation rates and encourages students to seek additional instruction if needed” (p. 168). There was a need to help students understand and attempt to improve remedial scores. Another peer-reviewed journal discussed the need to ensure that all students were being included and prepared for college.

Monahan et al., (2018) explained that “individuals with disabilities have low enrollment in postsecondary education, with only 60% of the population enrolled versus 67% of their peers without disabilities” (p. 145). This significantly impacted those students and as a result, students with disabilities “hold high rates of unemployment and, on average, earn a dollar less than their peers without disabilities” (p. 145). This impact could be avoided with additional assistance in high school
towards ensuring students were receiving the targeted intervention interventions they need.

It was important to understand more about the impact of offering ACT intervention courses in high schools. College Admission exams were significant to both students and schools. Students were required to take either the ACT or SAT for most college admissions. The exams also impact school districts across the country. The student scores determine the school’s success rates and help state education departments understand which schools will need government guidance. This concern makes it imperative to ensure students were performing well on exams and forces school districts to utilize resources to help students meet college benchmarks. The benchmarks help state education departments know which areas students and/or schools will need additional services. For example, the Kentucky Department of Education (Kentucky, 2019) placed schools in targeted support areas. This was imperative to understand, because this accountability model relied on the ACT test to ensure students were ready for college. Therefore, if the students performed well and received the necessary entrance scores they would be ready for college.

Students who do not meet benchmarks on college admission exams also received consequences in higher education. Incoming college students were required to take remedial courses upon entering college. Honawar (2004), stated “Fifty-percent of students entering each state community college need remedial courses in math.” This rate shows that half of students entering college have not received the necessary preparation and skills. Another study attempted to determine what factors
helped first-time college students. Steward, Hun Lim, and Kim (2015) wanted to understand which elements provided students the most help in being successful in their first year of college. The study examined multiple factors such as gender, race, high school grade point average, and ACT scores. It found that “academic intervention programs such as tutoring programs” contributed to students having a smoother transition from secondary to postsecondary schools (p. 13). The study also suggested that students who had a high ACT score were likely to be successful in their Freshman year of college (p. 16). The study made it imperative for high schools to implement a program to equip students with the skills needed to be prepared for college admissions exams through tutoring and preparation to be successful upon entering college.

Many students were not prepared to leave high school and enter college. Through test preparation through teaching necessary content skills and coaching, students have an opportunity to perform at a higher level on college admission exams, which will help them avoid taking any remedial courses. It was important to study more about teaching proficiency in each subject because high schools should prepare students for college readiness exams through teaching students the skills and strategies to ensure every student can attend college. Harrington and Rogalski (2020) explained that “the importance of increasing college readiness cannot be overstated. Students were required to take traditional development courses and were spending significant amounts of time and money” (p. 3). This left students feeling unprepared for college and with more loan debt. It was
even more problematic for students who have come from low income families who need additional financial support.

**Purpose of this study**

This dissertation discusses the implementation of an intervention course at the high school level that helped students in the areas they needed to improve their ACT score. Within this study, students were interviewed regarding their reflections about the intervention class. Students described what helped improve their understanding of the course content and how the intervention class continued to enable future learning. This study also examined whether it was the skills the students learned from the class, the strategies, or simply the teacher’s encouragement that buoyed their academic growth. The dissemination of the reflections and lessons learned in this study could positively impact other education installations. Additionally, this study could assist other educators and students understand the importance of attending and fully participating in intervention courses. It will also help principals gain insight on the impact of providing these classes for students. Sharing these results will give me a chance to make a difference in the lives of students.

**Overview of the ACT intervention course**

Data analysis determined where students need to be placed using MAP scores, ACT scores, PSAT, and content class scores. The advisory plan will aim to keep students within their specific academies to continue to support the school-wide career initiative.
Each content (intervention) teacher was given a plan to follow with ongoing data to report (last Friday of each month). This data (Gradecam) was sent to the program overseer to determine if a student was able to transition (monthly) to an alternate intervention course or an enrichment course. After reaching benchmarks with ACT and/or MAP assessment, students were given a predetermined incentive and placed in an enrichment course.

Students who did not meet benchmarks with ACT/MAP were required to have intervention classes the following year (Advisory and/or intervention) depending on the significance of the delay. After determining placement - students were either placed in an intervention course (reading, English, math). Students who met benchmarks were placed in an enrichment course.

Curriculum plan:

English:

Day 1: Students were given an ACT packet (4 weeks - the teacher should keep these in the classroom) - they completed the first five questions in passage one.

Day 2: Students completed the next five questions in passage one.

Day 3: Students discussed questions with peers and provided explanations for each.

Day 4: Teacher reviewed questions as a whole group with class on the board.

Day 5: Class content grade discussion work day and/or data test day

This model will follow the students weekly.

Reading:
Day 1: Students were given an ACT packet (4 weeks - the teacher kept these in the classroom) - they read the passage as a whole group to determine the main idea and three supporting details.

Day 2: Students completed all questions for the passage

Day 3: Students discussed answers with peers and provided their explanations within the packet.

Day 4: Teacher reviewed passage as a whole group on the board.

Day 5: Class content grade discussion and/or data test day.

This model will follow the students weekly

Math:

Day 1: Class was given an ACT packet for math (4 weeks - the teacher will keep these in their classroom). They completed the first 5 questions.

Day 2: Students completed next 5 questions

Day 3: Students discussed answers with peers and provide explanations on packet

Day 4: Teacher reviewed questions with students as a whole group on the board.

Day 5: Teacher discussed content grade and/or complete data test

**Research Questions**

What pre-course questions did the former high school students have regarding taking the ACT before they completed an ACT intervention course?

What did high school students have to say about taking the ACT upon finishing an ACT intervention course?
What do high school students have to say about the impact on their ACT scores after taking an ACT intervention course?

How do high school students describe the ACT intervention course experience?

Assumptions

Teachers were engaged in teaching the lessons.

Students were actively involved in the learning process.

The students' scores improved after participating in the course.

Teachers played a role in students' success.

Limitations

Although this study was conducted interviewing a group of former students and having the data from all sophomores, there were still limitations. The most profound limitations of this study included the sampling of former students, the world-wide pandemic, and students being in newly established school. It was difficult to coordinate interviews with students who wanted to participate in the interview process, because they had already graduated from high school. Some student responses were limited because of their natural focus on college. The exclusive sample of participating students and limited elaboration in some of their responses made it difficult to find themes within the interview.

During the implementation and duration of the ACT intervention course, a world-wide pandemic arose. The pandemic closed schools nationwide and students were forced to rely on virtual platforms from mid-March 2020 until early-March the following year. This limitation caused a disruption in students' learning and made it
harder for them to have access to the ACT intervention materials that were provided at school. Although this took place after their sophomore year, students discussed during the interview how they experienced a decrease in scores due to the pandemic, and ultimately not being able to participate in the course for a longer period.

Finally, the sophomores in this study were members of the school’s initial ninth grade class and continued at the school until graduation. The school was newly established due to the city’s increasing population. In addition to implementing the ACT intervention program and analyzing the data, I also taught a full teaching load, a limitation that somewhat diminished the opportunity to ensure students received the necessary support for the ACT intervention class.

**Definition of Terms**

*ACT* - American College Testing. “The purpose of the ACT test is to measure a high school student’s readiness for college, and provide colleges with one common data point that can be used to compare all applicants” (Princeton).

*Benchmarks* - “were based on credit-bearing courses from core subject areas that were most commonly taken by first-year college students” (ACT). Appendix 1

*ESSA* - Every Student Succeeds ACT

*Intervention* - support needed to acquire skills for an academic need (Lee).

*College ready* – students have the skills and knowledge to enter and succeed in a postsecondary learning environment (Camara, 2013). Kentucky defined a college ready student as one who met benchmark scores in reading, math, and English on a college
entrance exam or equivalent measure, (Kentucky Center for Education and Workforce Statistics, 2017).

MAP - “assessments were computer adaptive achievement tests in mathematics and reading” (Academics)

SAT - a college admissions test accepted by most U.S. colleges and international universities (What is the difference).

Summary

This study was comprised of five chapters. This first of which provided readers with the introduction to the study, including arguments. Information was also provided on the background and purpose of the study to help one understand why this research was so important. It was vital to describe the ACT intervention course in a manner which will help one to understand the accompanying curriculum plan. The introduction also reveals the research questions in conjunction with the assumptions and delimitations of the study.
II. Literature Review

Introduction

This review of the literature can help educators understand the nature surrounding ACT test intervention courses. This portion of the dissertation includes key ideas related to preparing students to take the ACT and succeed in preparation for college. Initially, an educational and historical background that highlights the relevance of the ACT test was discussed, combined with its relativity to schools and their students. The next section focuses on current education legislation. This segment of the introduction also explains current testing legislation in various US states, ultimately assisting educators to understand its importance to individual schools and forward-thinking school districts. Additionally, the emphasis on the college readiness benchmarks of the ACT, i.e., entrance requirements, will be discussed highlighting the prerequisites required to reach the crucial admittance scores on each section of their ACT. Finally, readers were given the opportunity to understand the importance of engineering and fine tuning intervention courses in order for students to achieve their highest potential. According to Li and Xiong (2018), test preparation to improve scores involved “activities such as reviewing test content, familiarizing students with test questions, teaching test-taking strategies, and mimicking the test-taking atmosphere” (p. 3). Teaching test taking strategies enabled students to prepare for the ACT test more effectively, ensuring that they were prepared for college.

Historical Background
According to Tondeur et al., (2017) changes in society have forced governments to re-invent the landscape of teaching and learning (p. 282). With each political party, educators will often promote agendas for educational changes and the desire to provide the newest approaches (p. 282). Tondeur et al., also argued that the push to change the “straight rectangular room to a blackboard placed centrally in front of several neat rows of school desks... can be understood to symbolize the authority of the teacher” (p. 283). This educational landscape drew attention to the teacher rather than the engagement of the students.

Approaches to education definitively shifted during the mid-seventies. According to Tondeur et al., “the teaching method became more relaxed, and it was a different way of teaching” (p. 288). The classroom evolved and learning became more engaging. Students were given experiences and activities to promote learning beyond the classroom. For example, teachers moved students to outdoor learning environments, discussing nature, and providing hands-on learning experiences with science labs (p. 288). These methods gave students the opportunity to learn by experiencing the concept themselves.

As the mid-eighties shifted into the 2000s, instructors began to place students in groups, utilizing tables instead of desks in the classroom (Tondear et al., 2017, p. 290). This learning approach encouraged students to work together to formulate responses. In congruence with this movement came the rise in technology. Classrooms shifted from solely “book learning” to students being assigned their own computer to conduct research (p. 291).
Along with pedagogical shifts in education, learning theories also played an important role in the development of teaching models. According to Bush (2006) B.F. Skinner’s Behaviorism theory’s intention was to assist educators comprehend the significance of student behaviors and acknowledge the outcome of positive reinforcement and how it impacted students. Bush (2006) explained that B.F. Skinner argued that learning was measured through a change in behavior.

Additionally, Freiberg and Lamb (2009) stated that the following list reflected the most prominent reasons that students enjoyed their high school experience.

1. They were trusted and respected - people cared about them (social-emotion emphasis);
2. “They were a part of a family (school connectedness);”
3. They felt their teachers were helpers, encouraging them to succeed and listening to their opinions and ideas (positive climate);
4. They had opportunities to be responsible, with freedom and choices, but not license to do whatever they wished (self-discipline).

The above four core student responses helped one to understand students’ desires for positive reinforcements such as encouragement from their teachers playing a large role in their school success.

Alutu (2006) defended the importance of both the teaching and learning process in “The Guidance Rose of the Instructor in the Teaching and Learning Process.” Furthermore, Alutu discussed Gagne’s theory of condition of learning, phases of learning, and model for design of instruction and how the components aided
students in becoming successful. The teaching and learning concept focused on the need for instructors to provide guidance to the students. Gagne’s theory describes four phases of learning:

Phase I: Receiving the Stimulus Situation

Phase II: Phase of acquisition on input

Phase III: Storage or retention phase

Phase IV: Retrieval or recall

During phases I and II, information was received and processed. There were various ways for students to process information, but Gagne recommended that the instructor present the information but facilitate learning using “active participation and directed discovery” (Aluti, 2006). Aluti also explained Gagne’s modes for design of instruction in relation to the learning process for each instructional event to which aided in learning (see table 1 below).

Table 1:

<table>
<thead>
<tr>
<th>Instructional Event</th>
<th>Relation to Learning Process</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Gaining attention</td>
<td>Reception of patterns of neutral impulses</td>
</tr>
<tr>
<td>2. Informing learner of the</td>
<td>Activating a process of executive control</td>
</tr>
<tr>
<td>objective(s)</td>
<td></td>
</tr>
<tr>
<td>3. Stimulating recall of</td>
<td>Retrieval of prior learning to working memory</td>
</tr>
<tr>
<td>prerequisite learning</td>
<td></td>
</tr>
<tr>
<td>4. Presenting the stimulus</td>
<td>Emphasizing features for selective perception</td>
</tr>
<tr>
<td>materials</td>
<td></td>
</tr>
<tr>
<td>5. Providing learning guidance</td>
<td>Semantic encoding: cues for retrieval</td>
</tr>
<tr>
<td></td>
<td>Eliciting the performance</td>
</tr>
<tr>
<td>---</td>
<td>--------------------------</td>
</tr>
<tr>
<td>7.</td>
<td>Providing feedback about performance</td>
</tr>
<tr>
<td>8.</td>
<td>Assessing performance</td>
</tr>
<tr>
<td>9.</td>
<td>Enhancing performance</td>
</tr>
</tbody>
</table>

Alutu (2006) argued that instructors should adopt these instructional strategies to provide students with the guidance they need for learning. Not only did these concepts improve the learning process, but they also assisted with “self-esteem and confidence in their ability to resolve difficult tasks.” When the instructors maintain a guidance role, the approach produced improved outcomes and “guarantee transfer of learning.”

**Accountability Models**

School accountability models set expectations to ensure schools were giving students the opportunity to reach their potential. According to President Obama’s Every Student Succeeds Act (ESSA) (2020), this 2015 federal education law required every state to develop a standard for schools that will reflect student learning and student progress. The Kentucky Department of Education chose to rely heavily on the ACT as an accountability measure. During a student’s 11th grade year, students were measured for proficiency in reading and math by using the ACT test. The ACT was also employed during their 12th grade year for transition readiness by using the math and English portion of the test (Kentucky Accountability, 2019). The accountability
measure required students to reach a certain score in order to be considered ready for college or the workforce.

Kentucky Accountability at a Glance (2019) explained that the model measures areas that also focus on students' college readiness. Although the system had always measured teachers' achievement scores to determine their success rates, it had been progressively merging students' own success to reflect the school’s accountability. For instance, the school’s accountability was also measured using the ACT data. The ACT scores were an indicator for 11th grade students. It helps determine their college readiness and provides feedback to college admissions counselors. Not only was this data used to determine the school’s proficiency score with the accountability model, but it may also be used during a student’s senior year with the schools’ accountability scores as the transition readiness score. However, there were several issues surrounding the school's accountability system, such as the need to gauge teacher success rates. It also helps to motivate students to improve themselves with their ACT scores and obtain higher scores to help improve college admissions possibilities. Not only were teachers helping their schools, but they were also truly helping prepare students for the next chapter in their life.

The targeted populations for college ready ACT scores were all 11th and 12th grade students (Kentucky, 2019). The ACT was an indicator for each group. However, there were separate indicators that determined student readiness among special groups. For example, English Learners, Special Education, and African American student scores were among the separate indicators that will influence the school’s
accountability score. The scores also included a separate indicator for free/reduced students. These were students who fall within a certain income bracket. The school was responsible for ensuring that students were receiving the preparation they needed in order to meet expected benchmarks. Benchmarks for schools and students proved pivotal in determining whether students were ready to enroll for first-year college English and math classes (Allen and Radunzel, 2017, p. 1).

Table 2: ACT benchmark scores

<table>
<thead>
<tr>
<th>ACT Test Score</th>
<th>College courses</th>
<th>Benchmark</th>
</tr>
</thead>
<tbody>
<tr>
<td>English</td>
<td>English Composition</td>
<td>18</td>
</tr>
<tr>
<td>Mathematics</td>
<td>College Algebra</td>
<td>22</td>
</tr>
<tr>
<td>Reading</td>
<td>American History, Other History, Psychology, Sociology, Political Science, Economics</td>
<td>23</td>
</tr>
<tr>
<td>Science</td>
<td>Biology</td>
<td>23</td>
</tr>
</tbody>
</table>

Students were able to meet benchmark scores by performing well on the ACT test. Within each of the areas tested, students had to have a particular raw score (number of correct answers) in order to receive the necessary scale score that corresponded to the benchmark score. The Princeton Review provided students with a sample scoring chart to help them understand the expectation before taking the exam (2021).

Table 3: Sample ACT Scoring Chart

<table>
<thead>
<tr>
<th>Scale Score</th>
<th>English Raw Score</th>
<th>Math Raw Score</th>
<th>Reading Raw Score</th>
<th>Science Raw Score</th>
</tr>
</thead>
</table>

26
Venezia and Jaeger (2013) also discussed the importance of college readiness programs, including the importance of ACT preparation. In order to be considered college ready, students must meet the ACT benchmarks. However, in 2012, “only 25 percent of all ACT tested high school graduates met the College Readiness Benchmarks in all four subjects” (p. 118). In order to receive benchmarks in all subjects, students
had to meet the prerequisite score requirements in each area. The readiness scores corresponded to the perception that students who have met these standards have a 50% chance of earning a “B” or higher in their corresponding college classes (p. 118).

Furthermore, students who were successful in reaching the required ACT benchmarks typically benefit from a support umbrella outside of the school itself. For instance, students of families that uphold lofty expectations towards education will oftentimes seek assistance outside of regular school hours to improve on their ACT preparation. It may be a parent who reviewed the student’s school work with them, a private or after school tutor, even an older sibling. Nevertheless, when a student had a support system that assisted with everything from “overseeing completion of homework assignments to encourage a variety of learning opportunities outside of school, “the student will benefit” (p. 120). Research shows that “students whose parents have gone to college were more likely to attend college themselves” (p. 120). Thus, these students had a predisposed advantage to those students who did not have parents who attended college because of the expectation that had already been put in place through example.

**Current Educational Legislation**

President Obama signed the ESSA (Every Students Succeeds Act on December 10, 2015 (ESSA). It represented a commitment to ensure equal opportunity for all students. The previous version of this law was known as NCLB (No Child Left Behind). NCLB needed revision and President Obama wanted to create an educational
law that focused on preparing students for college and careers. The ESSA highlights included:

- Advancement in equity by upholding critical protections for America's disadvantaged and high-need students.

- Required that all students in the United States be taught to high academic standards that will prepare them to succeed in college and/or their careers.

- Ensured that vital information was provided and disseminated to educators, families, students, and communities regarding the annual statewide assessments that measure students’ progress toward those high standards.

- Helped to support and grow local innovations—including evidence-based and place-based interventions developed by local leaders and educators—consistent with Investments in Innovation and Promise Neighborhoods.

- Sustained and expanded this administration's historic investments in increasing access to high-quality preschool.

- Maintained an expectation that there will be accountability and action to effect positive change in our lowest-performing schools, where groups of students were not making progress, and where graduation rates were low over extended periods of time (ESSA).
ESSA (2019) mandated that individual states reviewed the ACT test scores and benchmarks required for the colleges germane to their specific area, in order to help high schools determine areas they needed to grow. High schools can analyze the data determined from ACT testing results and use it to confirm whether students were performing at the benchmark level, or if interventions were necessary for particular areas of the standardized test.

According to Klein (2016) each state identified and intervened to assist the bottom five percent of performers. States had to also intervene in schools if the graduation rate is 67 percent or less. Those interventions included:

- Districts worked with teachers and school staff to come up with an evidence-based plan.
- States monitored the turnaround effort.
- If schools continued to flounder, after no more than four years the state was required to step in with its own plan. A State could take over the school if it wanted.
- Districts also allowed for public school choice when they assessed seriously low-performing schools, but they gave priority to the students who needed it most (Klein, 2016).

They also identified subgroups who were struggling within districts and schools. Schools who had struggling sub group students were directed to:
• Come up with an evidence-based plan to help the particular group of students who had fallen behind, such as minority students and those in special education.

• Districts must monitor these plans. If the school continues to fall short, the district will intervene.

• Importantly, there’s also a provision calling for states and districts to come up with a “comprehensive improvement plan” in schools where subgroups were chronically underperforming, despite local interventions.

• The School Improvement Grant program was consolidated into the bigger Title I pot, which helped districts educate students in poverty.

  States now set aside up to seven percent of their Title I funds for school improvement, up from four percent previously (Klein, 2016).

  The Kentucky Department of Education (Kentucky, 2019) established Senate Bill 1 in 2019, requiring all 10th and 11th grade students to take a college admissions exam. Unfortunately, it was often difficult for school districts to fund this required 10th grade exam. The 11th grade exam choice for 2018-2020 school years was the ACT. The college admission exam may also be renewed for four more years. The Kentucky Department of Education (2019) directed that it’s “primary use of the college admissions exam was to measure students’ level of readiness for college in core academic areas. Meeting benchmarks on the ACT gave students may demonstrate
academic readiness in the Transition Readiness indicator.” This indicator was one factor that determined a school’s accountability score.

North Carolina also relied on the ACT as a gauge to measure college readiness. Kaniuka (2014) verified that “the ACT has developed standards that have been shown to correlate well with initial college success” (p. 2). Understanding ACT scores helped schools determine which areas have room for improvement. The reform and accountability model in North Carolina evaluated schools on students’ readiness for either college or a career after high school. This transformation in North Carolina resulted in designing traditionally low performing high schools into an early college model. The target was students classified as “predominantly low income and minority,” plus first-generation college students (p. 2). The post-secondary opportunities in high school led to “higher mean scores in all six ACT performance areas” (p. 5). Students in these schools were provided with the various strategies to help them prepare for the ACT as well as receive instruction geared towards post high school.

The purpose of Senate Bill 1 was to hold schools accountable and ensure that students were prepared for life beyond school. However, the bill also benefits parents and educators as well. Administering the college admissions exam as part of required state testing permits students to take the test at no cost to the individual. Accordingly, all students will have the opportunity and means to and send their ACT colleges, apply for scholarships, and apply for financial assistance. Obama passed ESSA (2020) to help every student and school be successful. ESSA requires that schools protect students
who were at a disadvantage. It also required that students were prepared for college and future careers. Finally, it expected that action will be taken and interventions emplaced in schools where students were consistently underperforming.

The majority of states implemented the ACT or SAT test to receive their college readiness points on the accountability scale for school performance. This gave public schools an opportunity to manipulate the system, even play the game, in order to receive extra points towards meeting their state expectations. For instance, students who passed AP exams were able to boost the school’s accountability scores. According to Harper (2019) “roughly 36 states offer high school course work - such as Advanced Placement (AP) or dual-credit enrollment classes - as a measure of college readiness.” The accountability system looked closely at reading, math, and English scores.

The accountability system’s use of the ACT was prevalent throughout the United States. One may consider the effect of the ACT on both the school and the student them self. Harper (2019) explained that school leaders need lower-income students who “may not have the money to invest in ACT or SAT prep courses and may not have access to technology to pursue these options at home” to participate in school based ACT preparation classes. When ACT preparation courses were not being offered or provided by the home school to serve as an intervention course, schools with lower-income students typically displayed results that were significantly lower than those schools with middle-high income students.
Ironically, some experts worried that using the ACT or SAT as an accountability tool might not be an accurate, or even appropriate, measurement gauge by which to compare each state. Harper (2019) argued that “most states ignore measures that look beyond high school to postsecondary enrollment and success in college.” Since high school students were not typically followed or tracked after graduation, educators were usually prevented from truly discovering whether the use of the ACT as an accountability measurement really does indicate whether a student was college ready. Accordingly, in order to determine if students were genuinely prepared for college, educators must track students after graduation and continue to analyze the data for trends. Analyzing these trends unearthed topics such as “equity issues in college and career preparation” (Harper, 2019). Obtaining this data clearly showed significance in the utilization of the ACT as a college readiness exam.

**College Readiness Benchmarks**

Steedle, et al (2019) explained the significance of college admissions tests, closely examining the comparability of benchmark scores at different college institutions. They wished to determine the similarities and differences in admission requirements between two-year and four-year colleges. They were able to determine that most institutions required the same benchmark scores on the college admissions exam, but not the same admission composite score. This information was important because it helps high school students understand the importance of meeting the ACT benchmark scores. The required scores provide institutions with insight to how students will perform at college in certain subject areas. According to Allen and
Radunzel (2017), “benchmarks provide actionable data, linking content area knowledge and skills to expectations of success in corresponding college courses.” This helped colleges predict student success rates in first-year content courses. The research also indicated that institutions were able to predict college success rates via overall composite scores. For example, predicted that students who scored a composite score of 23 on their ACT had a greater chance at maintaining a 3.0 average in college (p. 5).

Kanuka (2014) added that “students who meet the ACT test benchmark have a high probability of success; for those students meeting this standard means there was a 50% chance that they will receive a B” in the course (p. 2). The benchmarks provided instructors and students with an opportunity to determine whether a student is in need of remediation in a subject.

College Readiness benchmarks were an indicator of the student’s preparedness for college. However, numerous colleges recently chose to omit the college readiness exam from their admissions criteria. This approach provided more students with the opportunity to be admitted to colleges, because often the college admissions exam score from either the ACT or SAT prevented them from being accepted. However, Finn (2020) defied the notion of discounting admission tests, arguing that without a true indicator of readiness for college, potential students will be enrolled into college courses that they were not truly prepared for. The consequences of which found many under-qualified but accepted students in a position too challenging or rigorous for them, ultimately leading to failure and disappointment for the student. Finn
claimed that “grade inflation, teacher favoritism, padded student resumes” were among the new ways that students were trying to be admitted to colleges where the SAT or ACT was no longer needed (p. 128). Finn also voiced concerns that there will be “more ill-prepared students which will force instructors to simplify what they teach” (p. 129). Naturally, when multiple students were in college courses without the appropriate preparation due to the omittance of an admissions test, instructors would feel obligated to provide remedial instruction and even consider curtailing course requirements, which some feel would ultimately diminish the overall quality of the education institution (p. 132).

**Interventions**

Universities have readily argued that ACT or SAT scores provide admission counselors with an understanding of the student’s college readiness. Edmunds, et al (2017) explained in Preparing Students for College: Lessons Learned from the Early College, that it was pivotal for high school students to receive intervention and preparation early on in their high school career to ensure they were ready to enter college classes. For example, the authors claimed that high schools should provide academic tutoring during “structured blocks of time, such as advisory periods, or even full courses designed to build students’ organizational and study skills” (p. 120). These interventions developed students as they acquire the necessary skills to perform well on college admissions exams resulting in college readiness. Test preparation for college admissions exams occurred during both regular classroom time and targeted support times, such as home room (p. 132).
According to Park and Becks (2015) the SAT or ACT was a required for admission to most colleges. Students often took either the ACT or SAT, with various levels of preparation to each. A study performed at a high poverty high school in Chicago, found that the minority students mostly relied on their school as the primary provider of college admissions test preparation and interventions. The study also found that students “who took higher levels of SAT prep had higher SAT scores and were more likely to attend highly selective institutions” (p.3). Parks and Becks (2015) also argued that even a small amount of test prep provided students with familiarity and test taking strategies.

Intervention courses provided students who were not meeting benchmarks on college admissions tests with an opportunity to perform better. According to Cramer and Mokher (2015), high school students who were not reaching college admission test benchmarks were placed in a targeted transition course. The course design was aligned with the ACT and showed a definitive correlation between transition course completion and student growth on the ACT. It also determined that students who received early interventions were significantly more likely to be more successful. Mockher and Leeds (2018) found that once Maine required the college admissions exam for Juniors, it increased students who attended four-year colleges. They also saw the same outcome in Michigan after mandating Juniors take the ACT. ESSA (Every Student Succeeds Act) required states to test reading and math skills as Juniors. In the state of Florida, students who do not meet benchmarks or were testing college ready were required to enroll in targeted services (p. 591). The courses
were structured like those of developmental college courses for students who need additional support before enrolling in a general education course. The math course work reviewed Algebra and Geometry. The English course contained material like an English 4 class with the integrated ACT test taking skills. Students who were enrolled were students who needed the targeted services. However, 5-17% of students in the course had already met their benchmarks on the college readiness exam. Those students participated to improve their exam score. Moreover, most school districts in Florida changed their traditional English 4 class to a targeted English class to help students meet those required scores (Mockher, 2018).

Edmunds, et al (2009) argued that students in secondary schools need reading skills and study skills to perform well on the college admissions exams. Students should be placed in targeted interventions to help prepare students for the ACT. Their study was designed to improve students' ACT scores by placing them into intervention groups. The researchers at Vanderbilt University designed a curriculum that included student voice and reassessments to understand students' needs. The high school used the ACT program once per week during their homeroom. Teachers were required to provide ACT preparation and provided a previous detailed outline of the program, sample lessons, and the reason behind the program. “The goal of the curriculum was to enhance test readiness” (p. 6). This group of students were compared to students who did not receive the additional support during homeroom. The overall result indicated that the ACT English and science portion of the test did show a larger increase than students who did not have the support (p. 13). Both teachers and
students rated the intervention program as helpful. However, some teachers were unfamiliar with portions of the ACT. It was outside of their content knowledge and felt that the students did not receive the best support in those areas.

Sargent (2017) also claimed that students who receive interventions will see improvement in their ACT scores. Sargent explained how a high school in Kentucky launched an intervention course to help students improve their reading ACT scores (p. 40). Some of the key components that were implemented in the Reading course for it to be successful were:

- Limit the course to a maximum of 20 students.
- Choose a teacher who will be the students’ biggest cheerleader and create a positive atmosphere in which students can build confidence and feel comfortable enough to take risks.
- Encourage students to track their own progress to boost accountability for their success. First explain what the student’s starting level was in reading. Then, have the teacher work with each student to set a goal for the semester and ensure they charity their progress each week (p. 50).

Students who were enrolled in the course do receive one credit hour. Any student who received a 15 or below on their ACT reading score was required to be in the class. The course included 50 minutes of direct instruction time with language arts teachers and 40 minutes of independent work with two online reading programs (p. 50).
Sargent (2017) also discussed the importance of a positive atmosphere. The “first priority was to motivate them” in the program (p.50). For example, the instructor in the reading course would also strive to create a high-energy atmosphere and always offered positive reinforcements. The teachers also created comfort zones to ensure students were not afraid to take risks in front of their peers (p. 50). This program helped many students improve their ACT reading scores. The following table explained the ACT gain from the students who participated in the program:

<table>
<thead>
<tr>
<th>ACT Gain</th>
<th>Number of Students</th>
<th>Percent of Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>10+ points</td>
<td>86</td>
<td>20%</td>
</tr>
<tr>
<td>5-9 points</td>
<td>114</td>
<td>26%</td>
</tr>
<tr>
<td>1-4</td>
<td>149</td>
<td>34%</td>
</tr>
<tr>
<td>No gain</td>
<td>91</td>
<td>21%</td>
</tr>
</tbody>
</table>

As a result, there were many students who improved their ACT score after taking the intervention course. The students needed clear goals, constant motivation, and content support (p. 51).

Students who had direct instruction to improve ACT scores received a positive correlation in their composite and sub-scores. Moss et al. (2012) focused on the Effects of a Coaching Class on the ACT Scores of Students at a large midwestern high school. The purpose was to investigate the effects of preparing students for the ACT. The coaching involved four weeks and students from a Large Midwestern High
School. The students attended 10 hours of math preparation and 10 hours of English/reading preparation (p. 17). Students were provided teachers with experience and a curriculum that included test-taking strategies, multiple practice tests, and course content (p. 18). The students also received feedback from their practice tests and reviewed them. When students prepared for the reading portion of the ACT, instructors knew timing was a large factor in the score. Therefore, “students were then shown strategies for tackling each reading passage: skimming questions, circling key words, entering line references in the margin of the passages, and circling correct answers in the test booklet” (p. 20). This strategy helped students avoid wasting time and using time wisely. As a result, students who received the preparation gained 2.35 points in their English score, 0.92 points in math, and 1.77 in reading. This indicates that the composite score gains averaged 1.5 points for the group of students who received the additional coaching (p. 23). According to ACT/SAT Test Preparation and Coaching Programs (2016) also found that the ACT instruction had a positive effect for high school students. The report claimed that students averaged a 9-point average gain. This significant gain demonstrates the need for ACT intervention programs in the high school. Furthermore, Moore et al. (2019) also discussed the impact of ACT preparation. Students who had a private tutor had a significantly higher ACT score than they did before the tutor. This improvement displayed how well students performed with ACT preparation. This report found that students who took the ACT again after participating in an intervention program scores .71 points higher afterwards (p.15). Along with interventions within the course material, Li and Xiong
(2018) also argued that “teaching test-taking skills, using data from the previous year’s test to inform instruction” helps ensure that teachers understood the needs of their students. It provided teachers with feedback from the previous year and helps them align their curriculum to make certain students who were struggling in those areas were well prepared. Li and Xiong also reported that “students who spent more time practicing for the state test had a significantly higher state test score in Year 2” (p. 11). This shows that students not only needed the intervention but also needed to familiarize themselves with the test in order to be comfortable when taking it. Briggs (2009) also claims that SAT private test preparation results in at least an 11-point gain compared to students with no test preparation.

According to Venezia and Jaeger (2013) several intervention programs provided students support to help them transition from high school to college. The Federal TRIO programs, which included Upward Bound and Talent search, served students from “low-income backgrounds, those with disabilities, and those who were first-generation college-going to help them successfully navigate their education pathways” (p. 122). Upward Bound gave students the opportunity to have additional instruction in mathematics, science, literature and foreign languages. It provided tutoring and work-study programs for students (p. 123). Both programs “include services designed for disconnected student groups, such as students who dropout of high school, students who have limited English proficiencies, students from groups that were traditionally underrepresented in postsecondary education, students with disabilities,
homeless students, and students who are in foster care or are aging out of foster care system” (p. 123).

Along with those programs, GEAR UP (Gaining Early Awareness and Readiness for Undergraduate Programs) supported a cohort of students who attend high poverty schools. This program differed from the other two, because it provided college scholarships, academic support, and offers college information. The program also partnered with the families of the students (p. 123).

The A.S.P.I.R.E program was another program aimed to provide students with support who were pursuing higher education within the agricultural fields. According to Herman et. al. (2014), “it was devised as a means of improving rural high school students’ ACT college entrance examinations scores” (p. 270). The A.S.P.I.R.E counties were chosen from their socioeconomic status, rural classification, and agricultural intensity. Students who were enrolled in the program received a Princeton review ACT study manual, on-line access to additional practice questions, four full-length practice exams, a booklet, and 30 hours of class instruction for ACT test preparation. The students were charged $50.00 to participate in the program and to receive the materials. However, students who were in need of financial assistance received the program at no cost.

Five counties in North Carolina participated in the A.S.P.I.R.E program. This included 50 students from the five counties. They completed 10 weeks of ACT test preparation taught by instructors. The students received 30 hours of ACT test preparation in the following areas: reading, English, math, and science. They took a
pre-test to determine their baseline and areas that needed improvement. The second test was given after 10 hours of instruction, the third after 20 hours, and the fourth was given to students after they completed the program. The last test was also given on Saturday morning to mimic a real ACT test. The chart below displays the estimated means for the test scores from pre-test to test 4 (posttest).

Chart 5: A.S.P.I.R.E Test scores

<table>
<thead>
<tr>
<th></th>
<th>Pre-test (test 1)</th>
<th>Test 2</th>
<th>Test 3</th>
<th>Post-test (Test 4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Math</td>
<td>18.6</td>
<td>18.7</td>
<td>20.2</td>
<td>21.6</td>
</tr>
<tr>
<td>Science</td>
<td>18.7</td>
<td>20.3</td>
<td>17.9</td>
<td>22</td>
</tr>
<tr>
<td>English</td>
<td>17.6</td>
<td>21.2</td>
<td>20.4</td>
<td>23</td>
</tr>
<tr>
<td>Reading</td>
<td>20.4</td>
<td>24.8</td>
<td>21.7</td>
<td>22.6</td>
</tr>
<tr>
<td>ACT Composite</td>
<td>18.8</td>
<td>21.3</td>
<td>20</td>
<td>22.3</td>
</tr>
</tbody>
</table>

The A.S.P.I.R.E test scores revealed that on average students improved by three points with test preparation (p. 270).

Summary of Literature Review

The historical perspective explained how instruction had shifted throughout time. Classrooms moved from the teacher-centered approaches to provide students with more engaging experiences and to ensure they were the center of the learning activities. The change in the approach also stressed the importance of positive reinforcements and teacher encouragement. Students learn best when they feel the teacher cares about them. As a result, they want to do their best for the teacher. The relationship piece plays a significant role in the learning process.
College admission exams not only measure students for college readiness. The exams, such as the ACT, also play a role in the accountability model established in 2015. ESSA required schools to measure reading and math scores during 11th grade. ESSA also held schools accountable for ensuring every student was college and/or career ready. This resulted in schools choosing a college admissions exam to measure student’s proficiency. Students were given a free ACT at school that allowed them to also send scores to colleges while at the same time being used as an accountability measure for the school.

Schools realized the need for interventions that included study skills, cohorts of English, math, science, and reading groups, and multiple practices to improve student ACT scores. The implementation of interventions improved student college readiness scores and was an accomplishment for the schools and the students. A variety of intervention models and programs revealed how students' ACT scores improved with intense instruction and test preparation strategies to enhance their test-taking skills. This qualitative study provides the perspective from former students who were enrolled in an ACT intervention course. They provided a voice to give schools a true scope of their experience with the course. Readers will notice that among their perspectives, similarities from the literature review, such as the need for teacher feedback and encouragement. Along with their interview, their ACT scores were provided to help readers analyze their ACT growth after taking the ACT intervention course.
CHAPTER III

METHODOLOGY

Introduction

In this chapter, the methodology and research design of the ACT intervention course will be explained. The previous chapters provided readers with insight into the qualitative study, while the literature review discussed evidence that supported the need to implement an ACT intervention course within the high school setting. The students interviewed for the research were enrolled at the high school in which I taught and participated in an intervention ACT course three years ago as sophomores. The students reflected heavily on their experiences from the course, including the structures used, strategies they found beneficial, how the course still impacted them, plus they gave insightful feedback to consider when preparations began for future ACT intervention courses.

Research Approach

There were several factors that led me to conduct a qualitative study. J.W. Creswell and J.D. Creswell (2017) shared a list of characteristics for researchers to consider when pondering which research method was most suitable for their study. They stated that primarily, one must “review the needs of potential audiences for the proposal or study” (p. 257). The readers of this study needed to be able to sense the experience of the ACT intervention study, as in hear, see, and ponder the reflections and feedback provided by the students in order to fully grasp the impact of the study. Accordingly, the research design most appropriate pointed directly to a
qualitative research proposal. The foundational characteristics of a qualitative research included:

- **Natural Setting**: The research that I conducted was in my former school where I taught for multiple years. I gathered research for three years to reflect on the growth and benefits of the ACT intervention study.

- **Researcher as a key instrument**: During the course of the study, student behavior was observed. Student participants from the course were interviewed.

- **Participants Meaning**: This particular characteristic relies on the mean, or value that the participant holds towards the study. In this case, what did the study mean to the students?

- **Reflexivity**: This helps readers to understand my background as a researcher, my experiences, and other areas that might have contributed to themes or meanings that came from the study.

- **Holistic Account**: Multiple perspectives were analyzed to understand the underlying themes that contributed to the needs of the study (p. 205).

These foundational characteristics allowed for a valuable interpretation and understanding of the overall effectiveness of the course. The qualitative research approach adopted for this study provided readers with a deep insight of an ACT intervention course through the voices of former students.

**Research Questions**
1. What do a group of former high school students have to say about taking the ACT before they took an ACT intervention course?

2. What do high school students have to say about taking the ACT after they took an ACT intervention course?

3. What do high school students have to say about the impact on their ACT scores after taking an ACT intervention course?

4. How do high school students describe the ACT intervention course experience?

Research Design

This was a qualitative study with a narrative design. Creswell and Creswell (2017) described narrative research as a “design of inquiry from the humanities in which the researcher studies the lives of individuals and asks one or more individuals to provide stories about their lives” (p. 31). This research design provided the opportunity to understand the perspective of the course from former students who chose to describe their experiences. Creswell and Creswell explained that oftentimes “the narrative combines views from the participant's life with those of the researcher's life in a collaborative narrative” (p. 31). Through this method, I was provided the chance to explain the development of the study from the perspective of a researcher.

Carless and Douglas (2017) explained that narrative research “offers insights to a lived experience. Rather focusing on constructs, opinions or abstractions, narrative methods prioritize an individual's experience of concrete events (p. 1). This design allowed former students to reveal in depth details regarding their experience in the
I also wanted to understand what the ACT intervention course meant to the participants. With a narrative design, I was able to discover how the study affected their lives and mindset during the course. The former students discussed how the implementation of the intervention course changed their approach not just to the test, but other subjects as well. The narrative design allowed the participants to also provide their perspective on how they believed their life will be changed in the future due to participation in the course.

In this study, the participants reflected on their experiences and provided their perceptions of being part of an intervention course. The research design was a structured interview that included ten participants using open-ended questions. These interviews were completed via zoom. During the interview, all students were given the same questions with the exception of follow-up questions.

**Research Sample**

For this study, 10 former students were interviewed from the public high school where I taught English and coordinated the ACT intervention course. Since I implemented and designed the ACT intervention course within the school, I had background knowledge of the entire process and the results. Students who were interviewed had recently graduated, providing them with an opportunity to reflect on their experience from three years ago. It was imperative to interview this group of students, because they participated in the intervention class three years ago and as recent graduates, they were able to reflect on their experience. This research will
enable others to learn more about how the course assisted them, and also how the course may be engineered to help other students succeed.

The group of participants were interviewed individually after school during a zoom meeting for 30 – 60 minutes. Due to the current pandemic, I had to maintain social distancing, which left zoom as the most viable option. I asked for interviews by selecting recent random graduates who participated in the intervention course. The former students were invited to participate in the study by using email and provided times to sign up for the interview. Pseudonyms were given instead of using real names to protect the student’s identity and school. The students also received a confidentiality statement agreement that helped create trustworthiness between the student and researcher during the interview process.

Data Collection

The interview was recorded while using zoom. Afterwards, the interviews were transcribed and analyzed using Creswell and Creswell’s sequential step process. The annotations included relevant ideas that were central amongst the participants who were interviewed.

The timeline for the interview took place over the course of three weeks. Each interview involved only one student at a time to ensure they could speak freely, and their confidentiality remained protected. The following were the interview questions that students were provided:

1. What do high school students say about the impact on their ACT scores after taking an ACT intervention course?
2. How do high school students describe the ACT intervention course experience?

3. What was most challenging for you when taking the ACT?

4. Describe any course challenges, if any?

5. How did you overcome these challenges?

Demographic Questions

1. What type of courses are you enrolled in?

2. Did you participate in Advanced Placement courses, Dual Credit courses, etc.?

3. How many years did you attend this school?

4. Did you attend another high school?

Grand Tour Question

1. How would you describe the ACT intervention course?

Follow-up Questions

1. Describe your experience in the ACT intervention class.

2. What were you trying to achieve in the course?

3. If any, describe any obstacles you have faced?

4. What motivated you to participate in the ACT intervention course?

5. What was most satisfying about the ACT intervention course?

6. Can you think of anything that we did not discuss that could help me to understand what it was like for you to take your ACT intervention course?
Data Analysis

Creswell and Creswell (2017) provided researchers with suggestions on how to support qualitative analysis. There were multiple sequential steps involved, described below:

Step 1: *Organize and prepare the data for analysis.* This involves transcribing interviews, scanning material, typing up field notes, cataloguing all the visual material, and arranging the data into different types depending on the sources of information.

Step 2: *Read or look at all the data.* This first step provided a general sense of the information and an opportunity to reflect on its overall meaning. What general ideas are participants saying? What was the tone of the ideas? What is the impression of the overall depth, credibility, and use of the information? Sometimes qualitative researchers write notes in the margins of transcripts or observations field notes, or start recording general thoughts about the data at this stage.

Step 3: *Start coding all of the data.* Coding was the process of organizing the data by bracketing chunks (or text or image segments).

Step 4: *Generate a description and themes.* Use the coding process to generate a description of the setting or people as well as categories or themes for analysis.

Step 5: *Representing the description and themes.* Advance how the description and themes will be represented in the qualitative narrative. (p. 216-218)
The data analysis of the interview was conducted using the multiple sequential steps previously discussed. Only one student was interviewed at a time in order to ensure confidentiality was respected and that a platform was provided to ensure the student could speak freely.

The zoom recording was listened to originally in order to determine insights and the demeanor of each former student using the data analysis methodology developed by Colaizzi (as cited in Creswell, 1998). The interviews were then listened to a second time whereupon they were transcribed to enable an in-depth analysis. Next, the transcription was coded into chunks that supported the relevant themes of the research. Annotations were then made from the transcription and coding which revealed relevant themes along with evidence that supported the themes. After determining the themes, notes were made of any outliers from the transcription.

The analysis resulted in a thorough understanding regarding the impact of the ACT intervention course for students in the high school. It also helped me to further understand the related stress of college admission exams and the importance of teacher support for students embarking on the journey towards applying for college, and administrative support for those teachers conducting the courses.

**Validity and Reliability**

Validity issues may develop from the participants' responses during the interview because the questions were developed by me. Creswell and Creswell (2018) argued that a concern for any researcher was not creating a good instrument to
understand the primary themes within the qualitative perspective of the design (p. 277). It was imperative that researchers create an instrument that will allow them to understand the whole perspective of the participants. The participants were all given the same questions with exception of follow-up questions, which depended on how in-depth the student answered the question originally.

Trustworthiness

The participants were recorded during the interview using zoom due to the current world-wide pandemic. The former students were offered access to their interviews to check for accuracy. During the interview, each former student was asked the same original questions and were only modified when asking follow-up questions to encourage further elaboration. The desire to understand the impact of the ACT intervention course helped to maintain the focus and avoid encouraging the former students to answer questions in a particular stance. It was essential to understand their thoughts concerning the course and how they deemed others could benefit from the ACT intervention class experience.

The questions asked of the students were all open-ended. This allowed the participants to elaborate on their experience and provide additional information. By including the reactions of the former students in this dissertation, it will give future students the opportunity to determine why, how, and what others felt worked for them by taking the course.

Ethical Considerations
The participants in this study were given pseudonyms in order to provide anonymity and confidentiality. I explained the study with the participants and what the primary focus consisted of. I also provided the participants with the option of receiving a copy of their personal zoom interview recording so that they could have a reflection of their high school career in years to come, but also so that if they were to watch the interview and contemplate additional information, they could share it with me for the sake of the study. This research study contained minimal risk due to the age of the participants within the study.
CHAPTER IV

FINDINGS

Introduction

The purpose of this study was to understand the perspectives of former students who were enrolled in an ACT intervention course. The participants took the course as sophomores during high school. They were interviewed about their experience after graduating high school. As part of the qualitative study, I also examined their ACT scores before and after taking the intervention course to see the effect from the class. This chapter will focus on the perspectives of former students who participated in the intervention course. Based upon what the former students chose to discuss during their interviews, the themes within this portion will include:

- Description of Participants
- Description of the course
- Overcoming Obstacles
- Impactful Solutions
- Stress

Description of Students

Former students were interviewed following their Senior year of high school. Each former student volunteered to participate in the study. The study included six males and four females. Each student participated in the intervention course during their sophomore year of high school. Every student in the study attended the same high school all four years.
Lonnie [a pseudonym] listed and described the courses that he participated in while at the high school.

I generally stayed enrolled in advanced and AP courses: AP Psychology, AP World History, AP US History, AP Calculus AB and BC, AP English Literature, AP English Language, AP Seminar. They are all challenging in different ways. AP Seminar challenged me in different ways to analyze arguments. In February 2018, I received a composite of 23: English 26, math 25, science, 24, reading 18. This was in the Spring of Freshman year. The scores after Sophomore year are a composite of 25: English 26, math 26, science 23, reading 24.

Irene [pseudonym] also participated in the intervention course while at the high school. She explained the classes she was involved in such as: Advance Classes or AP classes: AP Literature, AP Language, AP Seminar, AP World, AP US History, AP Calculus, AP Statistics, and passed every AP exam she took. Her first composite score was a 23 and scoring the lowest in the math section.

Another student, Brenda [pseudonym] who was interviewed also explained that while in high school, she was also enrolled in multiple Advanced Placement courses such as AP psychology, AP English Literature, AP World History, AP Calculus, AP Language and Composition, AP Chemistry, AP US History, AP Environmental science, AP French Language, AP Governments, and AP Statistics.

Brenda took her first ACT during her Sophomore year and earned a 28. She quickly explained that she struggled in the math and Science section and summed up that her weakest sections have always been math and science.

Following the interview with Brenda, Brandon [pseudonym] was next to be interviewed. He was delighted to partake in this study because he really wanted to inform interested parties about his experiences during the ACT intervention course for
students. Brandon explained that he enrolled in multiple Advanced Placement classes such as AP English and AP History courses. He also stated that he received a 23 on his first ACT. His lowest score was in the math section of the test.

Anna [pseudonym] was also mostly enrolled in advanced placement classes. She participated in AP World History, AP US History, AP Literature, AP Language, AP Calculus, and AP Physics. Anna scored a 23 composite on her first ACT with the math portion being her weakest area.

Along with Anna, Cameron also took several advanced placement classes. He was enrolled in seven advanced placement classes. Those classes included AP Literature, AP Language, AP Seminar, AP World, AP US History, and AP Environmental science. He also took Dual Credit math. He took that class after taking the ACT. His first ACT score was a 25. He originally struggled with the reading portion of the test the most, scoring a 20. However, his reading score was now the highest.

Unlike Anna and Cameron, Mickey took multiple types of classes. He was enrolled in general level courses and advanced classes. The advanced placement classes include English, Biology, and math. He took his first ACT as a Sophomore and scored a 27 composite. He claimed that he struggled mostly with the math portion. Mickey felt like there were concepts that he did not understand on the math section of the ACT.

Another student who was interviewed, Paula, scored a 28 on her first ACT. She struggled the most with math. Paula felt like it was the time restraints on the math
portion that created a barrier for her as she took the test. She was enrolled in mostly Advanced Placement classes. She took AP Language, AP Seminar, and AP US History.

**Description of the intervention course experience**

The experience of the intervention course for the former students varied. Lonnie described his experience during the interview.

It wasn’t fun, but it was really helpful. The one thing that I remember specifically that helped me was the English and reading passages. When I was doing those packets, I learned to skim and analyze and parse information from the text rather than reading it all the way through like a story. The timing of the practice test really helped me get that aspect of the ACT under control. We would be provided with packets with practice questions. Every day we go over one large reading passage or 4-6 smaller passages where we would run through the sections. I was really trying to get my reading score up. It was my lowest score previously.

Irene, however, felt that she took the class in an unconventional way. She used the ACT intervention material to study the night before the test in addition to the daily practice at school. In doing so, she reviewed her practice exams and took another practice exam before the test. This resulted in her raising her score six points from the previous score.

Brandon described the ACT intervention course as:

My advisory class provided us with ACT questions, we would answer them, we would talk about them. I remember having really good discussions about the ACT. Not only learning about questions that would be on the ACT, but keeping that in mind that you are about to take the ACT, helped me to remember to keep preparing for it. [Those discussions] helped me to keep it on my mind.

Anna was another student who participated in the ACT intervention courses. She shared that her advisory class was helpful and explained that:
Every morning we got an ACT packet. They had 15 minutes to complete 15 questions unless we were completing a different section. After that time passed, we were allowed to discuss the questions and answers on the packet. If you had a question like why did the comma go here then they could answer that question.

The other student who was interviewed, Cameron, described his experience in the ACT intervention class as very similar to Anna's experience. Cameron explained that they would receive an ACT practice packet. His intervention class focused on the reading portion since at the time that was his lowest score on the ACT. After receiving the packet, the students would complete 10 questions then the teacher would review the packet with them. The student felt like the 30 minutes was the right amount of time per day to practice.

The next student, Xavier, who was interviewed was also enrolled in multiple advanced courses. Those courses included AP English, AP Seminar, AP Calculus. This student received a 22 on his first ACT test. His weakest area was in the math portion. He explained that even though he was in the higher-level math courses, his struggles came because it had been several years since he had taken Algebra classes (a primary focus on the ACT).

Paula explained that in her intervention class, she was able to focus more on the math portion of the ACT. It gave her the opportunity to learn more about how to take the math portion and how to focus on it. The teacher would provide the class with a packet of math questions at the beginning of each week. Throughout the week, the class worked on 10 math problems from that packet then they would review and discuss the questions.
The students who were interviewed were students who participated in the ACT intervention course and chose to reflect on their experience. Within this group of students, there were multiple students who were involved in Advanced classes. However, there were students who were also enrolled in general education classes. This variety of students provides readers with an understanding of this particular group of participants who wanted to share their experiences with the class.

**Overcoming Obstacles**

Students will always face obstacles when taking exams. However, I wanted to find if there was a common theme among the obstacles they face while taking a college admissions exam, such as the ACT. Lonnie explained the following:

One thing that was a roadblock for me was that I would get stuck on a word that I didn’t understand or understand the definition of and the context of the passage. I learned that I had to manage my time, I had to keep going, look at the context of the passage and look at the other questions. Otherwise, I would get to any other questions. It was also challenging staying focused. It is a very long test compared to regular tests in class—Being able to have the endurance to go from passage to passage...It takes a lot of mental endurance and it is hard to build that up.

Irene explained that the practice itself was helpful. She pointed out that during the pandemic when she was not doing any practice or involved in the intervention course her ACT score declined.

The last time I took the test, I hadn’t done any practice. We had not been in in-person school because of the pandemic, which meant I was unable to participate in the intervention class. So, even though my score went up six points after participating, once I stopped participating in the intervention course my score went back down five points. It definitely shows that the practice was helpful.
Brenda explained that time itself while taking the ACT is often an obstacle for most students.

The biggest obstacle that I overcame was the ACT is administered early in the morning. I’m not a morning person. It would take me quite a bit to get up, get ready and function. I think taking the ACT so early in the morning a lot of students struggle with that. The challenge for a lot of students is how long the test is and just being still for that long. Math and science is also another obstacle. The time aspect would put pressure on me for those portions. It would take me longer to remember a formula or the steps I had to do to get the answer. That would take some time.

Brandon explained that he really wanted to improve his score, because he wanted to attend an Ivy League school the following year. Along with bringing up his score, he also wanted to learn the material to prepare himself for college the following year. He explained that the timing was difficult for him. Thus, the time management for him on the test was hard, but the practice questions and the practice ACT exams helped him with that.

Anna echoed Brenda’s thoughts regarding time management, especially on the math portion of the ACT. She explained how with each question she only had one minute to complete and there were questions that required formulas. This forced her to have to guess on a lot of the questions. Science also seemed like it had gotten progressively harder. It seemed like ACT had added more Chemistry questions and not just simply reading science graphs. There were also some Physics questions on the ACT.

The struggle that Cameron faced was also timing. He explained that he would rarely be able to finish each section. Having the opportunity to repetitively practice
the ACT gave him the chance to adjust his timing and learn how to approach the
test. It helped him realize how much time he needed for reading, answering the
questions, along with various strategies to help with time management.

Cameron also discussed how fatigued he would be during the test. He
explained that the length of the test made it difficult. However, he felt that the mock
exams helped “100%.” It allowed him to become accustomed to the test as well as the
length of the test. Cameron also explained the familiarity of the test allowed him to
better understand the type of questions before taking the actual ACT test.

Mickey explained that he struggled in the math portion of the ACT. He was not
familiar with some of the symbols that were on the ACT, such as the symbol for
summation. He didn’t know what it meant or what to do. However, after taking the
mock ACT, he was able to ask his teacher to explain the symbol to him before taking
the real ACT. Another hurdle for Mickey was his timing on questions. He explains the
following:

The most challenging part was not spending too much time on one question. I
never had a time problem or felt like I had a time problem, but I always felt like
I had a time problem. I always felt like I had to move on to the next question,
because I was spending too much time on one question. I believe practicing for
the ACT helped me with the time. It helped me realize the quickest way to
answer a question, such as if I don’t know it right away I would just move on
and come back later. I would do that in the practice and would apply it to my
ACT.

The dominant obstacle that participants discussed was the issue with sitting for
the ACT and having time constraints. The limited amount of time not only added
pressure to them as test-takers, but it also restricted them from being able to complete all portions of the test with their best effort.

Other former students also hinted at the unfamiliar content such as vocabulary that hindered their test. Initially, they wanted to understand all of the vocabulary before completing the entire section of that test. However, after receiving strategies to overcome that problem, the student was able to move beyond that issue.

Impactful Solutions

The students provided me with areas that they felt were impactful and helped them from taking the course. Lonnie was excited to explain the following:

The most difficult part about the reading section is managing my time. Having to sit down every day and having a certain limited amount of time to read and answer questions. It is really a practice thing. Annotation techniques and reading comprehension techniques were helpful, especially with nonfiction passages. Learning how to read that, that is what I took from the course other than helping with timing.

Irene explained in her interview that the repetition of the practicing was helpful:

I think that once you know the test, all the math questions are all the same. So, one you do the math questions over and over again. Or once you know the patterns in English such as using words like whom vs whose. You kind of just know how the ACT works after practicing it so many times. It was very helpful to me.

The repetition of the test practice was helpful, like knowing how fast you can do it, how fast to read, or how many questions per minute...just know what is going to be on the test.

One of the most impactful activities for Branden while participating in the course was doing the practice (mock) ACTs in the school. It allowed her to see the baseline where she was and to understand the skills that she needed to continue to work on.
Brandon also explained an impactful solution that truly helped him was practicing the questions. Brandon discussed how the structure was always the same on the ACT. He explained, “the questions might change, but they are looking for the exact same thing.” He felt that the practice gave him the opportunity to learn the ACT thoroughly to understand the type of questions to prepare for before taking the ACT. He also stated that the practice test at school also helped tremendously, because they gave him a chance to practice it in a similar fashion to the actual exam. He felt that students who have the chance to take a practice ACT test in a school setting will see an increase in scores, because it was beneficial to understand the timing and the type of question before taking the ACT. Brandon described his experience taking the ACT as

I remember the word chart, where you have to read this section and you have to choose if there is no change, etc. I remember thinking that I needed to go in this with the same mindset just like I did with the mock exams or practices, I remembered reading it the same way. It obviously helped me in the long run.

Brandon also elaborated on how much the reading in advisory class helped. Students who were needing additional assistance in reading had the chance to read high interest novels to encourage reading and focus on reading comprehension and speed. As the interview ended, Brandon stressed that this intervention course should be 100% implemented in all high schools. I think high school should do more around the ACT, such as pushing for reading and practicing. I think it is concerning because some people cannot afford ACT practice books and the school should offer more access to ACT courses and preparatory materials.

Anna discussed how impactful the mock ACTs were for her.
It was similar to the ACT. There was a timer on the board or look at the clock on the board. Then the teacher would read the directions just like a real ACT. We would take it in order as if we were taking the ACT. We were sent back then we would get a core back about a week later. They felt like a real ACT. I took ACTs outside of my school and I felt very prepared from our mock ACT based on where it would go. It helped my nerves. I got to see what the test is like, how long it takes, and what they are going to say beforehand. Those mocks prepared me because they were just like the real ones that I took. It was like here is the packet you have x amount of time, go. This was just like our mock ACTs. Some of the most helpful things were seeing the questions. Yes, they were practice questions, but they were similar to the actual test. It was especially helpful for the English portion because it is like where do you put this comma, is this the right word, etc.? I was able to ask the teacher and they would be able to explain why the comma goes there. Overall, the best thing about the course was being able to ask questions and have them in front of you when you are asking the questions, because when you take the ACT you don’t have the questions in front of you afterwards and not sure what to ask your teacher about. It made my English and reading scores go up a lot. I remember talking about the reading strategies a lot and that did help me.

One of the most satisfying things that Cameron got from taking the ACT intervention course was being able to see his ACT score improve. However, he also explained that the course was also helpful in his other classes. He explained that the reading section helped him in his English course, because it allowed him to practice on summarizing and analyzing text. Cameron also explained that being able to have a math teacher or an English teacher help with the math or reading portions then that would help students in their classes as well. Cameron was adamant that the key to success in the intervention course was having a teacher who knew the content and to be able to ask that teacher questions.

Xavier explained that the course was helpful because it focused on areas of need. He liked that students were placed in their growth areas by using either the
mock ACT data or actual ACT data. He elaborated on the mock ACT and explained that it was helpful, because it gave him an idea of what to expect when taking the real ACT. Similar to Xavier, Mickey also felt that the mock ACTs were helpful. He saw an increase in his scores after taking them. He explained that after each mock ACT, he knew which area he needed to focus on and was able to ask questions to overcome those obstacles. He also said that simply having similar questions on the mock ACT as the real ACT helped prepare him and made him feel more confident when taking the real ACT.

Paula also praised the mock ACT. She explained that by taking the practice ACT test and setting them up very similar to a real ACT gave her an understanding of how many questions she needed to answer in a certain amount of time. The most important thing that she got from the intervention course was how to manage her time on the ACT and being able to practice the questions in the course.

There were several impactful solutions that the participants discussed. First, they explained that having the opportunity to sit for a practice ACT test was helpful. It provided them with an opportunity to understand the expectations for the test. Another participant also explained that having the chance to practice the type of questions was helpful. The repetition of daily practice gave them not only an understanding of the questions but also a confidence boost before taking the test.

**Teacher roles and relationships**

Teachers did not just provide the content in the course, but they were also there as a support to the students. They were there to provide encouragement as well
as the content help and strategies. Lonnie explained that knowing his teachers and having that connection was helpful. However, Irene had a different experience than Lonnie. She explained that her teacher never made them do the practice. She participated by completing the work individually in chunks by herself. Irene argued that if her teacher was more invested then she felt that the class would have been more beneficial.

Another participant also discussed the importance of the teacher role. Brenda explained that either students had a teacher who required it in their course and followed the expectations for the course or students who had teachers who did not expect students to participate. Brenda explained that she did participate in the course and did it to prepare herself. However, most of the students in her intervention course did not. Brenda felt that it would have been more helpful in her intervention class if the teacher would have gone through the material as a class. An additional participant, Xavier, confirmed Brenda’s argument and also claimed that his teacher did not put enough effort into it. He felt like it was a good course but could have been better if the teacher would have been more involved with the class.

Anna also explained how important the teacher was in the course. She clarified that at this school the students were with the content teacher where students needed additional assistance. For instance, if students needed more help in math then they were placed with a math teacher. However, she pointed out that she wished that she had the ability to choose which content she wanted to focus on, because she had met her math benchmark but wanted to improve her score in that portion of the ACT.
The majority of the former students discussed the importance of the role of the teacher. They explained that the teacher’s support provided not only the content knowledge that was needed but also the encouragement to perform well. The participants also explained how important it was to have a teacher who was also engaged in the instruction and provided the former students with an opportunity to ask questions that they did not understand. The participants also explained that the encouragement they received from the teachers made them want to continue to grow in that area, because they not only wanted to do it for themselves but also for their teachers. The teachers encouragement, role, and engagement was significant to the participants' improvement.

**Stress**

Stress plays a significant role in most exams. However, with college admission exams it was even more severe. In general, students are worried before, during, and after the test. Students understand that it plays a large role in their lives. Lonnie vividly described how the stress changed while taking the intervention course though:

> It was stressful in different ways. Before the course, I wondered if I would be able to complete it. After taking the course, I was able to recognize you have to beat the clock and learned techniques on how to do that. It is a healthy kind of stress. It is productive, because it causes you to keep going and you learn how to keep your pace. That is how the stress changed before and after the course.

Mickey also explained that the ACT test was stressful because the ACT was important and especially important when trying to find a college for scholarship money. Mickey described the bulk of his stress when he thought about the potential
scholarship money that it represented. He knew that the test meant a lot regarding future financial assistance for college.

Along with Mickey, Paula also explained that knowing that there were many expectations that come from taking the ACT. She discussed the financial burden that could come from not doing well on the ACT. It was something as simple as having to pay to retake the ACT or not scoring well enough to qualify for scholarships.

Irene discussed how stress affected her differently during the intervention course and after the intervention course. She said the first time taking the test, she was not stressed. However, she created a goal for herself for the next time and that created more stress. The ACT intervention course reduced her stress level. However, the ACT test stress returned with the intervention course ended.

Brandon exclaimed that time management of the ACT was the biggest stressor for him. He took a lot of time on various portions of the test and needed to do better with his time management skills. However, the practice and the mock ACT test allowed him to understand his flaws before taking the exam. The timed practice questions and timed mock ACT test helped him to understand how much time he should take on each question.

Another factor that Cameron discussed was how much stress was removed when the class was implemented, because it gave students the chance to understand where they need improvement. Cameron also explained that by providing students with practice questions, the mock ACT, and strategies help students understand the expectations along with the obstacles they need to overcome. However, Cameron also
discussed the barriers after being without the class and trying to return to take the
ACT. He explained that not having the class or the mock exams for a while made him
more uncomfortable taking it.

The participants explained how stressful the ACT was when taking it. However,
the class helped to relieve that stress by helping them prepare for it. Not only did the
preparation help, but the participants also explained that it helped them feel more
confident when taking the test.

**Conclusion**

According to the former students interviewed for this study, the ACT
intervention class was beneficial to students. The participants described their
experience in the class as impactful in reducing their stress and increasing their
scores. The majority of the former students claimed that the stress from taking the
ACT was reduced due to learning how to manage their time and being familiar with the
type of questions that were often presented on the ACT. The former students also
discussed the importance of teacher’s role, which was also significant in their
academic performance. The instructor’s encouragement and support allowed them to
grow in their struggling areas. They explained that if the teacher was invested in the
class then it would give them a chance to ask questions and review the types of
questions that they did not understand.
CHAPTER V

SUMMARY, FINDINGS, IMPLICATIONS, RECOMMENDATIONS

Summary

The primary focus of this study was to determine if students perceived an ACT intervention course to be beneficial. The course was implemented into their homeroom class while they were sophomores in high school. Scores on the ACT test provide students with information regarding whether they were college ready and which areas they need additional growth in. This study focused on a group of students from the beginning of their sophomore year to the end of their sophomore year. Upon completion of high school, students were interviewed and questioned about their perspective of the course. In addition to the interview, their mock (practice) ACT scores at the beginning of their sophomore year and their data from their actual ACT at the end of their sophomore year were also examined. This data provided valuable evidence to understand if the former students ACT intervention course was successful, but their reflections allowed me to understand their perspective on why it was successful. This study should provide a variety of schools information on how to improve college readiness in high school students.

Findings

The following ACT scores were from the same set of students who were interviewed. The first set of scores were from their mock ACT test in the fall of the sophomore year as they were just beginning the intervention course. The other set of data were from the Spring of their Sophomore year after participating in the course for
almost a school year. On average the former students showed the most improvement overall in the reading category. Students' perceptions supported the implementation of the ACT intervention course. The chart below helps readers to understand the gains that students made before and after taking the course. The chart is only a representation of the students who were interviewed to provide an understanding of their ACT scores before and after taking the ACT intervention course.

Table 6: ACT Scores

<table>
<thead>
<tr>
<th>Pseudonym</th>
<th>First English Score</th>
<th>After English Score</th>
<th>First Math Score</th>
<th>After Math Score</th>
<th>First Reading Score</th>
<th>After Reading Score</th>
<th>First Science Score</th>
<th>After Science Score</th>
<th>First Composite Score</th>
<th>After Composite Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Irene</td>
<td>25</td>
<td>30</td>
<td>18</td>
<td>26</td>
<td>24</td>
<td>30</td>
<td>23</td>
<td>30</td>
<td>21</td>
<td>29</td>
</tr>
<tr>
<td>Lonnie</td>
<td>26</td>
<td>33</td>
<td>25</td>
<td>27</td>
<td>18</td>
<td>25</td>
<td>24</td>
<td>27</td>
<td>23</td>
<td>28</td>
</tr>
<tr>
<td>Brenda</td>
<td>30</td>
<td>30</td>
<td>25</td>
<td>27</td>
<td>32</td>
<td>34</td>
<td>25</td>
<td>28</td>
<td>28</td>
<td>30</td>
</tr>
<tr>
<td>Brandon</td>
<td>NA</td>
<td>23</td>
<td>NA</td>
<td>18</td>
<td>NA</td>
<td>23</td>
<td>NA</td>
<td>22</td>
<td>NA</td>
<td>22</td>
</tr>
<tr>
<td>Anna</td>
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<td>19</td>
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<td>24</td>
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<td>24</td>
<td>26</td>
</tr>
<tr>
<td>Cameron</td>
<td>24</td>
<td>24</td>
<td>22</td>
<td>22</td>
<td>26</td>
<td>31</td>
<td>26</td>
<td>24</td>
<td>25</td>
<td>25</td>
</tr>
<tr>
<td>Xavier</td>
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<td>26</td>
<td>24</td>
<td>25</td>
<td>32</td>
<td>20</td>
<td>24</td>
<td>23</td>
<td>26</td>
<td>26</td>
</tr>
<tr>
<td>Mickey</td>
<td>29</td>
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<td>23</td>
<td>29</td>
<td>34</td>
<td>28</td>
<td>26</td>
<td>33</td>
<td>25</td>
<td>30</td>
</tr>
<tr>
<td>Paula</td>
<td>20</td>
<td>20</td>
<td>17</td>
<td>20</td>
<td>30</td>
<td>34</td>
<td>22</td>
<td>23</td>
<td>22</td>
<td>24</td>
</tr>
</tbody>
</table>

The scores from the participants who were interviewed were important, because it gives readers an understanding of how the scores improved. It was important to note
that data were not made available for Brandon’s first test, because he was not present on the day of the test. However, Brandon’s ACT test results after taking the course were provided in the chart.

I would recommend implementing an ACT intervention course. The dominant themes from the participants’ interviews included the teacher’s engagement and encouragement, reduction in stress, and learning how to manage their time during the test. Each of these themes not only helped the students to improve their scores on the ACT, but the intervention course also improved their confidence while taking the test and their performance in other classes.

The participants explained that the teacher’s support was necessary in their intervention course to be successful. This placement gave the students an opportunity to ask questions and seek guidance from a teacher who was able to provide them with assistance. Anna stated that “the best thing about the course was being able to ask questions and have them in front of you when you are asking the questions.” This gave students the chance to ask their intervention teacher about the test questions that they did not understand, and the teacher was able to immediately provide them with feedback. The students were given formative ACT questions throughout the course and provided with oral feedback from the instructor soon after completing the questions. This timely feedback was significant for their learning experience and the understanding of the content and test model. According to Dr. Saaris’s “Effective Feedback for Deeper Learning” (2016) most students struggled because they “do not receive nearly as much feedback as they need...but for students who are consistently
making the same mistakes without knowing it, infrequency of feedback results in wasted time and frustration.” The ACT intervention course provided students with consistent daily feedback to help them improve in the specific area where they needed additional support. The students were also given time in the course to reflect on their ACT practice questions and answers. Sarees (2016) also explained that when teachers focus on the learning process and encourage students to keep trying until they fully understand the material then it allowed the students to play an active role in the thinking process. The ACT intervention course gave students the opportunity to take a full practice ACT test and engage in multiple practice questions to ensure they were understanding the concepts.

The teacher-student relationship and encouragement also played a large role in the success of the students. The students claimed that they wanted to try their best not only for themselves but also for their intervention teacher. They explained how seeing their teachers support them in the classroom then cheering them on the day of the test was a tremendous boost. Gallagher’s “The effects of teacher-student relationships: social and academic outcomes of low-income middle and high school students” (2021) discussed how “teachers play an important role in the trajectory of students throughout the formal school experience.” Positive teacher-student relationships not only help students develop social skills but also impacts achievement. The positive relationships help students feel comfortable to “explore the classroom and school setting both academically and socially, to take on academic challenges” (Gallagher, 2021). The ACT intervention course was structured
intentionally to create small learning environments that encourage positive teacher-student interactions to help students feel comfortable in seeking guidance.

Participants also argued that the course helped reduce their stress levels. They explained that having the opportunity to practice, ask questions, and understand the expectations on the test helped to reduce their stress. Cameron explained that the implementation of the class reduced his stress levels, because it helped him to understand his room for growth. Therefore, he was able to work to improve those areas and be more prepared for the test. Cameron struggled mostly in the reading section before taking the intervention course, but after participating in the class his reading score improved from a 26 to a 31. The participants also claimed that the confidence from taking the course helped to reduce their stress. They felt that with the reduction of stress, they were able to perform better on the test. Reteguiz’s (2006) explained that students “with low level of test anxiety achieve higher scores on multiple choice question examinations than those with high anxiety levels.” The ACT is a multiple-choice test and the implementation of the intervention course reduced anxiety levels for students, which also resulted in a positive outcome in their test scores.

Another factor in helping the students increase their score was assisting them with time management skills. The ACT test was a timed test that was divided into four sections.

Table 7: ACT Time (ACT.org)
Table 7 shows the importance of time for students. On three sections of the exam, students had less than one minute per question. Most notably, they only had 52.5 seconds per question on the reading section of the test. This was significant, because the participants interviewed discussed how the importance of time management and strategies helped to improve their reading score. For instance, Lonnie discussed how the most difficult part about the reading section was managing his time. He felt that reading the passages and answering questions each day with a time limit helped him to practice his time management skills. Along with the practice, he also praised his teacher for providing him strategies to help with the time management, such as annotating and searching for context clues. After participating in the intervention course, Lonnie saw a seven point gain in the reading section of the test.

The math section of the exam allowed only one minute per question. This included understanding the concept then working to solve the problem. The time restriction made it difficult for students in the math portion to complete the entire section. However, Irene felt that the ACT intervention course helped her to overcome the frustrations on the math portion. Irene explained, “that once you know the test, all the math questions are all the same. So, once you do the math questions over and
over again.” The mock ACT exams helped her to know what type of math questions to expect on the test and removed some of the time limitations. Mickey also explained that “practicing for the ACT helped with the time. It helped [him] realize the quickest way to answer a question.” The participants agreed that the practice questions helped remove time issues, so they were able to perform better on the test.

**Implications**

The findings of this study provides school principals with the opportunity to understand what went well and how to improve the course if they choose to implement it. The qualitative responses highlighted the key areas that the participants felt were helpful. It also demonstrated the growth potential through their interviews. The majority of participants agreed that the course was beneficial and should be in every high school. Some students even discussed how the class impacted their core courses such as math and English in the school. The students also claimed that the need for teacher engagement and dedication in the classroom made a difference in understanding the material.

The student ACT scores provide school leaders with factual information to share with their faculty to help them understand the significance of the gains. Some participants saw gains in all areas while others might have only seen gains in a couple areas. However, the increase in the scores not only was important for the students but also plays a large role in the state’s accountability model.

**Recommendations for Future Work**
The need to ensure all students are college ready was something that should remain in the accountability system. It influences school districts to offer more assistance for students to do well on college entrance exams. Unfortunately, before the ACT was a measurement tool in high school, districts rarely provided any support for students on college admission exams. Districts were mostly focused on what they needed to do in order to be successful in the former accountability model. This intervention model was needed to help students improve on their ACT; the school districts that use the ACT as a measurement tool will also benefit from the accountability model.

Using the ACT as an accountability test indicates areas of strengths and weakness offers insight to inequalities that exist in the exam. The test shows discrepancies in the separate indicators categories such as amongst the Free/Reduced, Race, Special Education, and English Language Learners. Unfortunately, these student categories are sometimes less likely to receive the same outside resources as students from affluent families seeking to independently increase their child’s score. Thus, a child who comes from a family with less income or resources might not have the same advantage as those students who have received additional tutoring and/or test preparation. This makes it imperative to provide an ACT intervention course built into the school day to ensure there was no inequality present when taking a college admissions test.

When students can improve their ACT scores through their schools, the schools are removing barriers. Unfortunately, a large population of students do not have the
means to participate in additional ACT preparation programs. Schools who invest in helping students improve their ACT score will not only provide students with the support to make college attainable, but they are also potentially increasing the student’s scholarship offerings.

The participants who were interviewed believed that “this class should 100% be implemented” in every high school. The former students realized how much support they received from the class and wanted to see future students receive the same assistance.
References


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Regional Educational Laboratory Appalachia.


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Longer-Term College Success? Evidence from Florida’s Statewide Initiative.  


APPENDICES
Appendix A:
Appendix A: Recruitment Script

Recruitment Script

Principal investigator will call each participant (who is over 18 and had graduated high school).

Principal Investigator: “Hello, this is Ms. Clement. I hope you are doing well. As your teacher explained before graduation, I am currently researching the impact of the ACT preparation class that you took during your sophomore year to better understand the impact of the course. Would you like to participate in an interview about your experience in that class?”

[After students provide permission]

Principal Investigator: “When is a good time for you when we can meet for a zoom meeting for about an hour?”

[Once we make an appointment, the phone call will end]
Appendix B:
Appendix B: Interview Questions

Demographic Questions
1. How many years have you attended this school?
2. Did you attend another high school?
3. What type of courses were you enrolled in?
4. Did you participate in Advanced Placement courses, Dual Credit Courses, etc?
5. What was your first ACT composite score; subject scores; additional ACT scores?

Grand Tour Question
1. Describe your experience with the ACT preparatory class. [what comes to mind or what was it like?]

Follow-up Questions
1. Describe a typical day in your ACT preparatory class.
2. What were you trying to achieve by taking the course? What were you trying to learn?
3. Describe any obstacles you may have faced while in this course?
4. What was most challenging for you while taking the ACT exam?
5. If you had any, how did you overcome these challenges?
6. What motivated you to participate in the ACT preparatory course?
7. What was the most helpful from the ACT course?
8. What was most satisfying about the ACT preparatory course?
9. What difference did your ACT preparatory course make for you?
10. How did stress play a role in taking the class and what about stress when taking the test?
11. Describe how this course could have been more beneficial.
12. What could have been added to the ACT prep course that would have been more helpful to you?
13. What was not helpful to you when taking the ACT preparatory course?
14. Can you think of anything that we did not discuss that could help me to understand what it was like for you to take your ACT Preparatory course and your ACT exam?
Appendix C: IRB Application

Eastern Kentucky University Institutional Review Board

Application for Expedited Review

This application is to be used to request an expedited review for IRB approval. The investigator must receive approval prior to engaging in research activities involving human subjects.

In order for human subjects research to be reviewed under expedited review procedures, the study must represent not greater than minimal risk to its participants and include only activities that fall within the categories listed in this application (see Section 2).

Minimal risk means that the probability and magnitude of harm or discomfort anticipated in the research are not greater in and of themselves than those ordinarily encountered in daily life or during the performance of routine physical or psychological examinations or tests.

Instructions for Applying for Expedited Review

1. All applications for IRB review must be submitted online by the principal investigator.
2. After completing this application form and all required attachments, access the online submission system at eku.infoready4.com. Choose Expedited Review Application from the list of available opportunities and click the Apply button on the right. If needed, you can filter the category column by Institutional Review Board (Human Subjects Research).
3. If you are a current EKU employee or student, click the option to log in as an EKU user. Your user name and password are the same as what you use to log in to EKU’s network. Your user name is not your email address.
4. Complete the basic information in the online application and upload this application form and all required attachments in their original file formats (i.e., Microsoft Word documents). Please do not convert files to PDFs. PDFs are allowable for signed documents, CITI training documentation, and other files that were provided to you in PDF format. If you copy and paste text into the application’s form fields, please format your text to Tahoma font in size 10 prior to copying.
5. Upon receipt of a new online application, the IRB administrator will review the submission for completeness and return incomplete applications for updates prior to processing.
6. Once an application is accepted by the IRB administrator, it will be assigned to the faculty advisor (if the principal investigator is a student) and the department chair for approvals prior to being reviewed by the IRB.
7. If the IRB reviewers have questions or request updates to the application materials, the principal investigator will be notified by email and asked to resubmit application materials by email.
8. Once the IRB has approved the application, the principal investigator will be notified by email.

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**Application Checklist**

In order for the IRB to consider an application for expedited review, the following items are required:

- Expedited Review Application (this application)
- CITI Training Completion Reports for all investigators, key personnel, and faculty research advisors

*Note that the Basic Course for Social Behavioral or Biomedical Researchers is required.*

*The Refresher Course cannot be accepted unless the investigator has previously completed the Basic Course and is using the Refresher Course to renew training credentials.*

- Informed Consent Documents (check all that apply):
  - Informed Consent Form
  - Parent/Guardian Permission Form (for parents/guardians of subjects who are children)
  - Child Assent Form(s) (for subjects who are children)
  - Request for Waiver of Informed Consent Documentation

As applicable:

- Recruitment materials (i.e., advertisements, verbal scripts, cover letters, etc.)
- Instrument(s) to be used for data collection (i.e., surveys, questionnaires, interview questions, assessments, etc.)
- Letter(s) granting permission to use off-campus facility for research
Application for Expedited Review

Section 1: General Information

1. Title of Study:
Understanding the Impact of an ACT Preparatory Course through the Perspective of Students

2. Principal Investigator:
Principal Investigator Name: April Clement
Department: Click and type.
Position: Click and type.

3. Degree Program, Faculty Advisor, and Committee Members:
(Skip to Item 4 if principal investigator is not an EKU student)
Degree Program: Ed.D Educational Leadership & Policy Studies
Faculty Research Advisor: Dr. West
Committee Members (required for theses, dissertations, scholarly projects, field experience, or other studies guided by an academic committee):
Dr. Lauk, Dr. Burns, Dr. Davis

4. Other Investigators: Identify all other investigators assisting in the study. If additional lines are needed, please attach a Continuation Page for Other Investigators.
Name: Click and type. Authorized to obtain consent? □Yes □No
Responsibility in Project: Click and type.
Name: Click and type.  Authorized to obtain consent? ☐Yes ☐No

Responsibility in Project: Click and type.

Name: Click and type.  Authorized to obtain consent? ☐Yes ☐No

Responsibility in Project: Click and type.

Name: Click and type.  Authorized to obtain consent? ☐Yes ☐No

Responsibility in Project: Click and type.

Please check if a Continuation Page for Other Investigators is attached. ☐

5. Estimated Duration of Research Project:  upon IRB approval through May 3, 2022
   Note that research may not begin until IRB approval has been granted. Projects may be
   approved for a period of up to three years, after which time, a new application is required.

6. Funding Support: Is the research study funded by an internal grant or an external grant
   or contract?  ☐Yes ☒No
   Funding Agency: Click and type.

7. Is the proposed study a clinical trial? ☐Yes ☒No
   Please respond to the following questions to determine whether a study meets the clinical
   trial definition:
   ▪ Does the study involve human participants?  ☐Yes ☒No
   ▪ Are the participants prospectively assigned to an intervention?  ☐Yes ☒No
   ▪ Is the study designed to evaluate the effect of the intervention on the participants?  ☐Yes
     ☒No
   ▪ Is the effect being evaluated a health-related biomedical or behavioral outcome?  ☐Yes
     ☒No
   If the answers are all “yes,” the study is a clinical trial. If any answers are “no,” the study
   is not a clinical trial
8. **Risk Category:**
   
   x Not greater than minimal risk

   ☐ Greater than minimal risk, but of direct benefit to individual participants – *Please complete full review application instead of this form.*

   ☐ Greater than minimal risk and no direct benefit to individual participants, but likely to yield generalizable knowledge about the subject’s disorder or condition – *Please complete full review application instead of this form.*
Application for Expedited Review

Section 2: Expedited Review Categories

Research activities may be reviewed through expedited review procedures when the only involvement of human subjects falls within one or more of the categories below and the study represents not greater than minimal risk to its participants. If the study represents greater than minimal risk or if any activities fall outside the categories below, the project is not eligible for expedited review, and the investigator is required to instead apply for full review.

1. Select one or more of the categories below that apply to the research project:

   ☐ Category 1: Clinical studies of drugs and medical devices only when condition (a) or (b) below is met.

       ☐ (a) Research on drugs for which an investigational new drug application is not required.

       Note: Research on marketed drugs that significantly increases the risks or decreases the acceptability of the risks associated with the use of the product is not eligible for expedited review.

       ☐ (b) Research on medical devices for which (i) an investigational device exemption application is not required; or (ii) the medical device is cleared/approved for marketing and the medical device is being used in accordance with its cleared/approved labeling.

   ☐ Category 2: Collection of blood samples by finger stick, heel stick, ear stick, or venipuncture as follows (check one):

       ☐ (a) from healthy, nonpregnant adults who weigh at least 110 pounds. For these subjects, the amounts drawn may not exceed 550 ml in an 8 week period and collection may not occur more frequently than 2 times per week; or

       ☐ (b) from other adults and children, considering the age, weight, and health of the subjects, the collection procedure, the amount of blood to be collected, and the frequency with which it will be collected. For these subjects, the amount drawn may not exceed the lesser of 50
ml or 3 ml per kg in an 8 week period and collection may not occur more frequently than 2 times per week.

☐ **Category 3:** Prospective collection of biological specimens for research purposes by noninvasive means.

Examples: (a) hair and nail clippings in a nondisfiguring manner; (b) deciduous teeth at time of exfoliation or if routine patient care indicates a need for extraction; (c) permanent teeth if routine patient care indicates a need for extraction; (d) excreta and external secretions (including sweat); (e) uncannulated saliva collected either in an unstimulated fashion or stimulated by chewing gumbase or wax or by applying a dilute citric solution to the tongue; (f) placenta removed at delivery; (g) amniotic fluid obtained at the time of rupture of the membrane prior to or during labor; (h) supra- and subgingival dental plaque and calculus, provided the collection procedure is not more invasive than routine prophylactic scaling of the teeth and the process is accomplished in accordance with accepted prophylactic techniques; (i) mucosal and skin cells collected by buccal scraping or swab, skin swab, or mouth washings; (j) sputum collected after saline mist nebulization.

☐ **Category 4:** Collection of data through noninvasive procedures (not involving general anesthesia or sedation) routinely employed in clinical practice, excluding procedures involving x-rays or microwaves. Where medical devices are employed, they must be cleared/approved for marketing. (Studies intended to evaluate the safety and effectiveness of the medical device are not generally eligible for expedited review, including studies of cleared medical devices for new indications.)

Examples: (a) physical sensors that are applied either to the surface of the body or at a distance and do not involve input of significant amounts of energy into the subject or an invasion of the subject’s privacy; (b) weighing or testing sensory acuity; (c) magnetic resonance imaging; (d) electrocardiography, electroencephalography, thermography, detection of naturally occurring radioactivity, electroretinography, ultrasound, diagnostic infrared imaging, doppler blood flow, and echocardiography; (e) moderate exercise, muscular strength testing, body composition assessment, and flexibility testing where appropriate given the age, weight, and health of the individual.
☐ **Category 5:** Research involving materials (data, documents, records, or specimens) that have been collected, or will be collected solely for nonresearch purposes (such as medical treatment or diagnosis).

x **Category 6:** Collection of data from voice, video, digital, or image recordings made for research purposes.

☐ **Category 7:** Research on individual or group characteristics or behavior (including, but not limited to, research on perception, cognition, motivation, identity, language, communication, cultural beliefs or practices, and social behavior) or research employing survey, interview, oral history, focus group, program evaluation, human factors evaluation, or quality assurance methodologies.

2. **Will the study involve any procedures that fall outside the categories selected in Item 1 of this section?**
   
x No ☐ Yes (apply for full review)

3. **Will the project involve prisoners?**  x No ☐ Possibly Incidentally ☐ Yes (full review required)

Subpart C: Additional Protections Pertaining to Biomedical and Behavioral Research Involving Prisoners as Subjects requires full review except for research aimed at involving a broader subject population that only incidentally includes prisoners (i.e., a web-based survey that an inmate may be able to access from a prison computer without the researcher being aware of the prisoner status).
1. **Background:**
   a. Provide an introduction and background information for the study and provide a discussion of past research findings leading to this study. Cite literature that forms the scientific basis for the study.

   There are 18 states in the U.S. that rely on the ACT to measure student performance in reading, math, and English for college readiness (Glad, 2021). Research demonstrates that there is an impact of students who do not meet college readiness benchmarks; for example, Finn, Dunbar, and Welch (2018) explain that there is a relationship between college readiness benchmarks such as the ACT to how students will succeed in college. This phenomenological Qualitative study will focus on the outcome of students who took an ACT preparatory course (which I created as an educator three years ago) during their sophomore year of high school in a southeastern school district. The population of students who have now graduated will be interviewed to understand how the course helped them in order to improve the preparatory course. The benefit of interviewing these former students for this study is to help educators understand the impact of an intervention course on improving their ACT scores--from the perspective of former students.

2. **Research Objectives:**
   a. List the research objectives.
1. What do former high school students have to say about taking the ACT before they took an ACT preparatory intervention course?

2. What do former high school students have to say about taking the ACT after they took an ACT preparatory intervention course?

3. What do former high school students have to say about the impact on their ACT scores after taking an ACT preparatory intervention course?

4. How do former high school students describe the ACT preparatory intervention course experience?

3. Project Location:
   a. Where will the study take place?

   Interviews will take place over Zoom due to the current pandemic.

   b. If the study will take place at a location other than EKU, attach a letter from an authorized representative of the organization granting permission to use facility for research purposes.
      x EKU only    □ Letter(s) attached

   c. Will any data be collected through organizations other than EKU?
      x No    □ Yes, complete the following:
      - Will personnel of the organization be involved in the data collection process or have access to data after collection?  x No □ Yes - If yes, list personnel in Section 1, include CITI training documentation, and define role here: Click and type.

4. Subject Population:
   a. What criteria will be used to determine the inclusion of participants in the study?
Former students who have taken the ACT preparatory course during their sophomore year at a particular southeastern high school.

b. **What criteria will be used to determine the exclusion of participants in the study?**

Students who are still in high school and have not taken the ACT preparatory course.

c. **Anticipated Number of Participants** *(maximum):* 12-15

d. **Age Range of Participants:** Adults 18 and over

e. **Gender of Participants:**  □ Male  □ Female  or  x Gender not considered in subject selection

f. **Ethnicity of Participants:** Diverse population: meaning Gender, Race, Ethnicity

g. **Health Status of Participants:** Click and type, or  x Health status not considered in subject selection

h. **Which of the following categories of subjects will be included in the study? Please check all that apply.**

   x Adults

   □ College Students age 18 and older

   □ Children (under age 18) – complete Section 4

   □ Subjects who do not speak and/or read English – see Translation Certification form and guidance

   □ Pregnant Women (other than by chance)

   □ Fetuses/Neonates

   □ Hospital Patients

   □ Patients at Inpatient Mental Health Facilities

   □ Individuals with Impaired Decision-Making Capacity – complete Section 5

   □ Institutionalized Individuals with Impaired Decision-Making Capacity – complete Section 5
5. Recruitment of Participants:
a. How will prospective participants be identified for recruitment into the study?

Former students who have recently graduated and have taken the ACT preparatory course during their sophomore year at a particular southeastern high school.

Principal investigator will first contact three previous students (whose parents and their children are family friends) to discuss the possibility of participation in this study. These three students were in the ACT preparatory class in their sophomore year. Through these former students, this study will use chain referral recruitment for other participants.

Previous Students will contact other previous students from the ACT Preparatory course to ask if they would like to participate in the study. Principal Investigator’s contact information will be given to these adult graduates.

Once additional adult participants, who were previously in the ACT preparatory course during their sophomore year, call to say they are interested in participation, the participants will decide a day and time to meet by zoom for an one hour interview.

b. Describe the recruitment procedures to be used with potential participants identified for the study.
Principal investigator will first contact three previous students (whose parents and their children are family friends) to discuss the possibility of participation in this study. These three students were in the ACT preparatory class in their sophomore year. Through these former students, this study will use chain referral recruitment for other participants.

c. **Recruitment materials to be used:** Check all that will be used and attach copies. The study’s title must be included on all documents.

- None
- Advertisement
- Flyer
- Verbal Recruitment Script
- Cover Letter

Other: Principal investigator will first contact three previous students (whose parents and their children are family friends) to discuss the possibility of participation in this study. These three students were in the ACT preparatory class in their sophomore year. Through these former students, this study will use chain referral recruitment for other participants.

6. **Ensuring Voluntary Participation**
   
a. **Who will be responsible for seeking the informed consent of participants?**

   The principal investigator

b. **What procedures will be followed to ensure that potential participants are informed about the study and made aware that their decision to participate is voluntary?**

   The principal investigator will send the consent form to the participant to sign then have the participant email prior to beginning of the interview.

c. **How will consent be documented?** If you are requesting a waiver of documentation, please explain here and attach a completed waiver request form.
Participants who agree to participate will be sent a consent form to sign and return via email before the interview begins.

d. **What consent documents will be used in the study?** Attach copies of all.
   - Informed Consent Form
   - Parent/Guardian Permission Form
   - Child/Minor Assent Form
   - Oral Script

   Other:

7. **Research Procedures**
   a. **Describe in detail the research procedures to be followed that pertain to the human participants.** Be specific about what you will do and how you will do it. If applicable, differentiate between standard/routine procedures not conducted for research purposes and those that will be performed specifically for this study.

   Principal investigator will first contact three previous students (whose parents and their children are family friends) to discuss the possibility of participation in this study. These three students were in the ACT preparatory class in their sophomore year. Through these former students, this study will use chain referral recruitment for other participants.

   The interview will be approximately one hour. It will be recorded using zoom and transcribed afterwards.

8. **Potential Risks**
   a. **Describe any potential risks, including physical, psychological, social, legal, or other risks.** No more than minimal risk

   b. **What procedures will be followed to protect against or minimize any potential risks?**
Participants will have anonymity and confidentiality. The researcher will use pseudonyms when references any participants in the principal investigator's dissertation.

c. **How are the risks reasonable in relation to the anticipated benefit to participants and in relation to the importance of the knowledge that may reasonably be expected to result from the study?**

There will be no more than minimal risk while this study can help future ACT preparatory course students to improve their ACT scores for college.

d. **Will alternative choices be made available to participants who choose not to participate?**
   - X No
   - ☐ Yes, Describe: Click and type.

9. **Incentives and Research Related Costs**
   a. **Will incentives be offered to participants?**  
      - X No
      - ☐ Yes, complete the following items:
         1) What incentives will be offered? Click and type.
         2) If monetary compensation will be offered, indicate how much the participants will be paid and describe the terms of payment. If gift cards will be used as incentives, please see Guidance for Projects Using Gift Cards as Subject Payments. Click and type.
         3) Describe the method of ensuring that the incentives will not compel individuals to agree to participate in the study. Click and type.
         4) Describe how the incentives will be funded. Click and type.

   b. **Will there be any costs to the subjects for participating?**  
      - X No
      - ☐ Yes, complete the following item:
         1) Describe any costs that will be the responsibility of the subjects as a consequence of their participation in the research. Click and type.

10. **Research Materials, Records, and Confidentiality**
   a. **What materials will be used for the research process?** Include a description of both data collected through the study as well as other data accessed for the study. Copies of all data collection instruments must be attached and must include the title of the study.
Principal investigator will first contact three previous students (whose parents and their children are family friends) to discuss the possibility of participation in this study. These three students were in the ACT preparatory class in their sophomore year. Through these former students, this study will use chain referral recruitment for other participants. Previous Students will contact other previous students from the ACT Preparatory course to ask if they would like to participate in the study. Principal Investigator’s contact information will be given to these adult graduates.

Once additional adult participants, who were previously in the ACT preparatory course during their sophomore year, call to say they are interested in participation, the participants will decide a day and time to meet by zoom for an one hour interview.

Once the interview is completed and transcribed, each participant will be given a pseudonym and be referenced by that name only throughout the study and dissertation.

b. **Who will have access to the data?** If anyone outside the research team will have access to the data, provide a justification and include a disclaimer in consent documents.

Only the principal investigator

c. **Describe how and where research records will be stored.** Note that all research-related records must be securely maintained for a period of three years from the study’s completion and are subject to audit. Following the completion of the study and throughout the records retention period, student research records must be maintained by the faculty advisor identified in Section 1, Item 3 of this application or provided to the IRB for records maintenance.

The data will be locked in the faculty (Dr. West) chair’s office on a password protected USB drive.
d. **How will data be destroyed at the end of the records retention period** (i.e., shredding paper documents, deleting electronic files, physically destroying audio/video recordings)?

All research related files on password protected USB drive will be deleted after three years.

e. **Describe procedures for maintaining the confidentiality of human subjects data.**

Principal investigator will first contact three previous students (whose parents and their children are family friends) to discuss the possibility of participation in this study. These three students were in the ACT preparatory class in their sophomore year. Through these former students, this study will use chain referral recruitment for other participants.

Students who decide to participate will not be identified in any way. Once the interview is completed and transcribed, each participant will be given a pseudonym and be referenced by that name only throughout the study and dissertation.

All of the research documents will be given to Dr. West who will store data on a password protected USB drive and delete after three years.
Application for Expedited Review

Section 4: Research Involving Children as Subjects

In Kentucky, a child is an individual who is less than 18 years of age unless the individual has been legally emancipated. Some Federal agencies and other states define children differently. If the study is to be funded by a Federal agency, that agency’s definition applies; if a study is to be conducted outside Kentucky, that state’s definition applies.

1. Will this study involve children as subjects?
   - x No (skip remainder of this section)
   - ☐ Yes (complete all items in this section)

2. Risk Level: Expedited review procedures can be used only when the research represents not greater than minimal risk to its participants. Minimal risk means that the probability and magnitude of the harm or discomfort anticipated in the research are not greater in and of themselves than those ordinarily encountered in daily life or during the performance of routine physical or psychological exams or tests. Explain why the research is classified with a risk level of not greater than minimal risk.

   Click and type.

3. Suitability of Subjects: Explain why children are suitable subjects for this research.

   Click and type.
4. **Previous Research on Adults:** Has this research previously been conducted with adults as subjects?

☐ No    ☐ Yes (respond to 4.a. below)

**a.** Explain indications that the proposed research will benefit or at least not be harmful to the children.

Click and type.

5. **Number of Children Subjects:** Provide a justification for the number of children proposed for enrollment in the project.

Click and type.

6. **Parent/Guardian Permission Process:** Describe procedures for soliciting the permission of at least one parent/guardian.

Click and type.

7. **Assent Process:** Describe procedures for soliciting the assent of the children, following permission from the parents/guardians.

Click and type.

8. **Understandable Language:** Describe what efforts have been made to present information about the study in a language that is understandable to the children who will be
recruited (i.e., informational documents, recruitment flyers, assent forms, data collection instruments).

Click and type.

9. Wards as Subjects: Will the study involve wards as subjects?

☐ No  ☐ Yes (respond to 9.A. and 9.B. below)

A. Research Classification: The use of wards as subjects in research is permissible in only the following two situations. Indicate which classification below applies to the proposed research.

☐ The proposed research is related to the subjects' status as wards of the state.

☐ The proposed research is to be conducted in schools, hospitals, or similar settings in which the majority of children involved in the study are not wards.

B. Ward Advocate: A ward advocate must be appointed for each child who is a ward, in addition to any other individual acting on behalf of the child as guardian or in loco parentis. One individual may serve as advocate for more than one child. The advocate(s) must have the background and experience to act in, and agree to act in, the best interests of the child for the duration of the child's participation in the research and may not be associated in any way with the research, the investigator(s), or the guardian organization. Please explain how these ward advocate requirements will be met.

Click and type.
Application for Expedited Review

Section 5: Research with Subjects Who Have Impaired Decision-Making Capacity

When a prospective research participant lacks the ability necessary to understand and use information relevant to an informed consent process, additional precautions and protections are required.

1. Will this study involve individuals with impaired decision-making capacity as subjects?
   - x No (skip remainder of this section)
   - ☐ Yes (complete all items in this section)

2. Risk Level: Expedited review procedures can be used only when the research represents not greater than minimal risk to its participants. Minimal risk means that the probability and magnitude of the harm or discomfort anticipated in the research are not greater in and of themselves than those ordinarily encountered in daily life or during the performance of routine physical or psychological exams or tests. Explain why the research is classified with a risk level of not greater than minimal risk.

   Click and type.
3. **Suitability of Subjects:** Individuals with impaired decision-making capacity should be used as research subjects only in situations where they are the only population who can provide the data needed for the study and only when the potential risks are balanced with expected benefits. Explain why individuals with impaired decision-making capacity are suitable subjects for this research.

   Click and type.

4. **Subject Advocate:** What procedures are in place to allow a subject advocate to assist subjects in navigating the research process?

   Click and type.

5. **Competency to Consent:** Describe who will determine individuals’ competency to consent and the criteria to be used in determining competency (i.e., use of standardized measurements, consultation with qualified professional, etc.).

   Click and type.

6. **Consent for Individuals Incapable of Consenting on Their Own Behalf:** Explain how you will identify who is authorized to give legally valid consent on behalf of any individual(s) determined to be incapable of consenting on their own behalf.

   Click and type.
7. **Expectations, Obligations, and Authority of Legally Authorized Representatives:**

Explain the expectations, obligations, and authority of the legally authorized representative for each subject and describe how this information will be conveyed to the representative (i.e., through a written information sheet).

Click and type.

8. **Assent:** Explain the criteria you will use to determine when assent is required for subjects who are not able to provide consent and describe the assent process to be used with these subjects.

Click and type.

9. **Evaluating Dissent:** Explain the methods to be used for evaluating dissent (i.e., description of behaviors that would indicate that an individual does not want to participate, such as moving away or displaying certain facial expressions or head movements).

Click and type.

10. **Re-Consent/Re-Assent:** Explain procedures to be followed for periodic re-consent and/or re-assent and define the documentation interval.

Click and type.

11. **Monitoring Capacity to Consent:** Describe the process for monitoring capacity to consent and describe procedures for protecting the subjects’ rights in the event they lose
their capacity to consent or their capacity to withdraw during the course of the research (i.e., use of legally authorized representative).

Click and type.

12. **Use of Institutionalized Individuals:** Does the proposed research involve individuals who are institutionalized?

☐ No

☐ Yes (Respond to item below and attach approval from an authorized representative at the institution)

- Provide a justification for the use of institutionalized individuals and explain why individuals who are not institutionalized cannot be substituted.

Click and type.