IMPROVING STUDENTS' SCORES ON THE GEORGIA END OF COURSE ASSESSMENT FOR BIOLOGY

by

Natasha Takia Simpson

Liberty University

A Dissertation Presented in Partial Fulfillment

Of the Requirements for the Degree

Doctor of Education

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ABSTRACT

The purpose of this applied study is to solve the problem of underperforming student test scores on the End of Course Biology assessment for high school students at an alternative school in Georgia, and to formulate a solution to address the problem. A multi-method design will be used consisting of both qualitative and quantitative approaches. The first approach will be structured interviews with the administration. The second approach will be focus groups with teachers. The third approach will analyze quantitative data from student surveys. The results may provide insight into an underlying problem in underperforming scores on the End of Course Biology assessment. Furthermore, an instructional intervention may be suggested and implemented to improve scores based on the consensus of students' needs.

Keywords: Academic Achievement, Accountability, High-Stakes Testing, Performance.

Dedication

I would like to dedicate this work to my family for all their encouragement, willingness, and support during this journey. To my parents, Dawn Simpson, and Jerome Reed, thank you for pushing me through when I didn't have the drive to keep going. I am thankful for growing up in a family where setting high standards and work ethic was the expectation. I would not have been able to obtain this degree had it not been for your support with the kids. Whether it was giving Kyle or Imani a ride, running an errand, or cooking a meal so that I could focus on research and writing, you all were always ready and willing to step in for me, and for that, I am forever grateful. The selflessness displayed by you all provided me opportunities to give this degree my all, and for that, I am thankful and appreciative.

To my love, I am grateful that we were able to experience this process together, which allowed us to have discussions and study sessions as we both worked toward this degree. God has granted us these gifts, and I pray we are able to pay it forward.

To my son, Kyle, I pray that I have been able to set the pace for you in the future and I hope that I have been an example worthy of following. To my nieces and nephews, I pray that education is held in the highest regard for you. I am so excited to see what the future holds for all of you. Always remember, the sky is not the limit it is the expectation. I love you!

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Table of Contents

List of Tables

List of Figures.

List of Abbreviations

American College Test (ACT)

Annual Yearly Progress (AYP)

College and Career Readiness Performance Index (CCRPI)

End of Course (EOC)

English as Second Language Learners (ESL)

Every Student Succeeds Act (ESSA)

Georgia Department of Education (GADOE)

High-Stakes Testing (HST)

Institutional Review Board (IRB)

Lead Teacher of Special Education (LTSE)

No Child Left Behind (NCLB)

Partnership for Assessment of Readiness for College and Careers (PARCC)

Project Based Learning (PBL)

Race to the Top (RT3)

Scholastic Aptitude Test (SAT)

Science, Technology, Engineering, & Mathematics (STEM)

CHAPTER ONE: INTRODUCTION

Overview

The purpose of this applied study is to solve the problem of underperforming student test scores on the End of Course Biology assessment for high school students at an alternative school in Georgia, and to formulate a solution to address the problem. The problem is that only 18% of ninth grade students taking the 2018-2019 End of Course (EOC) Biology Assessment at the alternative school being studied in Atlanta, Georgia scored proficient or above. Students are underperforming on science high-stakes assessments, more specifically biology. According to the Governor's Office of Student Achievement Georgia School Grades report, far too many Georgia schools face this dilemma. In the state of Georgia, science-standardized assessments are not given in elementary school. The science portion of the assessment is introduced and scored for the first time for eighth grade students. Although the assessment is administered in the eighth grade, it is not used for promotion purposes unlike the reading and math sections (GADOE, 2019). Therefore, the first time that a passing score on a science-standardized assessment is required for students is in the ninth-grade biology course. This research is important because it provides an important foundation for school personnel given very recent changes in federal legislation designed to improve the learning environment while continuing to hold schools accountable. Problem-solving and collaboration are twenty-first-century skills critical for preparing learners to live in a global economy and a society with increasing diversity, rapid change, and efficient communication (Song, 2018).

In a society driven by technology, math and science students in the United States are falling further and further behind their international counterparts. As a result, there is an influx of science, technology, engineering, and mathematics (STEM) focused, reformed K-12 school,

that are focused on project-based learning (PBL) (Craig & Marshall, 2019). This research seeks to improve the teaching and learning process and ensure the continued success of students as teachers prepare them for the future. This chapter will include background information on the construction and uses of assessments, the history of standardized testing, the social context, theoretical frameworks, purpose and problem statements, definitions of pertinent terms, the significance of the study, and research questions used in the study.

Background

For the past century, standardized testing in the United States has been a measure of school success on both the individual school and district level. Testing has informed the allocation of resources and placement of students in coursework compatible with their perceived abilities (Cunningham, 2019). Standardized tests in the 20th century have marginalized low-income students and at-risk students and will continue to do so if they are heavily relied upon as measures of intelligence and success (Dyson, 2015). Every Student Succeeds Act (ESSA) offers testing flexibility, which takes a new approach to measure student learning (McGuinn, 2019). The law invited up to seven states, or groups of states, to participate in an "innovative assessment" pilot aimed at using performance tasks and other types of student work instead of states' previous tests; however, only Louisiana, New Hampshire, and Puerto Rico submitted applications (Gewertz, 2018).

ESSA gives states the autonomy to allow individual districts to drop their state's high school exam and use a "nationally recognized" high school test such as the Scholastic Aptitude Test (SAT) or American College Test (ACT) (Egalite, Fusarelli, & Fusarelli, 2017). ESSA also allows states to give assessments in one end-of-year session; they can administer interim tests during the year and roll those results together into one summative score (Gewertz, 2018). In

addition to testing scores, graduation rates, and English-language proficiency, states must hold schools accountable for other factors that contribute to school quality or students' opportunity to learn, including school climate, access to advanced coursework, access to arts, or absenteeism, among others (Klein, 2016). Teachers use standardized assessments to determine a student's strengths and weaknesses. The various types of standardized assessments include but are not limited to norm-referenced, criterion-referenced, achievement and aptitude tests.

The Georgia Milestones End of Course (EOC) assessment was designed and developed by the state of Georgia. Every individual that participates in the assessment does so under the same conditions. More importantly, the assessments are scored according to the same standards and scoring rubric. Georgia Milestones is a customized program designed to fit the needs of the state of Georgia and its students. The purpose of these assessments is to obtain a representation of the knowledge possessed by the individual (GADOE, 2020). The EOC Assessment consists of multi-level test questions, and many of the tests require students to not only select a multiple-choice response but to also develop a constructed response to some questions. According to Zoch (2017), the appropriateness of the test often fails to address cultural differences in the test-takers. Questions are often misunderstood or misinterpreted due to the context in which they are written, which is not universal across all cultures. According to Dyson (2015), whenever there is a conversation about the educational crisis in the United States, students of color are at the center of this discourse. It is widely known that at-risk students are more likely to attend under-resourced schools, to have less qualified teachers, to have higher dropout rates, and lower standardized test scores than their white peers (Mehta, 2015). Many factors, from structural to cultural, have caused student failure in schools. Some scholars have suggested that to improve academically, these students need more grit, perseverance, and passion for long-term goals

(Cunningham, 2019).

The Georgia Milestones EOC Assessment is a program consisting of comprehensive summative tests spanning grades 3 through high school, which is typically administered online during the last six weeks of a course. In the state of Georgia, school districts are giving the autonomy to choose the testing window that aligns with the local school calendar and coincides with the state-designated testing window. Furthermore, the assessments measure how well students have learned the knowledge and skills outlined in the content standards. State law requires that the Georgia Milestones End of Course measures serve as the final exam for the assigned courses and that the test results contribute 20% of a student's final course grade (GADOE, 2020). Not all courses in the core content areas have a milestone attached. Currently, in Georgia high schools, the tests are assigned to ninth grade literature, American literature, algebra, geometry, U.S. history, economics, biology, and physical science. The assessments are designed to provide information about student achievement and readiness to move on to the next level of learning (GADOE, 2019).

Historical Context

Achieving equity in educational opportunity was one of the primary goals of the NCLB Act (U.S. Department of Education 2002). To ensure that each student has equal access to rigorous academic content, the NCLB legislation required that each state report Annual Yearly Progress (AYP) disaggregate data for the minority students, such as African American students, English as Second Language Learners (ESL), students with disabilities and those that are coming from socioeconomically disadvantaged populations (Berliner, 2005). The impact of No Child Left Behind (NCLB) mandated state science assessment on elementary teachers' beliefs about teaching science and their classroom practice is relatively unknown. For many years, the

teaching of science has been minimized in elementary schools in favor of more emphasis on reading and mathematics (Milner, Sondergeld, Demir, Johnson, & Czerniak, 2012).

In 2014, an opt-out movement began with many students not participating in state standardized assessments. In the spring of 2015, more than 620,000 students refused to take state standardized exams (Neill, 2016). Six states ended their graduation tests, with three retroactively granting diplomas to young adults previously denied them solely because of their standardized exam scores. These changes reduced the number of states with exit exams to seventeen. Several states and districts ended or curtailed grade retention requirements. Districts also began to cut exams, and other big districts eliminated many tests. This refusal to participate in federally mandated testing programs represents a turning point in the history of assessment reform in the United States (Neill, 2016).

To close the achievement gap, policymakers at both federal and state levels have incorporated high-stakes testing (HST) and accountability measures into the calculation of scores used to measure overall schools' progress (Moore, Kuofie, Hakim, & Branch, 2016) Although there have been provisional acts to decrease the achievement gaps in student mastery at the state level, it was not until 2001 that federal policies incorporated the No Child Left Behind Act (NCLB, 2002) to offer incentives and deterrents to school districts, schools, and teachers based on the performance of the students. The Obama Administration recently declared testing had gone too far and urged schools to step back and make exams less time-consuming and more purposeful (Every Student Succeeds Act, 2015). Currently, testing is consuming the learning environment and there has been no evidence to support that more time spent on testing improves academic performance (Alexander, Jang, & Kankane, 2017).

The recently enacted Every Student Succeeds Act (ESSA) may provide school social

workers and other school personnel an opportunity to respond to the unintended consequences of NCLB but only if they have clear data about those consequences (ESSA, 2016). ESSA was not written on a blank slate; its immediate predecessor NCLB reinforced a growing role for the federal government in the design and implementation of accountability systems. States, however, retained responsibility for developing curriculum standards, preparing test instruments, and defining proficiency (Portz & Beauchamp, 2020). As schools' transition from NCLB to ESSA, they need empirical data about the impact of high-stakes testing, and data to better understand the qualitative impact of high-stakes testing on teachers, students, and the learning environment as a whole to identify the root causes of underperforming scores. ESSA has now given the power to individual states to identify and provide support for struggling schools and prohibits the federal government from interfering (Samuels, 2017). One of the effects of the increased number and high stakes of standardized tests is that the roles played by teachers have changed in most cases. Specifically, teachers' instructional tasks have increased (Valli & Buese, 2016). Teachers are expected to create lessons that may prepare students to take standardized assessments. The intent of intelligence tests is to make important remedial measures in teaching and student learning. Furthermore, test results and intelligence range are only two factors useful in determining one's success in school and life (Shepard, 2016).

Social Context

High-stakes tests are usually associated with issues such as teaching to the test, the result of teaching and learning, the motivation of students, fairness, differential access, and test-taking skills (Deitte et al., 2019). There are positive consequences for students such as allowing for transparency of requirements and skills of test-wiseness (Elwood, Hopfenbeck, & Baird, 2017). A single assessment should never be the sole factor in making an educated decision about a

student, an educator, or a school. "Our children are being treated with a one-size-fits-all education approach, which is causing unreliable test scores" (Popham, 2015, p. 15). Popham (2015) explained how teachers are losing power within their classrooms and are being punished for test scores that are not proficient while discussing the unfairness of measuring students' abilities on a mere test score; students' disabilities, language barriers, and/or mental illnesses can also make a test challenging for a student.

Cognitive development focuses on processing speed, working memory capacity, and fluid reasoning as three inter-related cognitive abilities that develop from childhood through adulthood and that predict individual differences in performance on numerous measures (Piaget, 1936). Principals, nested between internal and external influences, must manage the tension created by testing's roles as both an internal improvement tool and as an external control mechanism. Principals would benefit from framing the standardized testing debate from a system thinking perspective where they consider the interrelationships of the whole instead of only seeing snapshots (Jensen, Hite, Hite, & Randall, 2017).

Theoretical Context

Standardized testing has an extreme impact on education. More specifically, the results are used as a direct reflection of achievement, school performance, and state performance collectively. State education departments use standardized test scores to evaluate and assess schools on criteria (GADOE, 2019). Standardized testing restricts the curriculum and stifles the facilitation process. The recent accountability movement traces back to the National Commission on Excellence in Education 1983 report, which argued that if the United States was to compete effectively in the global economic order, it needs to train young people for greater productivity in the workplace by raising academic standards (Diamond, 2016).

Leggett (1985) developed implicit theories of intelligence. There is a paradigm shift from an empirical-based construct and framework of thinking and learning. The result is to the up-and-coming mindsets children hold about their abilities and intelligence, which can set them on different trajectories of motivation and learning (Haimovitz, & Dweck, 2017). These patterns are reflected in students' progress where more of a growth mindset predicts better academic performance, particularly for students facing challenges. Integrating mindset theory into classrooms can increase student academic achievement, increasing their agency for learning. The development of a growth mindset allows children to exercise autonomy over their learning, helping them to develop positive lifelong learning habits for the twenty-first century (Boylan, Barblett, & Knaus, 2018). This concept is especially important in an alternative setting where students have not actualized success. Social and emotional thinking and learning is key to their success. As students begin to conceptualize their ability mentally, it will manifest into reality and become their mindset.

The idea that adults' mindsets directly influence children's mindsets was initially suggested by extensive research on expectancy. These expectancy effects showed that parents' and teachers' perceptions of an individual child's level of competence predict the child's perception of their own competence (Froehlich, Martiny, Deaux, Goetz, & Mok, 2016). As a result, Dweck (1988) began studying how individuals unconsciously assess their abilities and intelligence. Individuals achieve their level of intelligence through interaction and interpretation. Thorndike (1951) first conceptualized "test wiseness" as a variable that can affect test scores. Test-wiseness (TW) is a capacity to utilize the characteristics and format of the test and the test-taking situation to achieve success (DeVore, Stewart, & Stewart, 2016). When tests are designed in a manner that the test taker only needs to have a minimal amount of information to choose an

answer, rather than develop an answer on their own, it is impossible to determine if the student has the content knowledge or if the student is an effective test taker.

Problem Statement

The problem was that only 18% of ninth grade students taking the 2018-2019 End of Course (EOC) Biology Assessment at the alternative school being studied in Atlanta, Georgia scored proficient or above. According to the school's improvement plan, the proficiency scores were said to increase by 5% from the previous year. The previous year's proficiency on the aforementioned assessment was 26% (Georgia School Grades Report, 2018). Not only did the school not meet the targeted goal, but the scores also dropped 8%. The expectation is to have at least 80% of students meeting proficiency on all high-stakes assessments; however, the local district's goal is to meet or exceed 50% in all content area assessments, to align with the state's overall performance. The biology assessment was the lowest performing for the school.

The current research focuses on the general impacts of standardized assessments. Consequently, standardized testing has become a means to examine school efficiency, achievement, and accountability. School accountability weighs heavily on student achievement; mindset has an impact on a student's academic achievement. Productive failure, a teaching method that leads to short-term failure and long-term success, is conducive to developing students' collaborative solving competency in science learning through PBL in a seamless learning environment (Song, 2018). Students who have a positive growth mindset have a slower decline in test scores; students who have a fixed mindset have a faster decline of test scores over time (McCutchen, Jones, Carbonneau, & Mueller, 2016). There is research surrounding underperforming schools, and impoverished schools; however, there is not much research on the impact that all these factors have on students' performance as it relates to the transient alternative

student. Moreover, at the alternative school, building a strong teacher-student rapport is pivotal and too often mandatory in a migrant-alternative student environment.

Purpose Statement

The purpose of this applied study is to solve the problem of underperforming student test scores on the End of Course Biology assessment for high school students at an alternative school in Georgia, and to formulate a solution to address the problem. A multi-method design will be used consisting of both qualitative and quantitative approaches. The first approach will be structured interviews with the school's administration. The second approach will use focus groups with teachers. The third approach will analyze quantitative data from student surveys.

Significance of the Study

As it relates to teaching and learning, this study is extremely important, since there seems to be a chasm that exists between instruction and testing. Ultimately, the results of this study may allow teachers to enhance their teaching and students' learning processes so that students better retain the content and close the achievement gap. The study may also shed light on the alignment of high stakes assessments to the standards being taught to determine the reliability of the assessments. This study is designed to expose the level of concern on the biology course and encourage teachers to set high levels of expectations aligned to the standards. The intent is to understand what students require to be successful in the course as well as on the EOC Biology Assessment. Also, the teacher will be able to remediate learning, motivate students, provide appropriate strategies based on need, and prepare students to increase scores. Education systems overemphasize limited measurements through scores to determine achievement regardless of individual experience and culture, the likelihood that disconnect, conflict, and opposition between systems and reality will occur (Counsell & Wright, 2018). In addition to the teachers

and students, the school may also benefit from increased assessment scores. Higher scores may directly affect the school's College and Career Readiness Performance Index (CCRPI) score, which measures accountability. Georgia schools receive up to 50 CCRPI points on state assessments in English Language Arts, mathematics, science, and social studies. Points are weighted proficiency rates for higher levels of performance. Beginning Learners earn 0 points, Developing Learners earn 0.5-point, Proficient Learners earn 1.0 point, and Distinguished Learners earn 1.5 points. This weighting system acknowledges the level of proficiency attained at each Achievement Level and provides incentive to move every student to the next level (GADOE, 2019). Standardized tests have contributed to cheating scandals, less collaboration, and straying away from the curriculum by teaching what is on the tests (Fjortoft, Gettig, & Verdone, 2018). Bergmann (2014) suggests that high stakes standardized tests are not significantly related to academic achievement.

Initially, standardized tests were used as a method of classifying and grouping the large influx of students that schools were experiencing (Bergmann, 2014). Consequently, standardized testing has become a means to examine school efficiency, achievement, and accountability. Standardized tests are not essentially measuring what they claim; the results are said to show students' achievement and ability. However, students are being measured only once a year with no alignment of data to do such a comparison or come to any true valid conclusions. Rather than focusing on the mastery of material, growth, and overall learning, performance goals focus on evaluation, ability, and performance. Performance goals focus on evaluating students based on their current ability level, whereas learning goals focus on the learning process of new material and the growth that students experience (GA DOE, 2019).

Research Questions

Central Question: How can the problem of low-performing test scores on the EOC Biology test be resolved at an alternative high school located in Georgia?

Sub-question 1: How would administrators in an interview solve the problem of low-performing test scores on the EOC Biology test at an alternative high school located in Georgia?

Sub-question 2: How would educators in a focus group solve the problem of low-performing test scores on the EOC Biology test at an alternative high school located in Georgia?

Sub-question 3: How would quantitative student survey data inform the problem of low-performing test scores on the EOC Biology test at an alternative high school located in Georgia?

Definitions

1. *Academic achievement* – The extent to which a student, teacher or institution has achieved their short or long-term educational goals (Bhai & Horoi, 2019).
2. *Alternative school* – An educational setting designed to accommodate the behavioral and educational needs of students who cannot be adequately addressed in a traditional school environment (Kennedy, Acosta, & Soutullo, 2019).
3. *High-Stakes testing (standardized tests)* – An assessment developed by a state or local school district that is designed to measure achievement or performance (Mulvenon, Stegman, & Ritter, 2005).
4. *Low performing* – A reference to students with difficulties, who do not meet the required standard of performance (Ekstam, Korhonen, Linnanmaki, & Aunio, 2018).
5. *School accountability* – The process of evaluating school performance based on student performance measures. Accountability involves using data aimed at increasing student achievement (Winton, 2013).

6. *Student performance* – The extent to which a student has achieved their educational goals (Alexander, Jang, & Kankane, 2017).
7. *Teacher performance* - The impact on student learning established through student achievement test scores, pedagogical practices, and surveys (Alexander, Jang, & Kankane, 2017).

Summary

The purpose of this applied study is to solve the problem of underperforming student test scores on the End of Course Biology assessment for high school students at an alternative school in Georgia, and to design interventions to address the problem. The problem is that only 18% of ninth grade students taking the 2018-2019 End of Course (EOC) Biology Assessment at the alternative school being studied in Atlanta, Georgia scored proficient or above. High-stakes testing may have a restrictive impact on the curriculum and the instructional process. Standardized tests are not adaptive assessments, which means the growth measure is non-existent. Without the ability to measure growth, it is not possible to measure achievement, accountability, or performance. As a result, there has been a shift from intentional instruction to teach to the test (Deitte et al., 2019). As it relates to standardized testing, an individual with a positive mindset has been shown to have increased confidence and be more comfortable in a standardized testing setting (Mofield, & Parker-Peters, 2018). This allows the tester to be relaxed, thus removing the barrier of test anxiety. These assessments ultimately influence the individual's goals, behaviors, self-esteem, and motivations. Students who whole-heartedly believe their abilities can change, may have better self-control over the outcome of future academic events as well as focus more on learning the content, rather than assessment results.

CHAPTER TWO: LITERATURE REVIEW

Overview

The purpose of this applied study was to solve the problem of underperforming student test scores on the End of Course Biology assessment for high school students at an alternative school in Georgia, and to address the problem. The problem is that only 18% of ninth grade students taking the 2018-2019 End of Course (EOC) Biology Assessment at the alternative school being studied in Atlanta, Georgia scored proficient or above. The chapter includes the conceptual framework associated with high-stake test scores, followed by a comprehensive review of the literature related to the influences of underperforming standardized assessment scores on efficacy, accountability, performance, financial dependency, motivation, assessment instruments, mindset, teaching and learning, government influence, preparation programs, and the curriculum.

Conceptual Framework

Many factors attribute to the level of performance on standardized assessments. Typically, there are external factors outside of the testers' ability, which can impact performance (Walkington, Clinton, & Shivraj, 2018). Factors such as motivation, test composition, funding, environmental factors, perceptions, and anxiety all contribute to test scores (Arthur et al., 2015). Motivational factors contribute to performance and learning by strengthening the coupling of goals to actions (Wulf & Lewthwaite, 2016). Motivation can be a broad and inclusive term for factors influencing and encompassing the energy, direction, and intensity of behavior (Arthur et al., 2015). Thus, many variables ranging from social and other environmental conditions to internal thoughts and processes, and affective responses can initiate or alter the direction and

intensity of ongoing behavior. These motivational influences can be implicit or explicit (Haimovitz & Dweck, 2017).

According to Piaget (1936), Cognitive Learning Theory implies that the different processes concerning learning can be explained by analyzing the mental processes first. It further states that with effective cognitive processes, learning is easier and new information can be stored in the memory for a long time. On the other hand, ineffective cognitive processes result in learning difficulties that can be seen anytime during the lifetime of an individual (Cirino, Fuchs, Elias, Powell, & Schumacher, 2015). Students should be equipped with the knowledge and skills necessary to think critically, solve complex problems, and ultimately succeed in the 21st century. Self-efficacy is task-specific, meaning that various forms of self-efficacy can exist for any given behavior (Sweet, Fortier, Strachan, & Blanchard, 2012). Task, barrier, and scheduling self-efficacy respectively refer to one's confidence to participate, overcome barriers, and organize time and responsibilities.

Self-efficacy refers to an individual's belief in his or her capacity to execute behaviors necessary to produce specific performance attainments (Zoch, 2017; Bandura, 1977). Anxious students typically need more time to complete an assessment and to invest the effort necessary to achieve the level of performance demonstrated by students who are identified as less anxious (Mavilidi, Hoogerheide, & Paas, 2014). However, teacher self-efficacy is associated with a multitude of positive outcomes for teachers and students (Pfitzner-Eden, 2016). Bandura (1997) proposed four sources of self-efficacy: mastery experiences, vicarious experiences, verbal persuasion, and physiological and affective states. Self-efficacy reflects confidence in the ability to exert control over one's motivation, behavior, and social environment, which are hypothesized

beliefs that vary depending on the domain of functioning and circumstances surrounding the occurrence of behavior (Pfitzner-Eden, 2016).

Related Literature

The review synthesized the recent literature on High-Stakes Testing (HST) in the state of Georgia. Finally, the review will consider studies regarding assessment development and uses. Exposing perceptions provided a framework of the impacts associated with student performance on HST. In addition, a review of the literature uncovered some of the implications associated with the low-performing scores and student ability. Teaching and learning paired with student mobility are factors related to the underlying outcomes found in underperforming scores on standardized assessments.

Governmentality on Testing Accountability

The French philosopher Foucault formulated governmentality, which combines the terms government and rationality, where government refers to shaping and guiding an individual's conduct (Brass, 2015). It is essential to uncover what little is known about how teachers use assessment data. The underlying assumption here seems to be that teachers' anecdotal, intuitive, experiential knowledge can be switched off and neutralized by the rational algorithmic processing of student test data (Atkinson, 2015). The governmentality lens suggests that practices based on data are not neutral, or objective. U.S. Department of Education (2015) acknowledged that it had contributed to the current state of over-testing and unnecessary stress associated with high-stakes testing, calling for "fewer and smarter" assessments. According to Atkinson (2015), there is a vulnerability to educators' appropriation of what is spoken and thought within a local accountability context. The presence of multiple and varying weighted discourses shaping teachers' practices indicates the closely woven and distributive nature of

power and knowledge relations structuring the context of accountability. Meritocracy and deficit thinking have been noted as discourses associated with this accountability context particularly, but also noted in the broader educational context (Atkinson, 2015, p. 47).

In times where teachers are held accountable for students' results, the policies should be revised to consider the use of supports outside of the classroom, such as cram schools, online programs, and test preparation activities, especially since these have become an increasingly global phenomenon (Hopfenbeck, 2017). Accountability has become a contentious term used when discussing the quality of education as it relates to the disparity of allocated resources. Loeb and Byun (2019) evoke that no measure is perfect, and that the usefulness of test-based accountability depends on whether the measures enhance educational opportunities and reflect shared goals with reliability, validity, and comprehensiveness. Testing has long been a source of conflict. Some educators view accountability testing as a necessary component of any effort to improve the quality of schools and to decrease inequitable opportunities. Others see the reliance on testing, and particularly test-based accountability, as narrowing the curriculum, leading teachers to substitute test preparation for deep instruction and more generally making teaching an undesirable occupation (Hanushek, 2019). The use of standardized tests for high-stakes decisions regarding students, teachers and schools has increased in many countries throughout the world in recent years. Almost all countries in Europe arrange for external evaluation and accountability of their schools or teachers in order to improve the quality of education. As a measure and part of Educational Governance, the described development and accountability programs aim to raise the quality of educational systems and provide a higher degree of fairness (Lorenz, Eickelmann, & Bos, 2016).

The culture in education measures performance through productivity or student test scores. In addition, curriculum and policy levers used for educational accountability consist of tightening curriculum control utilizing ‘one-size fits all’, standardized curriculum configuration with prescribed outcomes, and specification of curriculum knowledge (Winter, 2017). In an exploratory study, researchers assess 379 pre-service teachers for their experiences and beliefs about high stakes testing and analyzed how they related their beliefs to their profession. The results indicate that pre-service teachers’ experiences and beliefs regarding high-stakes testing accountability vary based on gender, ethnicity, and previous experiences with high-stakes tests; however, they generally disliked the high-stakes tests they had to take in high school. Subgroup analyses revealed that for those who took them during the NCLB era, they also saw high-stakes tests as a good thing for education overall. Pre-service teachers who were younger and “grew up” under NCLB and the height of high-stakes testing, believed high-stakes tests to be a waste of time for them personally, but a useful way to evaluate teachers as an educational policy (Nichols & Brewington, 2020).

The recent reform movement in the United States has focused on constructing extensive centralized testing to both monitor student performance and strengthen school and teacher accountability (Cummings, 2017). Student achievement and high school graduation rates are at the center of the accountability system. They are the means that determine if schools, teachers, and students are meeting identified goals (Portz & Beauchamp, 2020). Japanese education has moved from high-stakes testing to a "relaxed education." Decades of the high-stakes testing culture in Japan educational stakeholders have left students stressed and lacking the skills necessary to succeed in the twenty-first century. In Japan, reforms include the shift from a 6-day school week to 5 days and changes to the course of study to focus less on core academic subjects

and more on the development of integrated studies and electives (Marland, 2016). During this transition, teachers were encouraged to shift to more supportive guidance and classroom management techniques and develop and implement innovative pedagogical methods.

Race to the top (RT3). Ballou and Springer (2015) brought attention to some underappreciated problems in the design and implementation of evaluation systems that incorporate value-added measures. RT3 was a $4.35 billion competitive grant issued by the United States Department of Education, created to stimulate, and reward reforms in state and local district K-12 education (Howell, & Magazinnik, 2017). Funded as part of the American Recovery and Reinvestment Act of 2009, states were awarded points for enacting certain educational policies, instituting performance-based evaluations for teachers and principals based on multiple measures of educator effectiveness, adopting common standards, adopting policies that did not effectively prohibit the expansion of high-quality charter schools, turning around the lowest-performing schools, and building and using data systems (Russell, Meredith, Childs, Stein, & Prine, 2015). In reviewing RT3 state-testing protocols, there was not a single state that prohibited classroom teachers from administering state assessments to their students provided none of the students was a relative.

The Georgia Standards of Excellence (GSE) drive instruction in the state of Georgia. The standards were designed to encourage hands-on, student-centered, and inquiry-based approaches to instruction. The standards are a required minimum set of expectations that show proficiency. These standards set an expectation on what will be assessed by the Georgia Milestones Assessments (GADOE, 2019). Common Core, NCLB, RT3, and now Standards of Excellence embody federal and state education reform purportedly designed to address inequities for all students and especially low-income students (Russell, Meredith, Childs, Stein, & Prine, 2015).

However, these policies have, in fact, expanded inequities and exacerbated a discourse of failure regarding teachers, public schools, and teacher preparation programs (Croft, Roberts, & Stenhouse, 2016). Consequently, public confidence in teachers' performance of preparation programs, and student performance are at an all-time low (Motz, Leeuw, Carvalho, Liang, & Goldstone, 2017). The federal government funds local schools without which many may not exist. An achievement test that is administered annually and measures student knowledge has the ability to alter the funds awarded to a school (Foster, 2016). State applications for funding were scored on selection criteria worth a total of 500 points, with 70 points coming from the standards and assessment category: 40 points for developing and adopting common standards, 20 points for supporting the transition to enhanced standards and high-quality assessments, and 10 points for developing and implementing common, high-quality assessments, in which Georgia was awarded $400 million in round two of RT3 (McGuinn, 2014).

According to Weiss (2014), lack of time, resources, and tools put lofty state goals out of reach. The No Child Left Behind Act of 2001 and the 2009 Race to the Top initiative were implemented, in part, because critics of America's educational system believed declining SAT scores showed that U.S. schools were waning in quality, but these cynics overlooked the increase in low-income and immigrant students taking these tests (Rose 2015). At-risk students much like the students attending behavior alternative schools change schools much more frequently than their more privileged stationary counterparts, making it more difficult for them to succeed academically (Morgan, 2016).

During Race to the Top (RT3) implementation, states and local school districts in the U.S. applied teaching-practices protocols as part of an evaluation tool to support best practices of teaching along with principals' instructional supervision of teachers' performance (Day, Gu, &

Sammons, 2016). Teachers' unions argued that state tests are an inaccurate way to measure teacher effectiveness because learning gains on assessments is only one component of the evaluation systems (Honig & Weaver, 2019). Forty-six states applied for RT3 funding 29 made policy changes creating statewide teacher evaluation systems, and of those 29, 16 states now require that student achievement data be used in annual teacher evaluations, a significant change from the typical evaluation processes in schools (Russell, Meredith, Childs, Stein, & Prine, 2015). Principals described how the standardized indicators from teaching practice rubrics sharpened their focus on students' levels of engagement during classroom observations (Wieczorek, Wieczorek, Clark, & Theoharis, 2019).

Funding, reputation, and targets. As with many institutions, there is a sense of fear ingrained in the culture when the school is not meeting potential achievement targets. According to the data, there is a common understanding that emerged amongst teachers and school leaders at Citywest Primary, that there was a strong link between National Partnerships (NP) funding and school-wide NAPLAN data. (Lewis & Hardy, 2015). Under these circumstances, NAPLAN data became valued capital. This funding is a significant resource symbolic of the success of the school and admired for how it could be deployed to ensure additional funding from the federal government. Although the study yielded higher assessment scores, it is limited in that the scores were based on the motivation of the funding and not necessarily on effective teaching and learning. According to Foster (2016), elementary and secondary education received over $550 billion in annual public spending. The new copyrighted Common Core State Standards, and the accompanying standardized tests run by two multi-state consortia in conjunction with testing companies, are high-stakes not merely for schools, teachers, and students, but also the vested interests of capital.

Educators are not opposed to assessment. Standards and assessments are important for diagnosing students and planning. However, too often, the data produced by standardized tests are not made available to teachers until the end of the school year, making it impossible to use the information to address student needs (Dianis, Jackson, & Noguera, 2015). When tests are used in this way, they merely measure predictable inequities in academic outcomes. Parents have a right to know that there is concrete evidence that their children are learning, but standardized tests do not provide this evidence. It would be difficult to say if both the teachers and students would still perform high if they were not motivated by the school receiving funding in turn for higher scores. Such responses and emotions not only demonstrate the value and fragility of the reputational capital at stake but also highlight the teacher subjectivities being constituted through discourses of accountability and performance (Lewis & Hardy, 2015).

The costs associated with high stakes testing stretch beyond administering the test and include the cost of re-administering exams to students who fail the first time; the loss in tax revenue and Social Security contributions from those who fail to graduate due to not passing an exam; an increase in the number of drop-outs and the decrease in life-time earnings when students fail to receive a standard high school diploma; and the increased educational cost associated with manipulating test pools by labeling students as "disabled" (Jakee & Keller, 2017). Other costs are not easily monetized, such as the narrowing of the curriculum, the social cost of increased cheating, the stigma of being labeled as a priority failing school, and the effects that the school's accountability rating has on local home prices. These costs are relevant factors and should be considered in any comprehensive benefit-cost analysis of high-stakes testing.

Assessment Instruments and Strategies

Feeney and Freeman (2014) shed light on the intended uses of assessment instruments and strategies that are appropriate for the children being assessed. Furthermore, they wanted to determine if the high-stakes test were being used only for the purposes for which they were designed and that the assessments provided a potential to benefit children. The purpose of the study was to investigate ways to use assessment information to understand and support children's development and learning, to support instruction, and to identify children who may need additional services (Feeney & Freeman, 2014). A good test taker may follow the test-taking strategies associated with test-wiseness when taking a standardized test and oftentimes do quite well, which is not a true representation of their ability (Papenberg, Willing, & Musch, 2017). Some issues that arise during the administration of standardized assessments or with the results stem from the tests being beyond children's developmental capabilities or the children's behavior may be influenced by mood or by the test situation (Feeney & Freeman 2014). Ethical teachers will resist the temptation, or the coercion to teach to the test and will avoid overemphasizing test-taking skills as a teaching strategy to the exclusion of other worthwhile content that is necessary for achievement and learning during instruction.

High-Stakes testing occupies a striking role in education and can impact students' personal and professional trajectory; therefore, they must be well understood. Understanding the workings of tests requires a multidisciplinary approach, one that treats tests not only as assessment instruments, but also as sociolinguistic and sociopolitical products (Constantinou, Crisp, & Johnson, 2018). Tests are multifaceted and typically perceived as measurement instruments; they can also be viewed as socially and culturally constructed artifacts (Elwood & Murphy, 2015). Students' achievement in any test not only mirrors their ability and depends on their test-taking effort. Test scores do not only reflect ability but also test-taking effort, with

corresponding effects on test validity. Furthermore, the consequences for test-takers during high-stakes testing can be significant, potentially leading to high test-taking effort and, in turn, better performance (Schuttpelz-Brauns, Kadmon, Kiessling, Karay, Gestmann, & Kammer, 2018).

Responsive teaching is an instructional approach where the teacher seeks to understand the substance of students' ideas and to build instruction on those thoughts (Robertson, Atkins, Levin, & Richards, 2016). Difficulties facilitating student-centered activities in the classroom, poverty, lack of instructional autonomy, and high-stakes testing are barriers to student-centered teaching (Serrano-Corkin, Coleman, & Ekmekci, 2019). Despite the benefits of responsive teaching, many teachers have a concern about the time spent on incorrect ideas or deviating from mandated, standards-based curricula; these concerns are usually tied to uncertainty about how students in responsive classrooms will perform on standardized tests (Radoff, Robertson, Fargason, & Goldberg, 2018). Typical methods of assessment have included quantifiable metrics such as standardized test scores or graduation rates to document whether learning has occurred. While these methods have had questionable success in accurately gauging student achievement in public education (Popham, 2015). Employing these metrics in education becomes even more problematic. Using traditional quantitative measures as a policy to assess the wide variety of learning that occurs can be difficult (Hart & Robinson, 2019).

Georgia Milestones assessment measures. The Georgia Milestones development process began in the early part of 2016 and directly involved Georgia educators at every step (GADOE, 2019). Test item that appears on Georgia Milestones has been reviewed by Georgia educators a minimum of two times. According to the Georgia Department of Education (2019), educators will continue to have significant input in the continued development of the program.

The test score measures are classified as beginning learners, developing learners, proficient learners, and distinguished learners, and is based on if students demonstrate skill necessary for the course, as specified in Georgia's content standard. Beginning Learners do not yet demonstrate proficiency in the knowledge and skills necessary for the course. These students need substantial academic support to be prepared for the next grade level. Developing Learners demonstrate partial proficiency in the knowledge and skills necessary for the course. The students need additional academic support to ensure success in the next grade level. Proficient learners demonstrate proficiency in the knowledge and skills necessary for the course. The students are prepared for the next grade level or course and are on track for college and career readiness. Distinguished Learners demonstrate advanced proficiency in the knowledge and skills necessary for the course. The students are well prepared for the next grade level or course and are prepared for college and career readiness (GADOE, 2020).

Predictability of Assessments

'Subjects that demanded the learning of a large amount of content such as biology, geography, and economics were also seen as less predictable as it relates to test scores, while other examinations (like the Leaving certificate exams) are too predictable and so they have a negative impact on students' learning' (Elwood, Hopfenbeck, & Baird, 2017, p. 9). The findings from the study further address a major shortcoming in education, which is listening to students about complex, high-stakes examining problems and depicting how students' reflections could improve the understandings of these dilemmas (Elwood et al., 2017). Many factors besides academic performance can affect teachers' appraisals and expectations of students, such as student attractiveness, classroom conduct, gender, socioeconomic status, and ethnicity (Harvey, Suizzo, & Jackson, 2016). The data indicates that students are more than able to reflect on their

situations concerning high stakes examining contexts and have important contributions to make to our fuller understanding of those elements that will promote high quality and fair assessment. The findings suggest that the perspectives of students as it relates to their performance are both critical and essential to their success (Elwood et al., 2017).

Prior to high-stakes examinations, teachers and school staff may communicate a multitude of information to students and their parents. Some of this is purely administrative referring to details, such as the time, venue, and length of a particular examination. However, other information is communicated that concerns the importance, value, and consequences of those examinations, along with the importance of preparation. These include how failure could influence one's sense of self-worth and damage future life chances, the timing of their forthcoming examinations, and the time left available to prepare (Putwain & von der Embse, 2018). These messages are conceptualized to have a motivational function. That is, to encourage students to work hard in preparing for their examinations, engage with their studies, and persist with difficulties (Putwain, Symes, & McCaldin, 2019). When used before high-stakes examinations, fear appeals are defined as persuasive messages that highlight how failure can negative consequences for future educational attainment, occupational aspirations, one's sense of self-worth, or social concerns. The impacts of such exams are high value or importance of the examination for the student concerned and high cost, which is the consequences that would likely result from failure. Fear is conceptualized as a communicated high-value, high-cost, message (Putwain et al., 2017). These fear tactics are linked to progression in education, entry to a particular school, parental expectations, access to a competitive labor market, and peer competition.

Impacts of Motivation on Testing

Stenlund, Lyren, and Eklof (2018) identified and grouped test takers with similar patterns of test-taking behavior and explored how these groups differ in terms of background characteristics and test performance in a high-stakes achievement test context. The study consisted of 1,891 participants who completed a questionnaire measuring their motivation, test anxiety, and risk-taking behavior during the test, as well as background characteristics. A two-step cluster analysis revealed three clusters of categories of test-takers with significantly different test-taking behaviors. There were 741 moderate risk participants, 631 calm risk participants, and 513 test anxious risk participants. According to Stenlund et al. (2018), these findings help understand and to explain performance differences that are often observed between manifest groups in achievement tests. Within the history of the study of human motivation, several theoretical perspectives elevate cognitions and conditions of expectations for the future as well as perceptions of autonomy to prominent motivational positions. Diamond (2016) suggested that high-stakes policies exert a major influence on instruction for better or for worse. Some research has found that these policies improve students' outcomes by motivating educators to emphasize more rigorous content and by leading teachers to use pedagogical approaches that enhance students' learning outcomes.

Test anxiety refers to individual differences in an enduring, trait-like, tendency to appraise performance situations like examinations as threatening (Putwain & Aveyard, 2018). Individuals high in test anxiety tend to anticipate failure, freeze in performance situations, and have difficulty concentrating in test settings (Zeidner, 2014). According to Segool, Embse, Mata, and Gallant (2014), It has been widely accepted for some time that test anxiety is a multidimensional phenomenon that includes cognitive and affective-physiological elements. Higher academic perceived capacity, perceived degree of certainty, and test competence in which

students believe they can perform, are all implicated in a network of adaptive cognition, emotion, motivation, behavior, and self-regulation that are all likely to result in better examination performance (Kitsantas & Cleary, 2016).

An individual acts when prospects provide a sense that positive outcomes will occur (Wulf & Lewthwaite, 2016). Research also suggests that to know and use effective test-taking strategies may reduce test anxiety. An individual's implicit theory of intelligence refers to a person's underlying beliefs regarding whether intelligence or abilities can change (Dweck & Leggett, 1988). These assessments ultimately influence the individual's goals, behaviors, self-esteem, and motivations. Questions associated with this theory include are the results of these assessments truly measuring achievement and accountability, and are the results of a true testament to the test-takers ability and performance level? Nelson (2016) suggests that to know and use effective test-taking strategies may reduce test anxiety. A high level of motivation is generally seen as important for optimal performance. On the other hand, as motivation increases, test anxiety also tends to increase (Stenlund et al., 2018). Many researchers have suggested that test anxiety and lack of motivation play a significant role in the outcomes of high stakes assessments. This is directly related to student and teacher performance. Teachers tend to teach concepts only on the test in an effort to reduce anxiety.

Mindset and academic achievement. McCutchen, Jones, Carbonneau, and Mueller (2016), evaluated the relationship between mindset and academic achievement over time. A longitudinal study was conducted over three semesters within 28 classrooms, in seven schools, with a total of 419 participants to examine the relationship between students' mindset and their standardized test performance. Students in grades three to six completed questionnaires in the fall and spring semester over two school years. In addition, students completed standardized

testing in math and reading. Multi-level models allowed for a 2-level model suggesting a link between time and academic achievement (McCutchen et al., 2016). The current study examines mindsets for math and reading as these domains are often assessed in students' academic achievement tests. The use of multilevel modeling allowed for a variance to be separated at three levels: time-specific achievement at level one, associated growth model intercepts and slopes at level two, and classroom level at level three. Results suggest that an initial mindset has an impact on students' academic achievement, with students who initially reported a more growth-oriented mindset having a slower decline in test scores than students with a more fixed mindset. The results suggest that having a positive growth mindset will lead to student confidence and resilience as it relates to proficient performance in both classroom and standardized testing.

Fixed attitudes are especially predominant in STEM territories, which is tricky because students with growth mindsets and mastery goals tend to achieve and persist in STEM subjects. Critically, in lab settings and homerooms, researchers have indicated that mindset can be changed (Schmidt & Shumow, 2020). Growth mindset interventions show that intellectual abilities can be developed and improve grades among lower-achieving students. In the United States, the grades of students tend to decrease during the transition to the ninth grade, and often do not recover (Bostwick, & Becker-Blease, 2018). When these students underperform in rigorous coursework, they are far less likely to leave secondary school prepared for post-secondary education. One way to improve academic success across the transition to secondary school is through social-psychological interventions, which change how adolescents think or feel about themselves and their schoolwork and thereby encourage students to take advantage of learning opportunities in school (Yeager et al., 2019).

Intelligence is not fixed; students can build capacity and grow intellectually. Students experience a range of challenges and successes during their academic careers. However, research has long recognized that what matters for students' long-term academic trajectories is how they interpret and understand these experiences when they occur (Binning, Wang, & Amemiya, 2019). Research on attributions has suggested that failure may be ascribed to stable and internal causes such as intelligence or too difficult and temporary causes such as effort (Bostwick, & Becker-Blease, 2018). These attributions are critical because they in turn shape whether students stay engaged or lose focus on academic performance.

Test-Taking motivation for students. 'It is uncertain whether the students do expend full effort; it could be that the students' results do not depict their true level of ability due to low motivation' (Penk, Pohlmann & Roppelt, 2014, p. 2). The results showed that, after researchers had controlled for self-concept in mathematics, test-taking motivation was significantly, but relatively weakly, associated with test performance: students achieved higher test performance the more effort they invested and the less worry they experienced during the test. Results also revealed school-track specific differences for invested effort (Penk et al., 2014). 'After more than a decade of intense testing, it seems likely that test-taking motivation in low-stakes assessments has developed an influence on effort and performance' (Penk et al., 2014, p. 15). Using motivation incentives as a way to ultimately improve test scores may be risky. The goal is to get students to learn and comprehend concepts, which they can then transfer during critical thinking and perform well on high-stakes assessments.

The experiences students have with assessments have been shown to have a significant association with both their approaches to learning, as well as how they view themselves as learners (Knekta & Sundstrom, 2019). When there is a significant focus on high-stakes

assessment, students seem to be more motivated towards performance goals rather than mastery goals, experience more stress and pressure and have lower self-efficacy (Brown, 2015). When students understand the purpose of an assessment and how the scores will be used and interpreted there is a direct impact on student responses, which ultimately affects the conclusions drawn about student performance. High-test-anxiety is one factor that might impair students' direct performance and thereby lower the validity of the inferences made from the test results (Wise & Kingsbury, 2016). Therefore, if students find a test unimportant, they are not likely to do their best, which in turn may result in inaccurate decisions and determinations based on the test-scores.

Interpersonal trust, and attitudes towards standardized tests. Chu, Guo, and Leighton (2014) explored the relationship between two kinds of affective variables: interpersonal trust, and attitudes towards standardized tests with regards to student test performance. In addition, the study also examined the effect of a print media report on students' trust and attitudes towards testing. Using structural equation modeling, the study investigated the responses of 206 university students to a modified version of a test aptitude survey and interpersonal trust scale. The challenges associated with failing schools are well known among policymakers and educators (Chu et al., 2014). However, solutions are complex due to the social, cognitive, and affective variables that are implicated in ensuring that students become successful learners.

As a result, the study found evidence that students' interpersonal trust is related to positive attitudes about the effort expended on tests. One limitation arose from the lack of an effect associated with reading the emotional print media report. In future studies, the intervention may need to be more intense, longer in duration and personally relevant to students

to induce a momentary change of trust and attitudes towards testing (Chu et al., 2014). This topic has a direct relationship with the impact of testing on student performance. The student's perceptions have a mental effect on how they prepare and perform on the day of the test. The perspective of both school effectiveness and educational economics is that an exertion of pressure on schools, teachers, and students by implementing forms of high-stakes testing might, improve students' achievement (Lorenz, Eickelmann, & Bos, 2016).

A precursor of long- and short-term relationships is trust. Interpersonal trust is an important component of human social interaction. Trusting other people is associated with the strength of social relationships and the way many interpersonal decisions are made (Zeng & Xia, 2019). There is considerable variability that exists in the ways and the extent to which people trust others (Singh, Tay, & Sankaran, 2017). Trust is the cornerstone for building relationships with students, which can increase student effort and in turn performance. Interpersonal trust has been operationalized as a relatively stable trait that varies within the human population (Bakken, Brown, & Downing, 2017). However, attitudes of interpersonal trust can dynamically change over time and can be affected by competence, which can affect student performance on assessments. Interpersonal trust is operationally defined as the willingness to put oneself in a vulnerable position dependent on another person's actions; in terms of emotional valence, trust is a positive interpersonal attitude, whereas distrust represents a negative interpersonal attitude (Filkowski, Anderson, & Haas, 2016).

Student-Teacher relationships. 'According to social–motivational theories (Connell & Wellborn, 1991; Deci, Vallerand, Pelletier, & Ryan, 1991), students will become engaged in schoolwork if their basic psychological needs for relatedness, competence, and autonomy are met' (p. 240). A distinction was made between positive relationship aspects related to closeness

and negative relationship aspects related to conflict. Findings show that, overall, the associations between both positive relationships and achievement and negative relationships and achievement were partially mediated by student engagement. Bausell and Glazier (2018) recommended that teacher educators prepare future teachers with an understanding of the ways teacher socialization unfolds so that new teachers can be mindful of the factors that may shape their practice.

High-stakes testing deeply affects teacher beliefs, relationships among teachers and students, practices, and socialization behaviors, thus revealing a troubling tendency to position students as numbers and a sharp decline in talk surrounding teaching philosophies and practices develops alongside the testing policy landscape (Bausell et al., 2018). The measurement of knowledge and skills is essential for tracking students' cognitive development and assessing the effectiveness of practices. A high level of motivation is generally seen as important for optimal performance. In many cases, as motivation increases, test anxiety also tends to increase. Recently research has drawn primarily on standardized achievement tests to assess students' mastery of state-defined content standards in core academic subjects (Stiggins, 2004). Standards-based accountability policies are designed to challenge these inequalities by motivating teachers to expose all students to high-quality instruction with a critical focus on content, and pedagogy (Diamond, 2016).

Psychological science has used measures of several cognitive concepts to assess variation in domain-independent mental skills. Positive and negative aspects of the relationship between teachers and students were significantly associated with the student's engagement and achievement. Children's emotion knowledge also acted as a mediator in the association between teacher-student closeness and children's test scores (Roorda, Jak, Zee, Oort, & Koomen, 2017). Typically, anxiety leads to an impaired function of the brain, which is directly related to the

inability to perform well on assessments (Nelson, 2016). This typically shows a decrease in the working memory and the ability to focus and pay attention, which are key components of the brain needed to be successful. There is a moderate negative correlation between test anxiety and test performance some researchers hypothesized that trait test anxiety may induce measurement bias (Sommer & Arendasy, 2015).

Standardized Tests used to Evaluate Schools and Teachers

Morgan (2016) highlighted the use of standardized tests as the primary means to evaluate schools and teachers in the twenty-first century. According to Morgan (2016), the United States has contributed to severe dilemmas, including misleading information on what students know, lower-level instruction, cheating, less collaboration, unfair treatment of teachers, and biased teaching. This article provides reasons for the increased use in high-stakes testing and detail on the problems it causes. Also included are possible solutions to alleviate the concerns associated with high-stakes testing, such as performance-based. One of the effects of the increased number and heightened stakes of standardized tests is that the roles played by teachers have changed. Specifically, teachers' instructional tasks have increased because they are expected to take up work related to testing in addition to their regular teaching duties. Investigating students' perceptions toward standardized tests may be central to informing educators on how to enhance student learning and ease any doubts and fears students may have with tests.

In the early period of NCLB implementation, principals reported encouraging teachers to focus on students close to meeting the standards (Jennings & Sohn, 2014). They found that in schools with low probabilities of failing NCLB's requirement, 26 percent of teachers reported focusing on students close to proficiency. In schools more likely to fail, 53 percent of teachers focused on these students (Jennings & Sohn, 2014). This data suggest that accountability

pressure is associated with how teachers allocate instructional resources between students, which stems from schools' evaluation based on test scores. Standardized tests have become central to all aspects of education. Portraying teachers and schools as failing, neoliberals shift the blame for the nation's stagnant incomes and growing economic inequality away from their policies and onto schools (Hursh, 2013). The widening economic gap is paralleled by a widening achievement gap between our wealthiest and poorest students.

Similarly, schools in the United States have grown more spatially and economically segregated with most urban school districts overwhelmingly composed of students living in poverty and of color. However, the relentless focus on test scores over the last several decades suppresses analysis and debate of economic, social, and educational policies (Hursh, 2013). According to Schaefle (2018), apparent gains in educational achievement overshadowed negative impacts on underperforming students. Schaefle further states that the pressures and incentives of high-stakes testing led districts to manipulate dropout rates to not include these students who had left school. The impact of mixed methods of assessment in biology, which minimizes the impact of high-stakes exams and rewards other methods of assessment such as group participation, low-stakes quizzes, and in-class activities (Cotner & Ballen, 2017). Furthermore, these mixed methods would benefit individuals who otherwise underperform on high-stakes tests. Accountability systems that ignore a student's background and focus heavily on testing measures tend to reward and punish the wrong schools which are likely to have detrimental effects on student learning (Leckie & Goldstein, 2019). Accountability policies exacerbate inequalities by leading teachers to narrow the content they teach, marginalize low-performing students, or emphasize instructional pedagogy characterized by memorization, lecture, busy work, and recitation in low performing schools (Diamond, 2016).

Alignment of pre- and post-assessments. Polleck and Jeffery (2017) conducted an analysis comparing the pre- and post-Common Core State Standards (CCSS) literacy test of high school students in the state of New York. All items from 10 exams were analyzed: eight regents' exams and two sample advance placement exams. The study was conducted using high schools that have adopted the CCSS across the state of New York. An analysis of 41 high stakes exam items across the United States was compared to the test items of the modified literacy exam. The results suggest that there was a rush to implement these new standards and assessments that were said to be more rigorous. The use of pre and post-tests captured the learner's attention to any gaps or deficits in financial knowledge while building confidence in the learner's ability to acquire needed skills and knowledge. This process is a contribution to accurate self-efficacy; highlighting areas of need and facilitating learner confidence in acquiring the necessary resources to ensure their needs are met (Louis, 2008).

Self-efficacy reflects confidence in the ability to exert control over one's motivation, behavior, and social environment. The consequences of these implementations were longer exams that were written on the college level rather than for the preparation of post-secondary education (Polleck et al., 2017). This study will assist with comparing the CCSS to the local curriculums that have been created and then analyzing whether the assessments created by the local agencies are aligned to the curriculum as well as the CCSS. The notion of modifying or completely changing the format and complexity of the standardized assessments will help to determine if these assessments are linked to performance and growth, which directly relates to the impacts of high-stakes assessments on both teachers and students.

Standardized test and quality education. Shepard (2016) determined if testing is a means to improve education. As a result, the study determined that the intention of intelligence

tests was simply to make important remedial measures in teaching. Furthermore, success in school and life is not determined by test results and intelligence alone. The study was quantitative and focused on the magnitude of standardized testing with respect to the quality of education. The study included past presidential addresses on assessment matters. Often K–12 curriculum planners experienced a social backlash that resulted in the development of a "back to basics" approach to the curriculum. Claiming that the curriculum was out of control, school districts across the nation began to focus primarily on reading and mathematics, especially in schools serving low-income, low-achieving students (Ladson-Billings, 2016).

The false confidence in achievement tests as sufficient measures of learning or as adequate proxies to be used in judging educational programs is a popularized belief among educators and the federal systems (Shepard, 2016). Assessment, testing, and measurement are not interchangeable. More importantly, measurement has a presumption of something existing that varies in amount, and which can be gauged by the same methods for different people. The failure of high-stakes tests to drive meaningful change over several decades should yield policymakers to develop a less punitive framework of tests to track system progress and then to redirect resources to develop curriculum and assessment resources that would not be reported beyond the classroom (Shepard, 2016). Educational systems across the globe are attempting to reshape the vertical and horizontal dimensions of school accountability. The vertical dimension involves transfer of responsibility to individual schools while the horizontal typically entails promoting the professionalism of leaders and teachers through school learning communities and school-to-school pairings. In many systems, these shifts occur within an environment of high-stakes accountability (Eddy-Spicer, 2017).

According to Grinell and Rabin (2013), when a school focuses on the cognitive dimension of learning in combination with the extensive use of standardized tests as primary evidence of quality education, students are exploited like a kind of commodity. Research has shown that the agreement between the teacher and student ratings of instructional quality is moderate, and the associations between standardized achievements are typically small and somewhat mixed across both perspectives (Grinell & Rabin, 2013). Instructional quality is crucial for students' engagement and learning and comprises all teacher-student interactions that stimulate students' cognitive, affective, and motivational development. It has been shown that instructional quality is modifiable and has thus been targeted by many interventions as a way to increase educational effectiveness (Wagner, Gollner, Werth, Voss, Schmitz, & Trautwein, 2016).

Increased test-based accountability over the past several decades has led to the growth and importance of standardized testing and subsequently to increased test preparation. Critics of test-based accountability have argued that test preparation detracts from students' classroom experiences by crowding out high-quality forms of instruction in favor of routine practices aimed at boosting students' test scores (Blazar & Pollard, 2017). Student performance on standardized tests has begun to play a role in evaluating teacher and school effectiveness as well as assessing student academic progress. Several federal and state-level initiatives and legislative policies have resulted in increasing the use of student scores on annual high-stakes assessments for teacher evaluation (Saeki, Segool, Pendergast, & Embse, 2018).

Preparation initiatives have resulted in new teacher evaluation systems that use student scores on high-stakes assessments to assess teacher effectiveness and use student performance on these assessments as a product that factors into teacher employment decisions (Saeki et al., 2018). For example, some states have implemented policies to use student test scores for teacher

annual evaluations, pay raises, and tenure decisions. Test-based accountability policies are linked to teacher evaluations to provide incentives for teachers, administrators, and students to improve the curriculum and pedagogy, identify and intervene with struggling students, and increase parent involvement, ultimately improving student academic achievement. However, the literature suggests that accountability policies that use student test scores to evaluate teacher effectiveness have unintended negative consequences on teacher psychosocial well-being and the school climate (Ford, Van Sickle, Clark, Fazio-Brunson, & Schween, 2017). When a teacher's work becomes excessively regulated, the result can be negative consequences, such as reduced commitment, job dissatisfaction, decreased self-esteem, burnout, and early departure from the profession (Valli & Buese, 2016).

Expectations of testing and its limits. Stotsky (2016), shed light on the expectations of testing and its limits. The study was qualitative and focused on the connection between what teachers learned as opposed to what the students learned and what was assessed on the standardized test. The study looked at the impacts of the school systems test scores and practices in New York, and Massachusetts. According to Stotsky (2016), teachers are under too much pressure with performance being linked to the test and many have begun to teach to the test. Most of what is known came from surveys, anecdotal research, or a variety of data sources, but not from systematic observational research. Consequently, the study recommended eliminating all but Common Core-based tests, as an answer to the over-testing of students. However, this still fails to address the issue of correlating test to performance and accountability. Students who truly believe their abilities can change, may have better self-control over the outcome of future academic events as well as focus more on learning the material, rather than the results of the test.

Mindsets are a range of self-beliefs, with a fixed thought process on one end and a growth mindset on the other (Dweck & Leggett, 1988).

Researchers noticed that highly motivated students excelled in the face of challenges, while other students who were not highly motivated quit or withdrew from their work. Stotsky (2016) argues, that the new computer-based tests have not provided teachers of children with any useful information at all. Adopting a test-based accountability system in which teachers are held accountable for student scores is more acceptable for political organizations rather than a system that holds students accountable for their scores. According to Paufler (2018), evaluating teachers based on professional practice and student achievement raised concerns regarding the negative impact of the teacher evaluation system on morale; their lack of autonomy in evaluating teachers and making staffing decisions; and their perceived lack of value as professionals. Examining the implications of teacher evaluation systems is increasingly important to better understand the intended and unintended consequences of these systems in practice, which has been the motivation of increased testing.

Curriculum materials provide teachers with authentic opportunities to learn new skills and practices. Yet, research shows teachers use the curriculum in different ways for different reasons, and these modifications could undermine the learning goals of the curriculum (Schissel, López-Gopar, Leung, Morales, & Davis, 2019). Differences in teacher implementation of new practices due to individual interpretation of policies, which is influenced by broader social, professional, and organizational contexts (Marco-Bujosa, McNeill, González-Howard, & Loper, 2017). This undermines the importance of assessing the learning experiences of teachers as they engage with curriculum materials created to support their pedagogical content knowledge of new

science practices, which makes it difficult to assess students on general information that may have been interpreted and learned differently.

Influence on Working Environment

Youn (2018), exposes controversies concerning whether the increased emphasis on testing has improved the effectiveness of school staff through improving the school community, as a whole. Recent research indicates that teachers suffer from reduced control over content and pedagogy because of an increasingly structured and controlled curriculum engendered by standardized testing pressure. Cha and Ahn (2014) proposed providing instructional environments that respond to the different needs of learners. Differentiated Instruction (DI) approaches are based on aspects of instructional methods for adapting to different learners. DI is proactively done before teaching, so it is not easy to reflect a learner's change in a progressive way (Bondie & Zusho, 2018). This study is designed to explain how testing pressures influence teachers' sense of empowerment, a sense of community, and professional commitment (Youn, 2018).

The findings of this study suggest that the pressure created by testing policies may lead to successful changes in teachers' working environment. Furthermore, the decrease in teachers' sense of empowerment due to testing policies may likewise lower their sense of commitment. The variables used in this study were taken from the teacher and school administrator questionnaires. The design of this study precludes firm causal inferences. Also, this study relied on a survey in which principals describe the testing pressure within the school (Youn, 2018). It is important to note that the principals' response to testing pressure does not completely reflect the testing pressure that the teachers are confronting in the classroom and during the administration of the assessments. The expectations of teachers increased and expanded in the

areas of collaboration, instruction, and learning. These changes had unanticipated, and often negative, consequences for teachers' relationships with students, pedagogy, and sense of professional security (Valli & Buese, 2016).

It is important to examine the relationship between aspects of the classroom environment, and other educationally relevant variables such as self-efficacy. Student engagement is responsive to contextual features, such as the school and classroom, and is the key mediator in the link between these factors and the most crucial educational outcomes that include academic attainment (Symes & Putwain, 2016). Student engagement is a multivariate conception consisting of affective, emotional, cognitive, and behavioral elements (Bernard, 2015). Moreover, students' previous performance on examinations will likely be associated with their evaluation of fear appeals. The effects of past performance on achievement-related beliefs, values, and emotions are proposed in one's expectancy-value (Nicholson et al., 2019).

Achievement at Whose Expense

Huddleston (2014) synthesized research on high-stakes testing policies and teacher-based retention in general and then examines studies that have evaluated specific test-based retention policies in Chicago, Florida, New York City, Georgia, Texas, Wisconsin, and Louisiana. Proponents of retention have argued it is necessary to ensure that students who are behind master the skills needed to succeed in the next grade level, while opponents believe it targets the most vulnerable students, it rarely results in academic improvement, and it increases the likelihood that students will drop out of school. The review of the literature found that teachers in California, Georgia, and Pennsylvania have been encouraged by high-stakes testing to improve their practice (Huddleston, 2014). Brennan (2015) argues that high stakes testing associated with accountability led to behavioral changes and negative consequences that include inflated scores.

Brennan added that these such consequences require a reconsideration of the design, linking, and validation procedures in the current accountability systems associated with testing. In many cases, this led to altering the curriculum or what is known as "teaching to the test." Jennings and Bearak (2014) suggest that teachers are aware of the mismatch between state standards and state tests and show that teachers focus on frequently tested content, excluding material that is tested less often.

In the past, the design of state tests held schools accountable. With the advent of NCLB, teachers received incentives to perform, which led to teaching to the test focusing on predictability-tested content derived from priority standards. Besides, teachers began to instruct students on test-taking skills and familiarizing the format of lessons similar to the standardized testing format. NCLB used standardized test scores to distinguish which schools are entitled to the benefits of tax dollars and those that are not entitled to such benefits (Cunningham, 2019). NCLB's removal of federal funds ensured the permanent failure of low-performing schools. Parents have the option to remove their children from a low-performing school, which leads to a decline in enrollment and per-capita federal funding (Dyson, 2015). Howard, Woodcock, Ehrich, and Bokosmaty (2017) described how standardized educational assessments are measurement instruments designed to quantify test-takers' abilities in areas such as literacy and numeracy. Jensen, Hite, Hite, and Randall (2017) explained how standardized testing is an external control mechanism for K-12 public schools.

High-Stakes testing is one of the most controversial topics in education due to the impact the scores have on funding, compensation, achievement, and school accountability. High-stakes testing was developed to close the achievement gap from state to state while developing a productive learning environment for all students; however, it has not been used as it was

intended. According to Stotsky (2016), teachers are under too much pressure with performance being linked to the test and many have begun to teach to the test. Students who are tested throughout the semester with high-level questions that mimic the standardized test questions acquire a deeper conceptual understanding of the material along with a better memory of the course information (Jensen, McDaniel, Woodard, & Kummer, 2014). According to Strauss (2017), test inflation has given policymakers the protection to continue with these failed policies. Unfortunately, this provides an illusion of improvements to the achievement gaps. In October of 2015, the Obama administration called for a cap on testing that would limit schools to use no more than two percent of class time on testing students (Zernike 2015).

The consequences of high-stakes testing started to emerge after the accountability movement in education was initiated in the United States in the early 2000s. In the United States, a system of high-stakes standardized assessments for public school children was mandated by the No Child Left Behind Act of 2001, which was signed into law in 2002 (U.S Congress, 2002). The test results were publicized and were used to determine funding, rewards, and sanctions for schools. Most of the studies show the negative consequences of high-stakes testing on teaching and learning (Wyn, Turnbull, & Grimshaw, 2014). The perspectives of children are overlooked, and the impact of high-stakes testing beyond teaching and learning is seldom examined, such as social relationships and health, which are likely to be affected, have been overlooked. Pressure placed on students to perform well in examinations is so profound that it is often blamed for the mental health problems and suicides of adolescents in many societies, such as East Asia (Cho, & Chan, 2020). In New Jersey, White middle-class parents, sent refusal letters to their children's schools to opt-out of testing; they constructed a counter narrative based on their understanding of the Partnership for Assessment of Readiness for

College and Careers (PARCC), a high-stakes, end of the year exam, which contradicted the narrative adopted by school districts and communication from the state's education department (Abraham, Wassell, Luet, & Vitalone-Racarro, 2019).

Influence on Teacher Efficacy

The data suggests that the assigned subject matter taught by teachers does not influence the self-efficacy of the teacher participants. Teachers identified as non-high-stakes teachers reported a relative overall mean self-efficacy, which is very similar to teachers identified as high-stakes teachers (Gonzalez, Peters, Orange, & Grigsby, 2017). Time was a key factor that contributed to the stress levels of teachers who participated in the focus groups. Teachers felt that due to the pressure of high-stakes testing, they had less time, yet greater demands on their time (Gonzalez et al., 2017). 'Given that teachers feel pressured to cover all tested content before the end-of-year assessments, their stress increased' (Gonzalez et al., 2017, p. 523). When thinking of preparing for high stakes testing a teacher can experience stress. It is not uncommon to wonder if they have taught the material and if the students are prepared. Student perceptions of how well or not they have been prepared for an assessment is critical in their performance.

Following the NCLB ((U.S. Department of Education 2002), educators increasingly rely on assessment data to evaluate and monitor student achievement. Both high-stakes assessments and curriculum-based measures occur within the implementation of interventions, and student achievement is analyzed each academic year per standardized state achievement testing (Mingo, Bell, McCallum, & Walpitage, 2020). Teachers and other school-based professionals might also use the rating and ranking data they produce to inform classroom decisions. Testing in the form of high-stakes, standardized exams permeate national systems of education. From admission into institutions to comparisons among countries, standardized examinations are gatekeepers and

measuring tools (Gebril, A., & Eid, M. (2017). This is the case concerning admission into and exit from many teachers' education programs around the world, particularly in the test-heavy United States (Petchauer & Baker-Doyle, 2019).

Formal education of teachers provides them with subject knowledge and skills as well as guiding instructional principles needed for developing academic competence. Student-related factors grounded in psychological and cognitive knowledge that may hinder students' growth to the maximum extent possible are not being addressed, such as emotional-cognitive interference that equally puts those pupils at risk of future serious problems. The academic and mental needs of children must ultimately be addressed to allow all pupils access to the curriculum and provide an engaging academic learning experience, while also assisting with children's well-being and development (Nyroos, Jonsson, Korhonen, & Eklof, 2015).

Summary

High-stakes testing appears to restrict the curriculum and potentially stifle the facilitation process. Both students and teachers are exhausted from the stress of constant testing. Standardized tests are not adaptive assessments, which means the growth measure is non-existent. Without the ability to measure growth, it is unproductive to measure achievement, accountability, or performance. As a result, there has been a shift from intentional instruction to teach to the test. 'High-stakes testing policies have consistently resulted in negative curriculum reallocation, encouraging teachers to adapt their teaching styles to test formats, negative coaching, cheating, and educational triage practices' (Huddleston, 2014, p. 21). As it relates to standardized testing, an individual with a positive mindset can lead to increased confidence level and comfortability. This allows the tester to be relaxed, thus removing the barrier of test anxiety. Given the intensity of the current education policy landscape, there is a need to examine its

impact on new teachers. To understand how teachers experience and respond to the testing culture, researchers examined the voices of beginning teachers during the escalating testing culture in the United States to understand and implement policies (Bausell et al., 2018).

These assessments ultimately influence the individual's goals, behaviors, self-esteem, and motivations. Students who truly believe their abilities can change, will have better self-control over the outcome of future academic events as well as focus more on learning the content, rather than assessment results. 'When an exam is seen as predictable in a bad way, it usually means that students and teachers are able to predict the types of examination questions and topics that will come up each year, as well as the kinds of answers that will be given good marks' (Elwood et al., 2017, p. 9). Research exists on underperforming schools in lower socioeconomic districts. However, there is very limited research on the impact of these factors on student performance and the learning process as it relates to the transient alternative student.

CHAPTER THREE: PROPOSED METHODS

Overview

The purpose of this applied study was to solve the problem of underperforming student test scores on the End of Course Biology assessment for high school students at an alternative school in Georgia, and to design interventions to address the problem. The problem was that only 18% of ninth grade students taking the 2018-2019 End of Course (EOC) Biology Assessment at the alternative school being studied in Atlanta, Georgia scored proficient or above. According to Feeney and Freeman (2014), researchers should investigate ways to use assessment information to understand and support students' development and learning, to support instruction, and to identify students who may need additional services. This chapter is structured to provide a synopsis of the methodology, which includes the design, setting, participants, procedure, data collection approaches with the analysis, and ethical considerations.

Design

A multi-method design was used consisting of both qualitative and quantitative approaches. The purpose of a multimethod design for this research study is to identify results across multiple data sets (Bickman & Rog, 2009). Triangulating the data to reconcile the impacts will occur in this design. A multimethod design also provides a better understanding of the underperforming scores on high stakes assessments for this study. The first approach was structured interviews with the administration. To determine the impacts of curriculum and instruction on high stakes tests, interviews with administrators and teacher leaders will be conducted consisting of open-ended questions. The second approach was focus groups with teachers, where the interview guide will be developed to elicit meaningful conversations. The

third approach was analyzing quantitative data from student surveys to identify trends.

Research Questions

Central Question: How can the problem of low-performing test scores on the EOC Biology test be resolved at an alternative high school located in Georgia?

Sub-question 1: How would administrators in an interview solve the problem of low-performing test scores on the EOC Biology test at an alternative high school located in Georgia?

Sub-question 2: How would educators in a focus group solve the problem of low-performing test scores on the EOC Biology test at an alternative high school located in Georgia?

Sub-question 3: How would quantitative student survey data inform the problem of low-performing test scores on the EOC Biology test at an alternative high school located in Georgia?

Setting

The site for this research study was a public alternative high school located in an urban setting in Georgia. For privacy purposes, the alternative high school will be referenced under the pseudonym Jordan Academy. Jordan Academy serves approximately 300-400 transient students in grades 6-12. The school consists of at least 80% economically disadvantaged students, with 25%-35% of students with identified disabilities, and 92% of the students receiving free or reduced meals. The population is predominantly African American with less than 5% being other races. Finally, 87% of the students are males, and 13% of the students are females. A principal, three assistant principals, Lead Teacher of Special Education (LTSE), two Instructional Support Specialists, department chairs, and teachers within each content department, make up the faculty at Jordan Academy. The alternative high school operates on a block-scheduling module where students are required to take four classes for 90 minutes each daily. Jordan Academy was chosen as the research site because it is readily available to the

researcher, and the population represents a snapshot similar to the population of the schools in the county that are currently on the priority list for content mastery and graduation rates according to the Georgia Department of Education (GADOE).

Participants

The participants for this research study consisted of current administrators and teachers at Jordan Academy; however, not all teachers were involved. This research study focused on teachers who currently taught a course connected to the Biology Georgia Milestones Assessment, and teachers who have taught the course in the past. For the interview portion of this study, the number of participants will be five members of the administration team. The focus group consisted of 10 teachers, which included the department chair. For the quantitative portion of this study, 50 students participated from a pool of students assigned to courses attached to the Biology EOC. A convenience sample of 50 students who received consent were used.

The Researcher's Role

The motivation for this study developed from many aspects of teaching and learning, along with students' accountability and intrinsic motivation that is concerning to the researcher. The researcher's decision to focus on the causes of underperforming test scores overall was to assist with becoming more proficient as an Instructional Support Specialist at Jordan Academy, and for students to achieve successful results on the EOC assessment in Biology. Change is needed either in high-stakes testing or in the instructional process. The current state of achievement is alarming. Students are not prepared due to a lack of intrinsic motivation or will, or students are not prepared due to an unaligned curriculum. These reasons specifically have been the drive for this research. To eliminate as much bias as possible, any teachers who directly

report to the researcher in her role as an Instructional Support Specialist was unable to participate in the research study. Since the study is being operated under a multimethod design, the researcher conducted the interviews and moderated the focus group with teachers, allowing them access to complete the questions online. Both the interviews and focus groups were conducted and recorded online using the Microsoft Teams platform.

Procedures

The first step of this process was to secure approval from the Institutional Review Board (IRB) through Liberty University. Once approval was received, written permission from the district superintendent and the high school principal was obtained. The researcher communicated with administration and began scheduling times to conduct the interviews. Emails were sent to the faculty members assigned to courses with a Biology EOC assessment to request their participation in the focus group. Also, emails were sent to the students and parents of students in the EOC asking for permission for their student to participate in the survey portion of the data collection. A letter was provided for students to take home to their parents explaining the research study. Parents also received an informed consent and assent form (See Appendix G) to be returned for students' participation. Confidentiality was key when conducting all components of data collection. Administrators' and teachers' names were replaced with a pseudonym.

Data Collection and Analysis

For this multimethod research study, the data collection procedures are both qualitative and quantitative. The qualitative data collection procedures were face-to-face interviews with administrators and a focus group with teachers. The quantitative data collection procedures were an analysis of students' survey data.

Standardized science test scores have become part of the CCRPI score, which measures school accountability. This inclusion puts science educators in a space where they needed to develop a more useful understanding of how to respond to the pressures represented in standardized high-stakes testing. The meaning attached to standardized test scores requires further research. According to Aydeniz and Southerland (2018), that research should focus on teacher effectiveness and student motivation. There is a need for educators to focus their efforts on conducting research that documents and highlights the underrepresentation of science in test-driven educational reform measures. These efforts are likely to help ensure the equitable representation of science in the current accountability systems (Aydeniz, & Southerland, 2018). The recent inclusion of science scores into accountability calculations could mean that science teachers do not receive enough professional learning and financial support to promote student learning in science (Howard, Woodcock, Ehrich, & Bokosmaty, 2017). There is a limited amount of empirical evidence to support these claims. Researching these issues could make a significant difference in the quality of science learning and achievement (Wiliam, 2015).

Interviews

The first sub-question in this study explores how administrators in an interview would solve the problem of low-performing test scores on the EOC Biology test at Jordan Academy located in Georgia. As state-mandated standardized testing becomes an increasingly popular tool by which to make student-level high-stakes decisions such as promotion or graduation from high school, it is critical to look at such applications and their effects on students. Research has examined how teaching has been evaluated by students relative to educational outcomes. However, few studies address these behaviors from an educator's perspective surrounding accountability pressure, teacher self-efficacy, and perceived importance of tested outcomes

(Putwain & Embse, 2018). The interview questions are designed to further the research on the uses and impact of high-stake test scores. Assessment scores provide important information, but they do not give all the information about accountability and performance, which is necessary to make critical decisions. Given their limited nature and the potentially adverse impacts they can have, using state-mandated large-scale testing for student-level high-stakes purposes is detrimental for student outcomes (Kearns, 2016). According to Lee (2017), high-stakes tests are instruments of control over educational systems. n American school systems have embedded these tests nationally in education and social contexts. The focus has shifted from minimum competency to proficiency, resulting in teacher and school accountability linked to test scores (Lee, 2017). Therefore, it is necessary to review emerging research on the effects of accountability policies to better inform educational practices.

In the interview portion of this study, four administrators and the LTSE participated. Although the interviews were live, an audio recording was captured to maintain confidentiality. The interviews were transcribed after completion to identify themes. The interviews were conducted in an unstructured design. The administration answered open-ended questions. Open-ended questions generate in-depth information, which can re-conceptualize the issues under study. The information gained from the interviews was coded based on the frequency of keywords. Categorizing the data based on keywords allowed the researcher to develop a general understanding of what is going on, to generate themes and theoretical concepts, and to organize and retrieve data to test and support these general ideas (Bickman & Rog, 2009). Each of these categories helps to determine the issues related to underperforming test scores.

1. Please indicate which standardized assessments are administered to a majority of your students and have demonstrated the lowest performance level from your students in the last two school years.

Question one was meant to gain background knowledge on the current standardized assessments and the mastery levels at the school being studied. Winter (2017) suggests that educational accountability is determined through standardized curriculum lending to prescribe outcomes based on student knowledge measured on the assessments.

2. How has the school decided to improve and monitor these scores in the upcoming administration of the EOC?

Questions two collects information on the current practices and programs used to move students toward proficiency. According to the Georgia Department of Education (2019), low performing schools developed a comprehensive school improvement plan with strategies, action steps, and timelines that addressed areas for improvement with practices and programs. In addition, the documents should remain fluid, and programs had to be monitored and refined as needed.

3. What initiatives, if any, have been implemented?

Question three was designed to determine what initiatives were being used to ensure proficiency on the Biology EOC. Developing skills in science, technology, engineering, and mathematics (STEM) are critical pursuing STEM careers, yet students in the United States are behind students in other countries, ranking 35th in mathematics and 27th in science achievement globally (Rozek, Svoboda, Harackiewicz, Hulleman, & Hyde, 2017).

4. How has your school or district encouraged teachers to provide time for students to prepare, or practice, for any of the standardized assessments?

Question four provides input on the mandates and practices from the local school districts plan for improvement in reference to the support provided to the local school. Schools will design or select a model for remediation and forward information regarding the use of this model in a written description including how the identified Remedial Educational Plan (REP) students will be provided services above and beyond the regular classroom setting to the Georgia Department of Education (2019).

5. From a leadership perspective, how useful are the test results from non-standardized assessments for decisions about educational programs or instruction?

Question five collects data on the uses of the assessment data, along with the understanding that all stakeholders have about the measures that the test scores are used for in their schools. Actionable assessment data can help teachers adjust instruction to meet students' needs, help school principals ensure that the students are on track toward key milestones, and provide students with a plan on what is needed to reach their goals (Mingo et al., 2020).

6. How familiar are you with the intentions of the EOC?

Question six provides insight into the intentions of the result and data from the EOC. Test results are used to determine whether students advance to the next grade level, receive a diploma, or master the grade-level standards. Several states require students to pass a test to advance from third, fifth, and eighth grade, while others require students to pass a test to graduate from high school (Portz & Beauchamp, 2020).

7. What monitoring systems are in place to ensure the curriculum and pacing mirror the standards covered on the EOC?

Question seven was included to determine if the curriculum and pacing have an impact on student performance. Curriculum and policy levers used for educational accountability

consist of tightening curriculum control, standardized configuration with prescribed outcomes, and specification of curriculum knowledge (Winter, 2017).

8. What is the procedure for students opting out of participating in the EOC?

Question eight provides understanding on whether there is an opt out and the procedures. If a student does not sit for the standardized assessment, it will count against a schools CCRPI points for participation. Although ESSA explicitly states the right of parents to refuse testing for their children, it also requires states to include the non-scores of test refusers in school evaluations if more than five percent opt out (Strauss, 2018). Consequently, schools, local districts, and states must act to lower the number of test refusers.

9. What professional development and monitoring are in place to ensure that teaching is to the cognitive demand of instruction needed for student success on the EOC?

Question nine was designed to gather data on the implementation of professional development toward student achievement and teacher instruction along with the monitoring system used to ensure instruction is on the cognitive level necessary for student success. Duschl, Schweingruber, and Shouse (2017) revealed a positive relationship between the professional development hours of teachers and gains on high stakes test scores from students. The analyses also suggest that upper grade teachers need more professional development on instructional strategies where the focus is on the integration of language arts and science inquiry.

10. How would you solve the problem of ninth grade students' low proficiency on the 2018-19 End of Course (EOC) Biology Assessment at the alternative school?

Question 10 is used to ignite thoughts among leaders to develop and implement best practices that can be used to solve the problem of underperforming scores. Reform for instruction and test preparation included utilizing standards-based grading to assess student

proficiency of the content. According to Pollio and Hochbein (2015), students who were graded based on standards had to invest more to obtain a passing grade and in turn was able to achieve higher scores on standardized assessments.

Focus Group

The second sub-question in this explored how teachers in a focus group would solve the problem of low-performing test scores on the EOC Biology test at Jordan Academy located in Georgia. Dent and Koenka (2016) suggest that self-regulated learning mediates how academic context and a student's learning characteristics influence achievement. This research guided the creation of the focus group questions to explore the relationships between academic performance along with the two components of learning, which are metacognitive processes and the use of cognitive strategies. Identifying which self-regulated learning strategies are most important and what factors facilitate their use is essential to promote academic performance and identify achievement.

The group's discussion was guided and directed so that it remains focused on the topic of interest and the prepared questions. The moderator plays an important role in maintaining the focus. The interview guide for a focus group discussion generally consists of a set of very general open-ended questions about the topic or issue of interest (Bickman & Rog, 2009). It does not include all the questions that may be asked during the group discussion; rather, it serves to introduce broad areas for discussion and to assure that all the topics relevant to the research are included in the research. The focus group session was scheduled for 90 minutes, and the interview guide consisted of specific detailed questions. The questions were created in a general nature to generate discussion. The focus group session was audio-recorded and later transcribed. This analyst determined which segments of the transcript are important, develop a categorization

system for the topics discussed by the group, select representative statements regarding these topics from the transcript, and develop an interpretation of what was meant. Focus group data was analyzed by first transcribing the data to identify the main ideas, then it was coded and categorized by themes to develop a clear snapshot of the data (Nili, Tate, & Johnstone, 2017).

1. How does high-stakes testing impact the motivational level of students?

Question one is focused on student motivation and will be used to determine the level of motivation the educator perceives necessary for students to be successful. Interventions do not provide a new set of instructional material, nor does it include new strategies. Instead, they take advantage of the insights of teachers by addressing students' interpretation of themselves, school, their abilities, their experiences, their relationships with others, and their learning tasks. Furthermore, students show a greater motivation to learn when they interpret their learning experience as one in which they have the potential to develop their abilities, in which they feel safe and connected to others (Yeager et al., 2016).

2. What interventions are used to ensure student mastery of priority standards?

Question two provides insight on the interventions in place to support student mastery. High-stakes assessments occur within the implementation of interventions (Mingo, Bell, McCallum, & Walpitage, 2020).

3. What strategies are used to ensure students are exposed to foundational skills when they are performing below or at grade level?

Question three was constructed to provide information on the remediation of skills incorporated in teaching and learning to close the achievement gap. A remediation plan consists of re-teaching prerequisite skills or concepts that should have been learned in a previous course or grade. Remediation typically happens early in the learning process, before additional skills

are taught, and summative exams are administered. If students can demonstrate mastery and perform on grade level the achievement gap is narrowed (Counsell & Wright, 2018).

4. When students are socially promoted (Moved to the next grade without passing the standardized assessment associated with that previous grade), how are those students supported to ensure they are successful and ready for grade-level learning?

Questions four surround social promotion and the effect it has on student performance related to grade level instruction and assessments. As state-mandated high-stakes testing becomes a popular tool used to make promotion decisions, it is also necessary to use the data to drive teaching and learning relative to educational outcomes (Putwain & Embse, 2018).

5. How does the school-wide remediation plan target and integrate science-based priority content standards into the tutorial program?

Question five was designed to identify what if any programs are in place to remediate learning, and to gather data on the school's remediation plan designed and implemented to improve scores on the Biology EOC assessment. Remedial programs are designed to close the gap between what a student knows and what he's expected to know. The rise in Science, Technology, Engineering, and Math (STEM), have led to increased instruction in science (Aydeniz, & Southerland, 2018).

6. How often are students given the chance to remediate learning and how?

Question six was designed to identify what if any programs are in place to remediate learning, and to gather data on the school's remediation plan designed and implemented to improve scores on the Biology EOC assessment. Schools will identify a model for remediation and forward information regarding the use of this model in a written description including how

the identified Remedial Educational Plan (REP) students will be provided services above and beyond the regular classroom setting to the Georgia Department of Education (2019).

7. What trends have emerged that demonstrate students' mastery of the academic standards this semester?

Question seven provides information on the trends of academic mastery from school-based data. School effectiveness and educational economics is that an exertion of pressure on schools, teachers, and students by implementing forms of high-stakes testing might, improve students' achievement (Lorenz, Eickelmann, & Bos, 2016).

8. How do you ensure that lessons and activities are grade-appropriate and aligned to the level that is assessed at the end of the course?

Question eight encourages teachers to provide classroom data and information on the ways they plan lessons and choose activities that are aligned to the End of Course (EOC) Biology assessment. According to the Georgia Department of Education (2020), students who receive a proficient score or higher demonstrates proficiency in the knowledge and skills necessary for the course. The students are also prepared for the next course and on track for post-secondary programs.

9. What are some implications found through the data analysis of the EOC assessments?

Questions nine was designed to identify implications of the test as it relates to accountability and student learning. It is essential to uncover how teachers use assessment data. The underlying assumption seems to be that teachers' knowledge can be switched off and neutralized by the rational algorithmic processing of student test data (Atkinson, 2015).

10. How would you solve the problem of underperforming scores on the Biology EOC assessment?

Question 10 was designed to gather information on the possible programs and strategies that could be implemented to align student performance with mastery on the Biology EOC assessment. According to Schaefle (2018), apparent gains in educational achievement overshadowed negative impacts on underperforming students.

Survey

The third sub-question in this study explored how quantitative survey data will solve the problem of underperforming test scores on the EOC Biology test at Jordan Academy located in Georgia. The survey questions were created to further explore how well cognitive abilities predict high school students' science achievement as measured by standardized assessments. In the research conducted by O'Reilly and McNamara (2016), 1,651 students from four high schools in three states were assessed on their science knowledge, reading skill, and reading strategy knowledge. The dependent variable, content-based science achievement, was measured in terms of students' comprehension of a science passage, science course grade, and state science test scores. The cognitive variables reliably predicted all three measures of science achievement.

The survey was administered to 50 students assigned to ninth grade Biology courses with an EOC assessment. The survey was available for a week. The inventory is a 15-item survey comprised of multiple-choice, and Likert-scale questions that will take students 20 to 30 minutes to complete. The survey was administered in a group setting of no more than 15 students per session. This helped to prevent excessive crowding and allows all students to have access to a computer. Data was collected online using Google Forms and the researcher had access using a password to the data results. The survey will produce a cut score report once students have completed it (Bickman & Rog, 2009). The report gave a score for each of the conceptual categories: motivation, anxiety, and cognitive ability. In each of the categories, each question is

given a certain score based on how students respond to the question. Then, the sum of the scores will be calculated to get total scores for each category. Higher scores indicate greater impacts on the theoretical frameworks. Survey data will be analyzed to draw conclusions about underperforming student test scores on the End of Course Biology assessment for high school students at an alternative school in Georgia and to design interventions to address the problem that only 18% of ninth-grade students scored proficient or above. A statistical analysis will be conducted on the data collected to formulae a SWOT Analysis, outlining the strengths, weaknesses, opportunities, and threats of student test scores, along with descriptive statistics such as frequency counts (Cheng, Pullenayegum, Marshall, & Thabane, 2012). The data will be displayed using bar graphs, pie charts, and tables. The survey will include demographic questions regarding gender, current grade-level, and ethnicity.

What is your gender? Male, Female, or Prefer Not to Answer

What is your current grade-level in school? 9^{th}, 10^{th}, 11^{th}, or 12^{th}

Specify your ethnicity. Caucasian, African American, Latino or Hispanic, Asian, Native American, Pacific Islander, Other/Unknown, or Prefer Not to Say

1. In my opinion, I need to score at lease a proficient on the Georgia Milestones Assessment for the school to gain Career College Readiness Performance Index (CCRPI) points.

5	4	3	2	1
Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree

This question provided data on the students understanding and knowledge of standardized tests and the reporting system used in the state of Georgia. The College and Career Ready Performance Index (CCRPI) is Georgia's tool for annually measuring how well schools, districts, and the state are helping students achieve their goals (GADOE, 2019).

2. In the past two years, I have taken at least one End of Course test.

5	4	3	2	1
Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree

Questions two provides data on the amount of high stakes test given to students and the implication it may have on the results. Accountability policies have led teachers to narrow the content they teach, marginalize low-performing students based on previous assessment scores, or focus on instructional pedagogy characterized by memorization, lecture, busy work, and recitation (Diamond, 2016).

3. In my opinion, there are not enough test administered throughout the school year.

5	4	3	2	1
Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree

Questions three provides the student's position on the number of tests given yearly. The accountability movement has impacted classroom practices by increasing the number of benchmark and practice assessments. Math and science are subject areas that have come under intense focus concerning preparing students for 21st-century careers. The Next Generation Science Standards (NGSS) were developed to provide a rigorous STEM foundation for students regardless of the school, district, or state (Roegman, Kenney, Maeda, & Johns, 2019).

4. In my opinion, there are too many tests administered throughout the school year.

5	4	3	2	1
Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree

Questions four provides the student's position on the number of tests given yearly. Educators have been challenged to go beyond socioeconomic status when searching for characteristics that make a difference in student achievement. Hoy, Tarter, & Hoy (2016) identified a new construct-academic optimism, to explain student achievement in cases with

previous low achievement.

5. I have found benchmarks, quizzes, and unit tests useful in understanding what I have learned and what I need to learn.

5	4	3	2	1
Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree

Question five was designed to provide background information on student perceptions and motivation connected to assessment performance while exploring the usefulness of tests and the connection to student learning. Motivational factors contribute to performance by strengthening the connection of goals to actions (Wulf & Lewthwaite, 2016).

6. In my opinion, my teacher has prepared me for the EOC.

5	4	3	2	1
Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree

Question six provided insight on students' perceptions of their level of preparedness for the EOC assessment. High-stakes tests are usually associated with the result of teaching and learning, the motivation of students, fairness, differential access, and test-taking skills (Deitte et al., 2019).

7. The results of my assessments are communicated with me and/or my parents/guardians.

5	4	3	2	1
Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree

This question provides data on whether students and parents have been provided data and feedback on assessments to give students an idea of their performance level. It is important to communicate all assessment scores with students and provide feedback because it identifies pre-existing knowledge and deficits (Polleck & Jeffery, 2017).

8. I prepare for tests by reviewing study material, cramming the night before, or attending tutorial sessions.

5	4	3	2	1
Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree

Question eight probed students about test preparation used during the teaching and learning process. Test preparation detracts from students' classroom experiences by crowding out high-quality forms of instruction in favor of routine practices aimed at boosting students' test scores (Blazar & Pollard, 2017).

9. When I don't understand a concept, I ask questions or ask for help.

5	4	3	2	1
Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree

This question provides information about student accountability and interventions used during the learning process. Social-psychological interventions improve academic success, which changes how students think or feel about themselves and their schoolwork encouraging them to take advantage of learning opportunities in school (Yeager et al., 2019).

10. I have attended tutorial for science within the past two school years.

5	4	3	2	1
Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree

Questions 10 was used to collect data on the tutorial programs that have been implemented to increase and/or improve student mastery in Biology. Tutorial sessions, cram schools, online programs, and test preparation activities have become essential to the success on high-stakes assessments (Hopfenbeck, 2017).

11. I suffer from test anxiety.

5	4	3	2	1
Always	Often	Sometimes	Rarely	Never

This question identified if the student is aware of test anxiety and if he or she suffers from it. Nelson (2016) suggests that to know and use effective test-taking strategies may reduce test anxiety.

12. I am usually worried and think about failing while completing an assignment.

5	4	3	2	1
Always	Often	Sometimes	Rarely	Never

Question 12 spoke to the mindset aligned with anxiety and test performance. Anxiety can cause an impaired function of the brain, which is directly related to the inability to perform well on assessments (Nelson, 2016).

13. I get headaches and/or my stomach hurts and feels upset before or during a test.

5	4	3	2	1
Always	Often	Sometimes	Rarely	Never

This question was designed to explore the symptoms associated with test anxiety. High-test-anxiety has been associated with impairment of performance and results in an onset of ill feelings (Wise & Kingsbury, 2016).

14. I get nervous during tests and forget what I have studied.

5	4	3	2	1
Always	Often	Sometimes	Rarely	Never

This question provides data on nervousness as it relates to test performance. Individuals with increased confidence are more comfortable in a standardized testing setting (Mofield, &

Parker-Peters, 2018).

15. I am often distracted during important tests and assignments.

5	4	3	2	1
Always	Often	Sometimes	Rarely	Never

Question 15 explores how distractions are aligned to test anxiety and in turn may sway performance on high stakes assessments and other classroom assignments. Factors such as motivation, test composition, funding, environmental factors, perceptions, and anxiety all contribute to test scores (Arthur et al., 2015).

Ethical Considerations

During the process of the study, the researcher protected participants from harm, as it relates to participants' identities, by keeping all information confidential and using pseudonyms when necessary. Informed consent was received from all participants, and participation was voluntary. The approach for this study remained objective and unbiased. It is unethical to side with participants and only share the positive results; the researcher must share all information and let the themes emerge (Creswell & Roth, 2018). This researcher avoided leading questions, refrain from sharing personal impressions, and avoid disclosing sensitive information. This researcher only assesses components relevant to the study by keeping the evaluations simple and to the point. Researchers typically overlook the more likely and more immediate benefits that are the precursors of societal and scientific benefits (Bickman & Rog, 2009). Even if the experiment or intervention yields disappointing results, benefits might be available to the community, as well as to individual subjects. It was useful for this researcher to design a tentative table of benefits as the basic research idea and design are being formulated and to continue planning the benefits as the research study proceeds. All data will be locked in file

cabinets and electronic files will be password-protected.

Summary

Once the information was analyzed for each data collection procedure, the information was compared through a triangulation method. Synthesizing findings across each data group will occur by comparing the frequency of words from the interviews and focus groups to the scores students achieved on the survey. This will help to determine the indications on underperforming scores on the Biology Georgia Milestones EOC assessment. The interview data will also be used to determine what viable solutions exist to improve student scores and overall achievement. This study intends to address the issue of underperforming scores on the Biology EOC. Through the information gathered, the goal is to determine how students can perform at a proficient rate and what key factors exist that influence performance.

CHAPTER FOUR: FINDINGS

Overview

The purpose of this applied study was to solve the problem of underperforming student test scores on the end of course biology assessment for high school students at an alternative school in Georgia and to design interventions to address the problem. The problem was that only 18% of ninth-grade students taking the 2018-2019 End of Course (EOC) Biology Assessment at the alternative school being studied in Atlanta, Georgia scored proficient or above. In many underperforming schools, students do not receive the full curriculum, which is coupled with insufficient learning and instruction time, poor interactive instructional behavior, and malfunctioning procedures for helping struggling learners (Houtveen et al., 2017). A student's motivation to complete a certain course can significantly predict the quality of the student's effort and success. According to Hsieh (2019), the idea that students must obtain high test scores can cause too much academic pressure. Students need motivation, to be taught the curriculum, practice, benchmarks, and previews that are closely aligned to the standards and rigor of the standardized assessments. This chapter describes the participants of the study and provide an analysis of the data collected.

Participants

This research involved the use of both qualitative and quantitative data. Individual semi-structured interviews were conducted with five members of the administrative team at Jordan Academy. A focus group was conducted consisting of 10 teachers and teacher leaders to include the department chair and science coach at Jordan Academy. The third instrument used in this study was a 15-question survey, which was given to 50 students that were enrolled in a biology course during the current school year also at Jordan Academy.

Interview Participants

For the interview portion of this study, the participants were five members of the administration team, which included the principal, three Assistant Principals, and the Lead Teacher of Special Education (LTSE).

Leader 1 is an assistant principal. He has been at the school for three years and has served in Education for 28 years. He has a background that is comprised of elementary education serving both as a teacher and an assistant principal. He has also served as a middle school assistant principal. In his current role at Jordan Academy, he is responsible for schoolwide attendance, operations, facilities, and middle school discipline. Attendance plays an important role in preparation, teaching, and learning. For students to receive instruction and achieve success, they must be in attendance.

Leader 2 is the LTSE. She is assigned to Jordan Academy along with another school and has served this school for two of her 20 years in Education. Her experience includes special education teacher in the capacity of both inclusion and self-contained class settings. She serves as a student advocate and is the first line of defense for the special education department. In her current role, she is responsible for ensuring Individualized Education Plans (IEP's) are compliant, setting caseloads, disseminating information, and the intake process from out-of-district students as well as new students to special education. In addition, the LTSE works closely with the testing team to provide all testing accommodations and ensure accurate input into the online testing portal.

Leader 3 is an assistant principal. He has been in education for 25 years as an Exceptional Education Teacher and here at Jordan Academy for 16 years as an Assistant Principal. In his current role, he is responsible for instruction and testing. He facilitates the

process of creating the master schedule and oversees the scheduling process working closely with the registrar and counselors. As the testing coordinator, he schedules all testing sessions for the school, reviews accommodations, provides training on testing mandates, and secures all testing scores and documents per both district and state laws.

Leader 4 is the principal. She has been at this school for seven years in this role and has served in the field of education for over 40 years. Her background is in computer science, and she has taught several business career tech courses. As the principal, she is the instructional leader of the school. She is responsible for all the daily operations, logistics, and policies. The principal ensures that all district and school initiatives are implemented and monitored with fidelity.

Leader 5 is an assistant principal. She has been a part of the staff at Jordan Academy for 15 years and served as an English teacher for nine years before becoming part of the administration team. She has served in education for 28 years. Her responsibilities include parent and family engagement, Title I, and high school discipline

Focus Group Participants

The focus group portion of the study is comprised of 10 teachers and teacher-leaders that are assigned to Biology courses. The science coach, department chair, and eight teachers participated in the process. All teachers were either current or former Biology teachers. The teachers who participated in the focus group have all taught the course for at least three years.

Respondent 1 is the science coach. She has been at Jordan Academy for four years in this role. She has served in education for 12 years and has taught biology, chemistry, and environmental science. She serves as support to the science department. Organizing

collaborative meetings, modeling instruction, sharing strategies, and disaggregating data alongside the teachers are some of the ways she supports instruction.

Respondent 2 is a teacher that currently teaches biology. She has been in education for three years of which has been at Jordan Academy. She participates in weekly meetings with the other biology teachers to create common assessments, lesson plans, and to review data.

Respondent 3 is a teacher that currently teaches physical science. He has been in education for four years, taught biology for three years, and has been at Jordan Academy for two years. He participates in weekly meetings with the other biology teachers to create common assessments, lesson plans, and to review data. He is a current mentor for boys at the school.

Respondent 4 is the department chair. She is currently teaching biology at the school completely online. She has been an educator for 12 years, taught biology for eight years, and been at Jordan Academy for two years. Her responsibilities are to facilitate both department and biology team meetings, serve as the conduit between the district and the school for all science-related information and initiatives, and provide support to the science department.

Respondent 5 is a teacher that currently teaches sixth-grade science. She has been in education for seven years, taught biology for five years, and has been at Jordan academy for one year. She participates in weekly meetings with the other middle school science teachers to create assessments, lesson plans, and to review data.

Respondent 6 is a teacher that currently teaches biology. She has been in education for 13 years, taught biology for 10 years, and has been at Jordan academy for 10 years. She participates in weekly meetings with the other biology teachers to create common assessments, lesson plans, and to review data.

Respondent 7 is a teacher that currently teaches chemistry. She has been in education for six years, taught biology for four years, and has been at Jordan Academy for three years. She participates in department meetings to create assessments, lesson plans, and to review data. Respondent 8 is a teacher that currently teaches eighth-grade science. She has been in education for eight years, taught biology for three years, and has been at Jordan Academy for eight years. She participates in weekly meetings with the other middle school science teachers to create assessments, lesson plans, and to review data.

Respondent 9 is a teacher that currently teaches seventh-grade science. He has been in education for 20 years, taught biology for 11 years, and has been at Jordan academy for five years. He participates in weekly meetings with the other middle school science teachers to create assessments, lesson plans, and to review data.

Respondent 10 is a teacher that currently teaches environmental and physical science. She has been in education for 27 years, taught biology for eight years, and has been at Jordan academy for 19 years. She participates in department meetings to create common assessments, lesson plans, and to review data.

Survey Participants

For the quantitative portion of this study, 50 students were invited to participate from a pool of students assigned to courses attached to the Biology EOC. A convenience sample of 50 students who provided consent was surveyed. The students were enrolled in the course either the first or second semester of the current school year. There were18 females, and 32 males. The population of students who participated in the survey consisted of 34 ninth-grade students, 12 tenth-grade students, two eleventh-grade students, and two twelfth-grade students, of which 43 were African American, three Latino or Hispanic, three other/unknown, and one Asian.

Results

Data collection involved three parts for this applied research. The first qualitative data collection method was through interviews with the five members of the administration at the school being studied. Transcriptions of these interviews are in Appendix J. The second form of data was also qualitative and was through the focus group that was constructed using teachers and teacher-leaders. Transcriptions of the focus group are in Appendix K. Several themes emerged from the qualitative analysis and are noted later in this chapter. The final data form was quantitative using surveys given to 50 Biology students at Jordan Academy. Percentages highlighted the commonalities, thoughts, and feelings of the students. Data from the surveys are in Appendix L.

Sub-question 1

Sub-question one for this study was, "How would administrators in an interview solve the problem of low-performing test scores on the EOC Biology test at an alternative high school located in Georgia?" One-to-one interviews were conducted with the five members of the administrative team at Jordan Academy to find themes related to underperforming scores on the Biology End of Course assessment. Three main themes emerged from the qualitative analysis: (a) benchmarks are useful tools when assessing what concepts the students know; (b) using online platforms to make students aware and familiar with the standards being assessed; (c) aligning instruction and assessments to the standards on the End of Course Biology test.

Interview Question 1: Please indicate which standardized assessments are administered to a majority of your students and have demonstrated the lowest performance level from your students in the last school year.

Table 1

Frequency of Codes for Interview Question 1

Codes	Frequency
American Literature	3
Biology	3
Coordinate Algebra/Math	3
U.S. History	1

All the core classes were identified as a tested area and as a concern by the administration when asked which assessment had the lowest scores last school year and had the highest participation. According to the administration (2021), all core areas are listed in the school's improvement plan as a priority area. Math, science, and English language arts emerged as the lowest performance area related to standardized test scores. There was a tie for a frequency of three responses each for American Literature, Biology, Coordinate Algebra, and U.S. History.

Interview Question 2: How has the school decided to improve and monitor these scores in the upcoming administration of the EOC?

Table 2

Frequency of Codes for Interview Question 2

Codes	Frequency
Benchmarks	3
Instructional Strategies	2
Tutorial/USA Test-Prep	2
Academic Coach	1
Prior Years' Testing Data	1

The question asked how the school was going to improve and monitor scores. According to leadership, the benchmarks had the highest frequency with three responses, which could be both school and district assessments to determine student mastery and comprehension after each instructional unit. This is followed by a two-response tie for instructional strategies used in the

classroom to teach concepts, and tutorials, and the online platforms used to reinforce learning. Tutorials were voluntary for students and conducted both before and after school.

Interview Question 3: What initiatives, if any, have been implemented?

Table 3

Frequency of Codes for Interview Question 3

Codes	Frequency
Individual Student Assistance	2
Online Learning Platforms	2
Tutorials	2
Instructional Strategies	1
MAP Testing and Review	1
None	1

This question was used to determine what initiatives if any were implemented at the school and to determine its impact on instruction. The top three school-wide implemented initiatives all had a frequency response of two, which were individual student assistance, online learning platforms, and tutorials. According to the responses, all the teachers had implemented these components into their teaching and learning process.

Interview Question 4: How has your school or district encouraged teachers to provide time for students to prepare, or practice, for any of the standardized assessments?

Table 4

Frequency of Codes for Interview Question 4

Codes	Frequency
Online Platforms	3
Content Forums/Parental Meetings	2
Daily Dose Questions	2
Tutorials	2
Wednesday Asynchronous Learning	1

This question asked for ways that the school district encouraged teachers to provide time for students concerning practice for standardized assessments. Online platforms were the top answer with three responses. This is followed by a three-way tie with two responses each for content parent meetings, daily practice questions, and tutorials. Overall, teachers were encouraged to expose students to test material, concepts, and practice questions to prepare them for the standardized assessments.

Interview Question 5: From a leadership perspective, how useful are the test results from non-standardized assessments for decisions about educational programs or instruction?

Table 5

Frequency of Codes for Interview Question 5

Codes	Frequency
Drive and Adapt Instruction and Curriculum	2
Resources to Purchase	2
Address Teacher and Students Issues	1
Remediation Plan	1

This question asked about the usefulness of the test data in making decisions about the instruction and educational programs. Two codes emerged with two responses each, which was to drive and adapt instruction and the curriculum and decide what resources to purchase both locally and at the district level. Instruction was adjusted based on previous test results. Previous test results data was used as a justification for the school to purchase preparation material and software to assist with instruction.

Interview Question 6: How familiar are you with the intentions of the EOC?

Table 6

Frequency of Codes for Interview Question 6

Codes	Frequency
Very Familiar	4
Very Informed	1
Well Trained	1

This question asked about the familiarity of the intentions of the End of Course assessment. The response very familiar had a response of four, followed by very informed with one response, and well trained with one response. Overall, the administration was familiar with the intentions of the EOC, which tied directly into school accountability.

Interview Question 7: What monitoring systems are in place to ensure the curriculum and pacing mirrors the standards covered on the EOC?

Table 7

Frequency of Codes for Interview Question 7

Codes	Frequency
Collaborative Planning	4
Common Assessments	3
District Unit/Lesson Plans	3
Focus Walks and Observations	2
Instructional Professional Development	1

This question asked what monitoring systems were in place to determine the alignment of the standards on the EOC and the instruction that was implemented. The top three frequencies were collaborative planning with four responses and a two-way tie with three responses for common assessments and district unit/lesson plans. The district has established a system where they have aligned the units, plans, and assessments to the standards to establish an expectation for monitoring.

Interview Question 8: What is the procedure for students opting out of participating in the EOC?

Table 8

Frequency of Codes for Interview Question 8

Codes	Frequency
Parental Request in Writing	4
Unknown	1

This question asked about the procedures for students opting out of taking the EOC assigned to a course. There were four responses for parents sending a written statement requesting their students not sit for the test. One administrator responded unknown to the process for opting out.

Interview Question 9: What professional development and monitoring are in place to ensure that teaching is to the cognitive demand of instruction needed for student success on the EOC?

Table 9

Frequency of Codes for Interview Question 9

Codes	Frequency
Local and District Professional Development	3
Common Lessons and Assessments	2
Focus Walks and Walkthroughs	2
None	1
Self-Reflection	1

This question asked about professional development and monitoring as it relates to the instructional cognitive demands of the teacher that is necessary for student success on the EOC. Local and district professional development lead the responses with a frequency of three. Followed by common lessons and assessments tied with focus walks and walkthroughs with two responses. All responses are rooted in instruction and curriculum, which is the focus of the

professional development, as well as the observations of teaching strategies and classroom practices.

Interview Question 10: How would you solve the problem of ninth grade students' low proficiency on the 2018-19 End of Course (EOC) Biology Assessment at the alternative school?

Table 10

Frequency of Codes for Interview Question 10

Codes	Frequency
Align Instruction and Assessments to the End of Course (EOC)	4
Targeted Tutorials	3
Identify Standards and Domains	2
Reduce Class Size/Student-Teacher Ratio	1

This question asked how to solve the problem of low proficiency scores on the biology assessment. The top response was to align instruction and assessments to the standards covered on the EOC with a frequency of four. Followed by targeted tutorials with three responses. The next response with a frequency of two was to identify the standards and domains on the EOC. The solutions are geared toward making sure that the material that will be on the test is a priority during class instruction.

Theme #1. In the interviews with the administrative team, the first theme that was apparent is that benchmarks are useful tools when assessing what concepts the students know. This is made apparent by the number of times the administrative team mentioned the use of benchmarks as a mandatory practice of all courses that administer the EOC. The administration discussed during the interview the many initiatives and strategies are in place to potentially increase scores of high-stakes tests. Most of the participants agreed that the assessment is used to

test for conceptual understanding of the priority standards at certain junctures throughout the semester.

The usefulness of the benchmark assessment to predict the outcome of the EOC assessment was popular among the administrators. Leader 1 stated, "the school monitors and ensures that students are ready for the EOC by administering common assessments, data talks, and targeted tutorials" (personal communication, June 9, 2021). Leader 3 response was "by having the students participate in benchmark assessments such as Measures of Academic Progress (MAP), pre and post-test, looking at specific standards and domains, reviewing the state's longitudinal data system for prior years' testing data throughout the school year to see, diagnose, and disaggregate the students' needs, gaps and implement strategies and use resources to address those areas of needs before the final EOC assessments being administered" (personal communication, June 14, 2021). Leader 4 said, "I ensure that students are ready by providing tutorial services, packets, USA test prep practice, benchmarks every six weeks, and individual assistance to assist students (personal communication, June 14, 2021).

Theme #2. Another theme that emerged from the interviews is the importance of using online platforms to make students aware and familiar with the standards being assessed. The school encouraged teachers to provide time for students to prepare, or practice, for the standardized assessments using several online platforms. The platforms have been aligned to the EOC and the priority standards. The administrative team explained how the current shift in education has increased the use of technology as a tool during the instructional process.

The implementation of online platforms to assist with building capacity in learning has become the norm in the classroom. Leader 1 stated, "teachers assign practice tests using Study Island and USA Test-Prep, so students get a first-hand account of the type of question that is on

the real assessments" (personal communication, June 9, 2021). Leader 3 said, "we use extended learning time, online platforms, tutorials both face to face and online, content forums and meeting with parents to teach and empower them to assist with student learning and growth" (personal communication, June 14, 2021). Leader 4 added, "the use of USA Test Prep, Georgia Milestones practice test, and Georgia Milestones study guides" (personal communication, June 14, 2021).

Theme #3. The last theme that presented itself through the interviews with the administrative team was the strategy of aligning instruction and assessments to the standards on the End of Course Biology test. This theme emerged as the interviews came to a close and the administration was asked to give suggestions on ways to solve the problem of underperforming scores on the biology test. Most of the responses lead to the notion that the course needed to be paced, restructured, supported, and unpacked to focus on priority.

Leader 5 said, "I would offer a science support course as we do for English Language Arts (ELA) and math. Also, provide more inactive and web-based science programs to maximize instructional time" (Personal communication June 17, 2021). Leader 3 suggested "training regarding curriculum and pacing reflection of EOC Standards and monitoring the results (Personal communication June 14, 2021). Leader 1 stated "we should identify the domains that the students struggle on and find alternate ways to teach those standards, ensure instruction and assessments mirror the rigor of the EOC, targeted tutorials, spiraled instruction, and possibly some station teaching to reduce the teacher-student ratio of whole group instruction (personal communication, June 9, 2021).

Sub-question 2

Sub-question two for this study was, "How would educators in a focus group solve the problem of low-performing test scores on the EOC Biology test at an alternative high school located in Georgia?" A focus group was conducted with 10 teachers and teacher leaders associated with the biology courses at Jordan Academy to find themes related to underperforming scores on the Biology End of Course assessment. Three main themes emerged from the qualitative analysis: (a) using interventions such as chunking, remediation, and re-teaching to ensure students master priority standards; (b) ensuring that lessons and activities are grade-appropriate using district unit and lesson plans; (c) restructure and unpack the course standards and move the course to the tenth grade.

Focus Group Question 1: How does high-stake testing impact the motivational level of students?

Table 11

Frequency of Codes for Focus Group Question 1

Codes	Frequency
Anxiety, Low Motivation, and Stress	4
Student Engagement and Average Motivation	3
English Learners and Economically Disadvantage Students Underperform	1

This question asked how high-stakes tests impact student motivation. The top response with a frequency of four was anxiety, low motivation, and stress. This was followed by student engagement and average motivation with a frequency of three. The impact testing has on motivation was low to average based on the feedback from the focus group.

Focus Group Question 2: What interventions are used to ensure student mastery of priority standards?

Table 12

Frequency of Codes for Focus Group Question 2

Codes	Frequency
Chunking, Remediation, and Re-teaching	6
Unpacking the Standard	4
Project-Based Learning	2
Tutorials	2
Online Platforms	1
Vocabulary Acquisition	1

This question asked about the interventions in place to ensure that students mastered the standards on the EOC. The top response with a frequency of six was chunking, remediation, and reteaching lessons with low percentages of comprehension. Followed by unpacking the standard with a frequency of four. Third was a two-way tie for project-based learning and tutorials with a frequency of two. The top three responses were all part of the school's remediation plan.

Focus Group Question 3: What strategies are used to ensure students are exposed to foundational skills when they are performing below or at grade level?

Table 13

Frequency of Codes for Focus Group Question 3

Codes	Frequency
Discovery Learning	3
Graphic Organizers/Vocabulary Diagrams	3
Homework/Reinforcement	1
Manipulatives	1

This question asked about strategies used to expose students to the foundational skills necessary to perform on grade level. The top responses were a two-way tie with a frequency of three for discovery learning, and graphic organizers, and vocabulary diagrams. Followed by homework, reinforcement activities, and manipulatives with a frequency of one.

Focus Group Question 4: When students are socially promoted (Moved to the next grade without passing the standardized assessment associated with that previous grade), how are those students supported to ensure they are successful and ready for grade-level learning?

Table 14

Frequency of Codes for Focus Group Question 4

Codes	Frequency
Tutorials/Remediation	5
One-to-One Instruction	2
Summer Make-Up/Transition 9 Bridge	2

This question focused on the support given to students who are socially promoted, which consists of students being moved to the next grade level despite not mastering the standardized assessments in reading and mathematics. Tutorials and remediation were the top response with a frequency of five. Followed by a two-way tie with a frequency of two, for one-to-one instruction and summer make-ups and the transition nine bridge. The transition students are the students who were socially promoted to the ninth grade due to not mastering either both or one of the End of Grade (EOG) assessments in reading and mathematics.

Focus Group Question 5: How does the school-wide remediation plan target and integrate science-based priority content standards into the tutorial program?

Table 15

Frequency of Codes for Focus Group Question 5

Codes	Frequency
Tutorials and Review Materials Mirror Course Lessons	5
Priority Standards	3
District Pacing Enrichment	2
Extended Learning Time	1

This question asked how the school's remediation plan targets science standards into the tutorial program. The top response was tutorials and review materials that were like the course lessons with a frequency of five. Priority standards followed with a frequency of three. The district pacing enrichment was third with a frequency of two. Overall, the responses focused on instruction and the priority standards being the focus of the lessons.

Focus Group Question 6: How often are students given the chance to remediate learning and how?

Table 16

Frequency of Codes for Focus Group Question 6

Codes	Frequency
Openings, Daily-Dose, and EOC Review Questions	5
Tutorials	5
End of Unit Reinforcement	3
Make-Up Assignments	1

This question asked how often and in what ways did students remediate learning. The top responses were a two-way tie with opening activities, daily dose questions, EOC review questions, and tutorials with a frequency of five. End of unit reinforcement response followed with a frequency of three. The responses are anchored in exposing students to the questions and rigor that is on the standardized assessment.

Focus Group Question 7: What trends have emerged that demonstrate students' mastery of the academic standards this semester?

Table 17

Frequency of Codes for Focus Group Question 7

Codes	Frequency
Virtual/One-to One Learning	3
Low Engagement	2
High Absenteeism	1
Increased Mastery on Project Based Learning	1
None	1

This question asked about the trends that demonstrate student mastery. The top response was virtual and one-to-one learning with a frequency of three. Low engagement followed with a frequency of two responses. The remaining responses had a frequency of one, which was high absenteeism and increased mastery of project-based learning.

Focus Group Question 8: How do you ensure that lessons and activities are grade-appropriate and aligned to the level that is assessed at the end of the course?

Table 18

Frequency of Codes for Focus Group Question 8

Codes	Frequency
District Unit Plans/Pacing	7
Researched Based Recourses and Strategies	2
District Level Professional Development	1
Objective and Assessments	1

This question asked about the alignment of the assessments, lessons, and activities to the course, EOC, and the grade level. District pacing and unit plans were the top response with a frequency of seven. Researched-based resources and strategies were next with two responses. Instruction is guided heavily by the district-level unit guides, pacing, and suggested activities.

Focus Group Question 9: What are some implications found through the data analysis of the EOC assessments?

Table 19

Frequency of Codes for Focus Group Question 9

Codes	Frequency
Underperforming/Below Grade Level	5
Low Vocabulary Acquisition	2
Cell and Genetics Domain Low Mastery	1
DNA Domain Low Mastery	1
Low Lexile Levels (Reading and Comprehension)	1

This question asked about implications found from the EOC assessment results. The top response was underperforming below grade level with a frequency of five. Low vocabulary acquisition had two responses. All remaining responses had a frequency of one. The focus was on low Lexile levels, which represents the students' reading level, and the lowest domain performance on the EOC assessment being cell, genetics, and DNA.

Focus Group Question 10: How would you solve the problem of underperforming scores on the Biology EOC assessment?

Table 20

Frequency of Codes for Focus Group Question 10

Codes	Frequency
Restructure and Unpack the Course/Standards and Move to 10th Grade	6
Academic Vocabulary/Re-teach	1
Biology Focused Strategies	1
Continuous Remediation	1
Instructional Strategies	1

This question asked how to solve the problem of low proficiency scores on the biology assessment. Restructure and unpacking the course standards and moving the course to the tenth grade was the top response with a frequency of six. All the following responses had a frequency of one: academic vocabulary and reteaching, biology-focused strategies, continuous remediation, and instructional strategies. The main resolution that emerged was to restructure the course for

students to be successful.

Theme #1. The first theme that emerged from the focus group with teacher and teacher leaders at Jordan Academy was the use of interventions such as chunking, remediation, and re-teaching to ensure students master priority standards. Interventions and strategies are key to meeting the students where they are and building capacity with standards and concepts. During the focus group discussion, the group was strategic in listing the many strategies, initiatives, and interventions that were in place at Jordan Academy to prepare students for success on the EOC assessment. This theme was apparent in almost every response as the participants shared how instruction was tailored to the student's needs.

During the instructional process, there are several ways to demonstrate interventions. Respondent 2 stated, "breaking down the standard with students, identifying the verbs and the nouns of each standard and having them list vocabulary words they are not familiar with so as a class we can discuss the meaning is essential for students to first understand what is expected of them to learn and for them to also holds the teacher accountable" (personal communication, June 22, 2021). In addition, respondent 3 stated that "before every lesson, the objectives are written out on the whiteboard and the students are required to know and understand them. These objectives are the ones stated in the curriculum. Students will be assessed based on the objectives and what they need to learn. Re-teaching is also done regularly to ensure the students achieve mastery of the content. For students that are over-achievers, enrichment activities are offered to ensure that they keep learning beyond what they have mastered. Project-based learning in collaborative groups is also practiced so that students can learn from their peers and add on to their knowledge" (personal communication, June 22, 2021). Respondent 6 said, "re-teaching

cohorts per standard, work differentiation, strategic student grouping" (personal communication, June 22, 2021).

Theme #2. The second theme to present itself from the focus group was the implementation of best practices to ensure that lessons and activities were grade-appropriate using district unit and lesson plans. It is very important that the assignments given to the students are not only rigorous and cover the standard but also mirror the EOC. Respondent 1 said, "using the curriculum as well as the pacing guide laid out by the district assist with making sure the assignments are appropriate" (personal communication, June 22, 2021). Respondent 2 said "constantly collaborating with my colleagues that teach the same content area to ensure that lessons and activities are appropriate (personal communication, June 22, 2021). Respondent 4 stated, "I attend district-level training that ensures teachers are teaching the district-mandated curriculum correctly" (personal communication, June 22, 2021). Respondent 6 said, "I ensure that lessons and activities are grade-appropriate by simply following the GSEs and ensuring that each activity I utilize aligns with them" (personal communication, June 22, 2021). Almost all the respondents alluded to using the district-created plans and activities to ensure grade-appropriate instruction and implementation.

Theme #3. The third and final theme among the teachers and teacher leaders was the push to restructure and unpack the course standards and move the course to the tenth grade. Teachers were asked what they would do to solve the problem of underperforming schools. Many urged to restructure the course to closely align to the biology assessment along with making sure that the course is offered in the 10th grade. In the ninth grade, the students take the Coordinate Algebra EOC. Moving the Biology assessment would alleviate the students having to take two standardized assessments during their ninth-grade year.

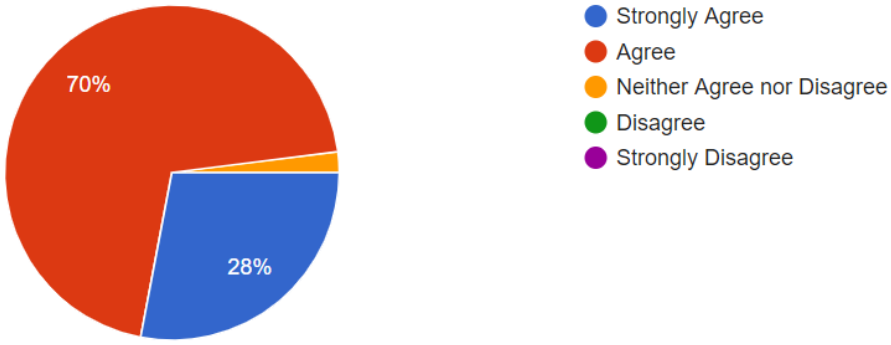
Respondent 1 stated, "after analyzing the data of the scores in the EOC assessment, I would change the teaching strategies to assist my future students. For example, if the scores are low in a particular domain in Biology, I will need to analyze the domain and draw an action plan of how to improve my teaching, assessments, rubrics, evaluations for the future semester" (personal communication, June 22, 2021). Respondent 3 said, "review the areas of need and focus on providing additional support for those areas" (personal communication, June 22, 2021). Respondent 5 said "adjust course sequence and offer biology in the10th grade (personal communication, June 22, 2021). Respondent 7 stated, "I think the course should be two semesters long instead of one semester. Allowing students to learn and master some information one semester, then building on that information in the next semester as some math courses do can prove useful in eliminating anxiety associated with both learning and testing in such a short span on time" (personal communication, June 22, 2021).

Sub-question 3

Sub-question three for this study was, "How would quantitative student survey data inform the problem of low-performing test scores on the EOC Biology test at an alternative high school located in Georgia?" A 15-question survey link was emailed to students enrolled in a biology course during the school year at Jordan Academy to find themes related to underperforming scores on the Biology End of Course assessment. The 15 questions Likert-scale survey was completed by fifty students. The three main themes that emerged from the quantitative data analysis were: (a) there are too many tests administered during the school year; (b) teachers prepared the students adequately for the tests; (c) many students suffered from test anxiety or at minimum experienced the symptoms associated with anxiety when faced with an important assessment.

Figure 1

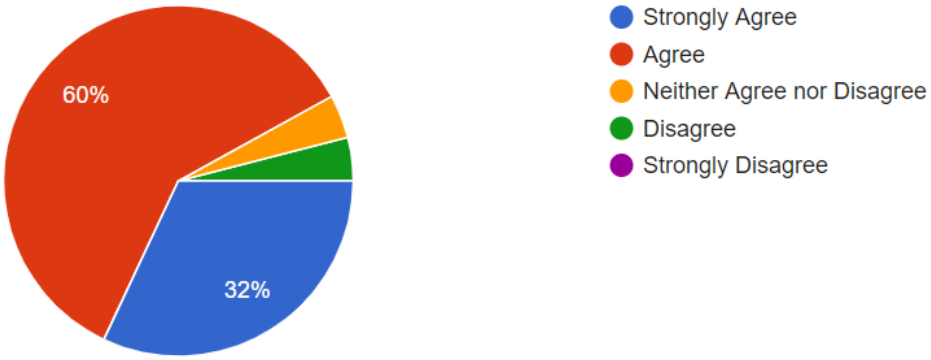
Required Scores on Georgia Milestone Assessments



When asked about scoring at least proficient on the EOC, for the school to gain CCRPI points, 70% of students agreed, 28% strongly agreed, and 2% neither agreed nor disagreed.

Figure 2

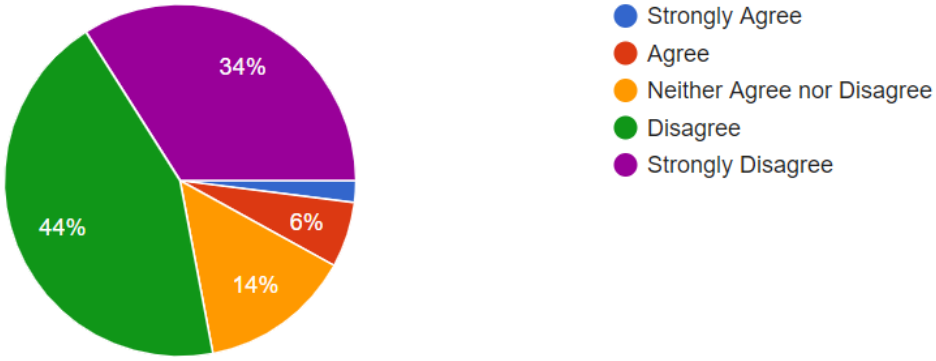
Frequency of Test in the Past Two Years



When asked if they have taken at least one EOC in the past two years, 60% of the students agreed, 32% strongly agreed, 4% neither agreed nor disagreed, and 4% disagreed.

Figure 3

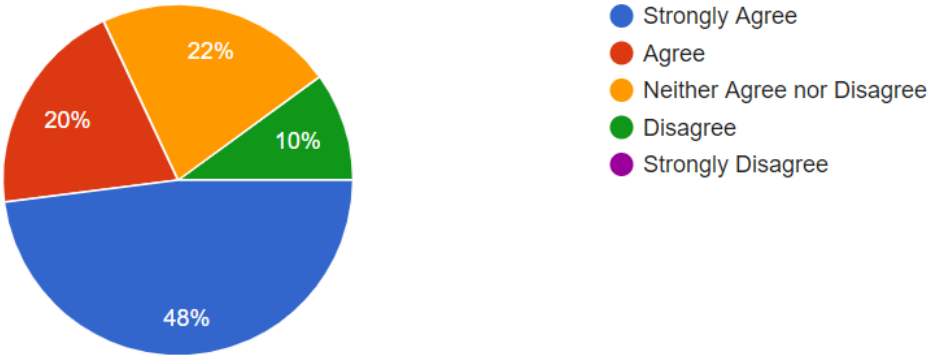
Not Enough Test Administered



When asked are there not enough tests administered throughout the year 44% of the students disagreed, 34% strongly disagreed, 14% neither agreed nor disagreed, 6% agreed, and 2% strongly agreed.

Figure 4

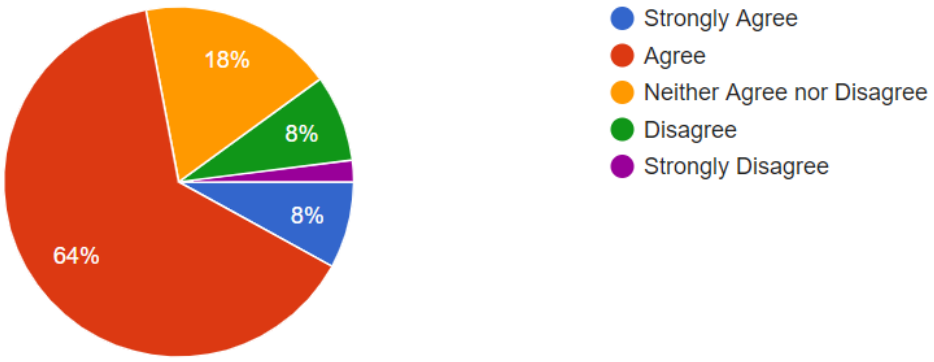
Too Many Tests Administered



When asked are there too many tests administered throughout the school year, 48% of the students strongly agreed, 22% neither agreed nor disagreed, 20% agreed, and 10% disagreed.

Figure 5

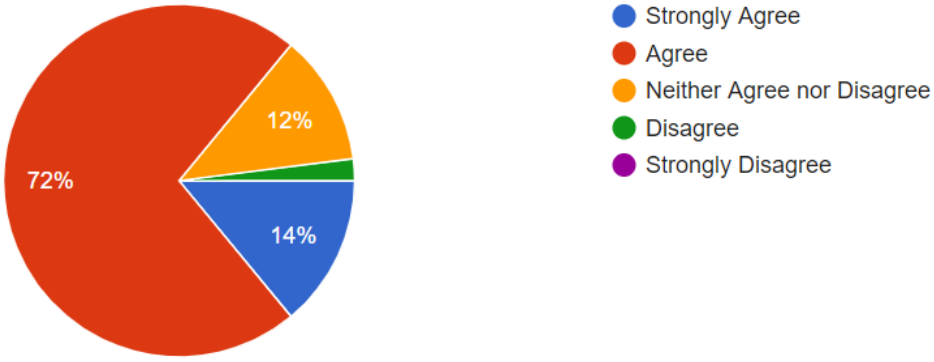
Usefulness of Benchmarks and Quizzes



When asked were benchmarks, quizzes, and unit tests useful in understanding what was learned, 64% of students agreed, 18% neither agreed nor disagreed, 8% strongly agreed, 8% disagreed, and 2% strongly agreed.

Figure 6

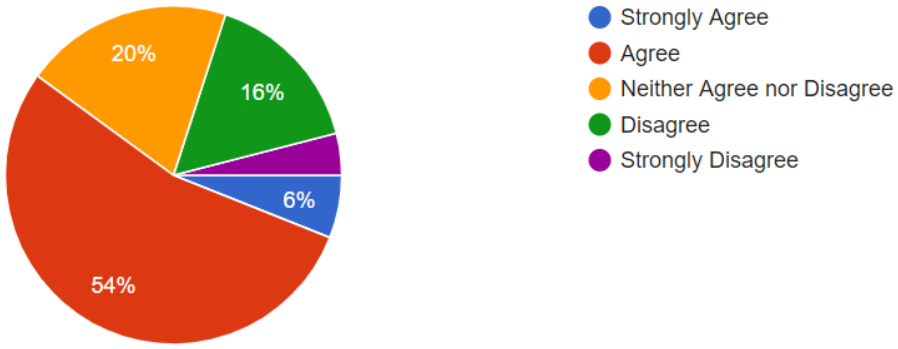
EOC Preparation



When asked has the teacher prepared you for the EOC, 72% of the students agreed, 14% strongly agreed, 12% neither agreed nor disagreed, and 2% disagreed

Figure 7

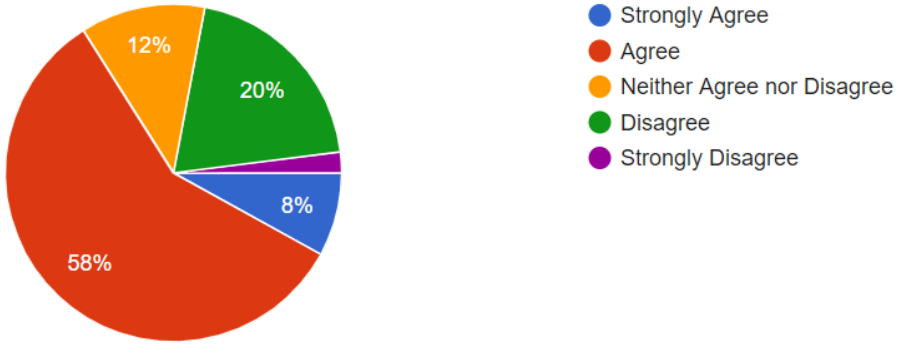
Communication of Assessment Results



When asked are the results of assessments communicated with the students and parents, 54% of students agreed, 20% neither agreed nor disagreed, 16% disagreed, 6% strongly agreed, and 4% strongly disagreed.

Figure 8

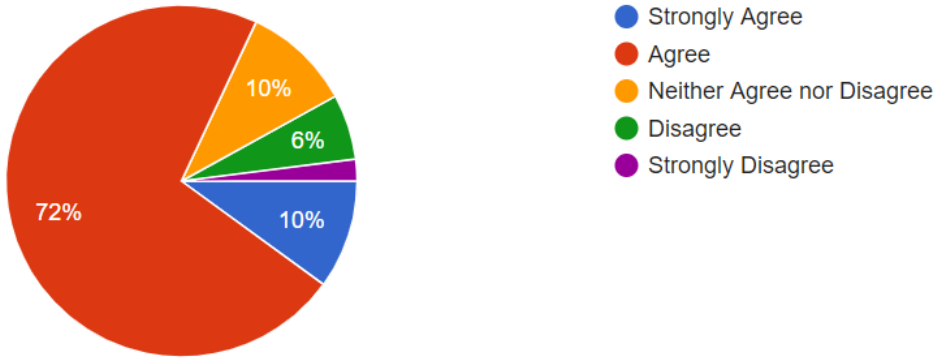
Methods of Test Preparation



When asked did the student prepare for tests by reviewing study materials, cramming, or attending tutorials, 58% of students agreed, 20% disagreed, 12% neither agreed nor disagreed, 8% strongly agreed, and 2%

Figure 9

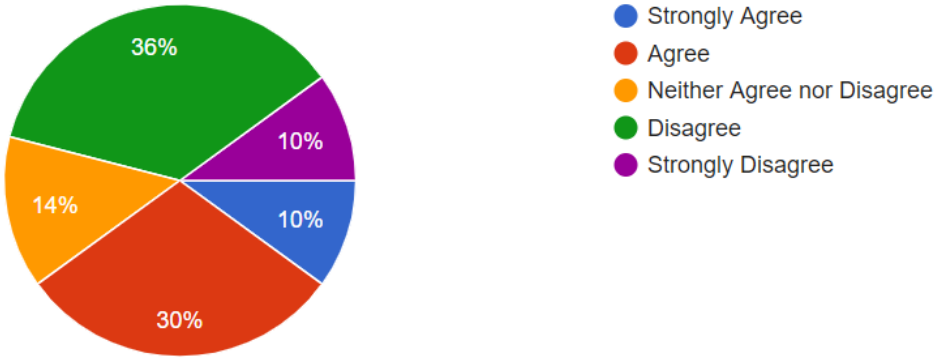
Getting Help/Assistance with Concepts



When asked if the student asked questions when they didn't understand, 72% of the students agreed, 10% strongly agreed, 10% neither agreed nor disagreed, 6% disagreed, and 2% strongly agreed.

Figure 10

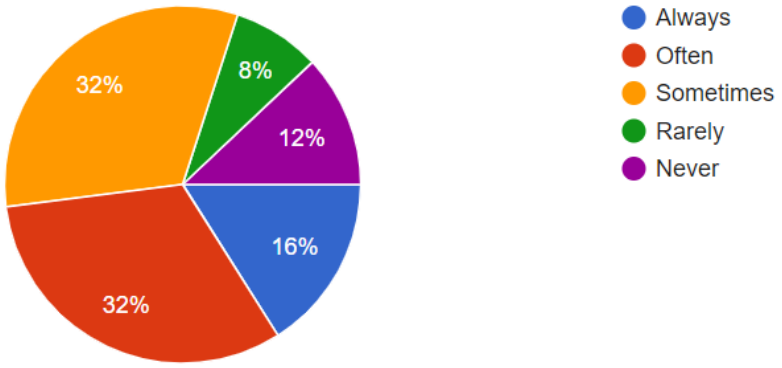
Attending Science Tutorial



When asked about attending tutorial for science in the past two years, 36% of the students disagreed, 30% agreed, 14% neither agreed nor disagreed, 10% strongly agreed, and 10% strongly disagreed.

Figure 11

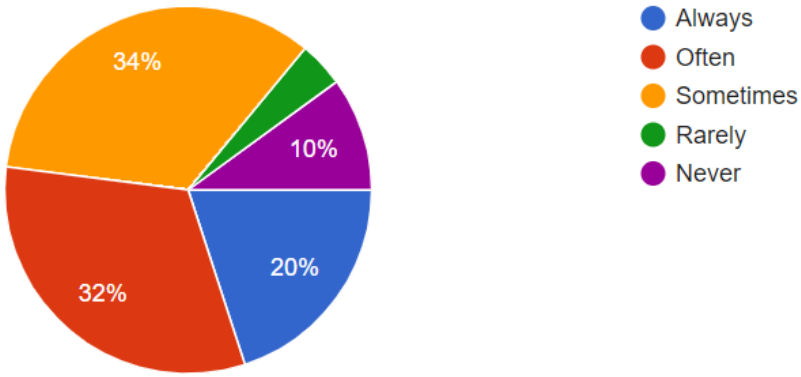
Test Anxiety



When asked about suffering from anxiety, 32% of the students responded often, 32% responded sometimes, 16% responded always, 12% responded never, and 8% responded rarely.

Figure 12

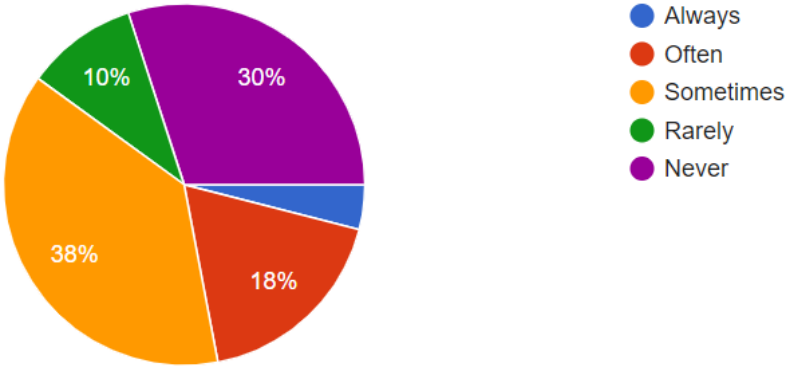
Level of Worry



When asked about worrying and thinking about failing while completing an assignment, 32% of the students responded often, 34% responded sometimes, 20% responded always, 10% responded never, and 6% responded rarely.

Figure 13

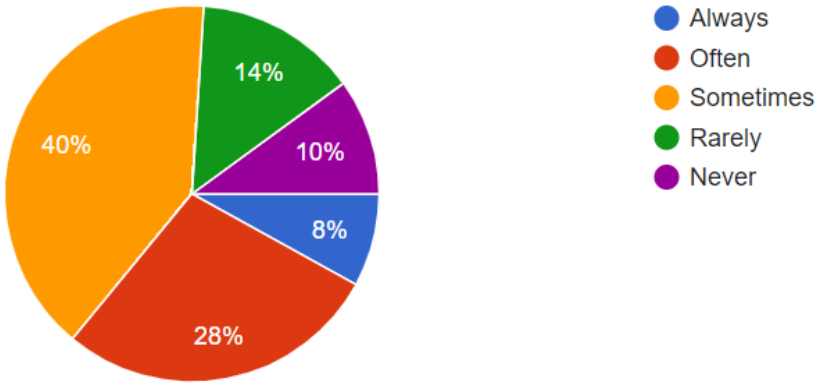
Symptoms During a Test



When asked about getting headaches or stomach aches during a test, 18% of the students responded often, 38% responded sometimes, 4% responded always, 30% responded never, and 10% responded rarely.

Figure 14

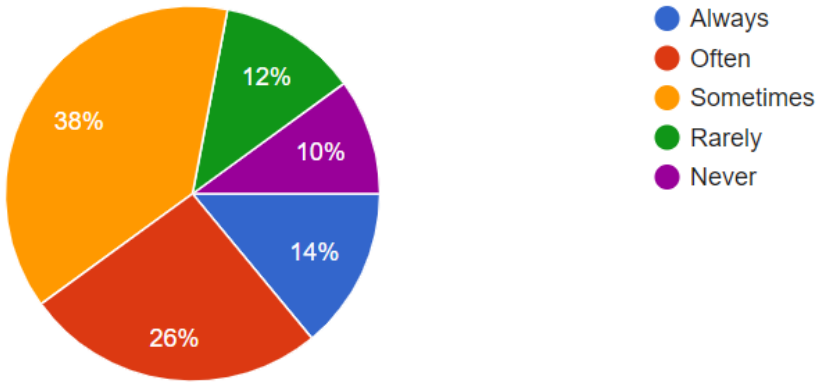
Nervousness Level



When asked about getting nervous and forgetting the material that was studied, 28% of the students responded often, 40% responded sometimes, 8% responded always, 10% responded never, and 14% responded rarely.

Figure 15

Distracted During Test and Assignments



When asked about getting distracted during tests and important assignments, 26% of the students responded often, 38% responded sometimes, 14% responded always, 10% responded never, and 12% responded rarely.

Theme #1. The initial theme that emerged from the student survey was that there are too many tests administered during the school year. Students were asked if they had taken at least one EOC in the last two years, 46 students either agreed or strongly agreed, while 2 neither agreed nor disagreed. When asked about there not being enough tests 39 students either disagreed or strongly disagreed, while 7 neither agreed nor disagreed. In addition, when asked are there too many tests 34 students either agreed or strongly agreed, while 11 neither agreed nor disagreed.

Theme #2. Another theme that emerged from the student surveys demonstrated that the teachers prepared the students adequately for the tests. Students were asked a series of questions to determine the level of preparedness concerning the EOC. When asked if they found benchmarks, quizzes, and unit tests useful in understanding what they have learned and what they needed to learn 36 students either agreed or strongly agreed, while 9 neither agreed nor disagreed. Students were then asked if they believed the teacher had prepared them for the EOC

assessment, of which 43 students either agreed or strongly agreed, while 6 neither agreed nor disagreed. Students were then asked if they prepared for tests by reviewing study material, cramming the night before, or attending tutorial sessions, 33 students either agreed or strongly agreed, while 6 neither agreed nor disagreed. The follow-up question asking if students would request help from their teacher resulted in 41 students either agreed or strongly agreed, while 5 neither agreed nor disagreed. Finally, students were asked had they attended a science tutorial in the past two years, 20 students either agreed or strongly agreed, while 7 neither agreed nor disagreed.

Theme #3. Lastly, the survey data presented the theme that many students suffer from test anxiety or at minimum experience the symptoms associated with anxiety when faced with an important assessment. Students were asked if they suffered from anxiety and 6 students responded never. When asked had they worried and thought about failing while completing an assignment, 5 students responded never. Students were then asked if they experienced headaches and/or stomach aches before or during a test, 15 responded never. When asked did they get distracted, nervous, and forget the material they had previously studied, 5 responded never.

Discussion

Several themes emerged from the three data sources. The administration expressed that benchmark assessments are useful tools when assessing what concepts the students know. After reviewing the responses as a group, the importance of using online platforms to make students aware and familiar with the standards being assessed is also a strong stance for the administrative team. Finally, the strategy of aligning instruction and assessments to the standards on the End of

Course Biology, to include test the use of interventions such as chunking, remediation, and re-teaching to ensure students master priority standards.

After the focus group of the teachers and teacher leaders, several concerns surfaced. Teachers called for the implementation of best practices to ensure that lessons and activities were grade-appropriate using district unit and lesson plans. Teachers and teacher leaders expressed the need to restructure and unpack the course standards and move the course to the tenth grade. Currently, the Students at Jordan Academy are taking both the coordinate algebra EOC and the Biology EOC during their ninth-grade year. Now that the Physical Science test has been removed, the teachers are calling for the administration to not schedule the biology course for ninth graders, so they will not take two high-stakes assessments during the same school year. In addition, if a student is repeating the Coordinate Algebra assessment it also has been a plea with the counseling department to not schedule the courses during the same semester. This is done to allow the students to focus on one EOC assessment at a time.

The student survey revealed that in their opinion there are too many tests administered during the school year. Currently, the students are assessed at the beginning of each semester with the Measure of Academic Progress (MAP) assessment, which is a universal screener that provides information on the students' current instructional level. Additionally, students are given unit pre and post-tests, district benchmarks, monthly common assessments, and classroom quizzes and tests as determined by each teacher. The students however overwhelmingly agreed that the teachers prepared them adequately for the tests. The circumstances surrounding the low 18% passing rate in the 2018-2019 school year can be attributed to the disclosure that many students suffer from test anxiety or at minimum experience the symptoms associated with anxiety when faced with an important assessment and/or task.

Summary

Interviews were conducted with school-based administrators and Jordan Academy, a focus group with the science lead and teachers, and surveys with the students to collect data to design a solution to the underperforming scores on the biology EOC assessment. After reviewing and analyzing the data, it was determined that an intentional plan of intervention that includes restructuring the school's master schedule, smaller class sizes, tutorials, and planning with a focus on priority domains, would be the most beneficial course of action to improve student test scores. Instructional interventions support students and measure their progress. Interventions use a specific regimen to target academic needs. Every component of the plan is necessary for the desired outcomes.

CHAPTER FIVE: CONCLUSION

Overview

The purpose of this applied study was to solve the problem of underperforming student test scores on the End of Course Biology assessment for high school students at an alternative school in Georgia and to design interventions to address the problem. The problem was that only 18% of ninth-grade students taking the 2018-2019 End of Course (EOC) Biology Assessment at the alternative school being studied in Atlanta, Georgia scored proficient or above.

Restatement of the Problem

The problem was that only 18% of ninth-grade students taking the 2018-2019 End of Course (EOC) Biology Assessment at the alternative school being studied in Atlanta, Georgia scored proficient or above. Standardized testing has become a means to examine school efficiency, achievement, and accountability. According to the school's improvement plan, the proficiency scores were said to increase by 5% from the previous year. The previous year's proficiency on the assessment was 26% (Georgia School Grades Report, 2018). Not only did the school not meet the targeted goal, but the scores also dropped 8%. The expectation is to have at least 80% of students meeting proficiency on all high-stakes assessments; however, the local district's goal is to meet or exceed 50% in all content area assessments, to align with the state's overall performance. The biology assessment was the lowest performing for the school.

Proposed Solution to the Central Question

The central question of this study asked how the problem of low-performing test scores on the EOC Biology test can be solved at an alternative high school located in Georgia. The research study suggests the solution is to:

a) restructure the master schedule to ensure students are not scheduled for more than one EOC Milestone course,
b) provide intentional, meaningful interventions both inside and outside of the classroom to increase a growth mindset for instruction and increase high-stakes assessment scores,
c) and reduce class sizes on courses that carry an EOC.

The goals of the proposed solution are to increase test scores on the EOC Biology test and to increase student efficacy at an alternative high school located in Georgia. The biology course is currently scheduled for ninth-grade students who also take a math course that has an EOC attached, which results in students having more than one EOC. Respondent 5 (2021), stated the need to "adjust course sequence and offer biology in the 10th grade." Literature and research show that implementing an intentional curriculum, scheduling students with a balance of rigorous and non-rigorous courses, and reducing class sizes are key components in the success of a concentrated course. According to Goddard, Goddard, Bailes, and Nichols (2019), differentiation is not a strategy but instead a way to think about interactions between teaching and learning. In this case, this would apply to the learning environment and a balanced schedule.

Supplementing teaching and learning using interventions in the classroom, like a reading specialist, and support outside the classroom, such as tutorials will enhance content mastery. Teachers have found ways to meet the myriad needs of students and offer students alternatives to the "one-size-fits-all" approach in a typical classroom. Teachers have also suggested chunking the concepts and focusing more on the domains that make up a large percentage of the assessment. Leader 1 (2021), stated that it would be best to "identify the domains that the students struggle on and find alternate ways to teach those standards, ensure instruction and

assessments mirror the rigor of the EOC, targeted tutorials, spiraled instruction, station teaching, and reduce the teacher-student ratio." Student learning is directly affected by how and what teachers teach (Early et. al., 2016). Instructional interventions are set up in ways that help track progress, they are intentional, specific, and formalized. They last a certain number of weeks or months, and progress is reviewed at specified intervals. Tutoring is a form of intervention that gives students individualized attention. Tutoring programs can aid in developing study, life, and learning skills. Finally, having the reading specialist provide strategies for comprehension will add to the learning process as the biology course is heavily concentrated on vocabulary and informational text.

Making an additional adjustment to the master schedule to add one more section of biology will allow for no more than 20 students to be scheduled in each class period. Educational leadership can improve learning in the classroom. Improvement in learning results from a multifaceted leadership approach. Scheduling and class size are factors that contribute to student outcomes. Leadership encompasses various forms of school leadership, such as principals, department chairs, coaches, and teachers. Achievement is a basis for monitoring school improvement. According to Bondebjerg et. al. (2021), achievement gains are attainable when class sizes are below 20 students to one teacher. Small class sizes provide the opportunity for students to receive one-on-one attention.

Resources Needed

Targeted Plan

The resources needed to support and ensure the solution are faculty and staff that are willing to stay after school, participate in Saturday school, and come early to implement the biology-specific tutorials. In addition, there will need to be a commitment from teachers and

administrators to collaborate on restructuring the curriculum and creating meaningful grade-appropriate activities and learning plans during collaborative planning that foster the critical thinking skills of students. A potential barrier to these solutions is the attitude and low buy-in of the stakeholders.

Professional Learning Communities

Teachers will also need to buy into increasing their pedagogy by attending training that is both mandated and voluntary. In addition, the administration will need to increase parent and student engagement in the process and support the teacher with developing a biology remediation plan that is an extension of the schoolwide plan. The team will need to create a communication tool to inform the parents of the many opportunities available to their students to receive assistance and how to be engaged in the learning process. Barriers exist when teachers look to new initiatives as just another thing they must do, which oftentimes causes them to not fully implement. For these solutions to be successful, teachers and students will have to be intentional, dedicated, and committed.

Reading Specialist

Incorporating the reading specialist into the biology classrooms and/or into the science collaboration meetings will provide an added skill set to aid students with comprehension skills. The reading specialist is used as support to supplement and extend classroom teaching. A reading specialist plans teaches and evaluates instruction for struggling students in the areas of reading and writing. In addition, the reading specialist will use data to identify students who need focused instruction. Benefits can be enhanced by designing measures that assess skills, follow formative assessment principles, and involve multimodal formats and student responses

(Gale, 2016). A barrier that may arise is the reluctance to allow another teacher into the classroom to invest their expertise. Many veteran teachers have difficulty sharing their space.

Funds Needed

Tutorial – Professional Development

The funds needed to generate the solution are minimal. The current school improvement plan already has allotted funds for resources directly related to the lowest content scores on the EOC. The current budget has allocated $10,000 for tutorials, $2,500 for Saturday school, and $3,000 for professional development. Therefore, there is no need to use any additional funds. Teachers are already mandated to collaborate during common planning, so they can use this time along with pre-planning to restructure the courses pacing around priority standards. However, if teachers are going to plan a day during the summer to work on tailoring the unit plans to cater to students' needs, they will have to be paid $35/hour, which is the district stipend amount for certified staff. There will need to be an addition to one of the budgets for $2,800 to cover a full day for the entire science team.

Faculty/Staff

One of the respondents said possible smaller class sizes were a solution. Small class size is an indicator of quality in education. According to Wright, Bergom, and Bartholomew (2019), smaller classes use activities that are learner-centered and that involve physical and mental activity on the part of learners, such as group work, simulations, and case studies. The principal does have the autonomy to use Title I funds to hire personnel. In this case, funds may be allocated in the minimum amount of $49,400.84, which is the salary for a first-year teacher in the district. Another option would be to just rearrange the current staff to open an additional section to bring the class sizes down to a more manageable amount.

Substitute Teachers

Finally, there may be a cost for substitutes to allow teachers the opportunity to go out and visit other biology classes throughout the county that have demonstrated mastery with their students. There is an allotment of $2500 included in the Title I budget for substitutes used for school training, observations, professional development, or other instructional activities where teachers will need to be out of the classroom. Substitutes are paid $100 daily, which will calculate to $300 for the three teachers who currently teach biology. The administration team will act as the conduit to organize and schedule school visits. Teachers will have the opportunity to visit schools and classrooms and add strategies and practices to their toolbox that they will implement in their classroom where applicable.

Roles and Responsibilities

Targeted Plan

The plan would need to be spearheaded by the science coach, instructional specialist, and department chair. Two-person teams will be developed to tackle the domain that your students scored the highest on during previous test administrations along with the priority standards from each unit. The science team will collaborate weekly under the direction of the department chair and science coach to discuss data, pacing, common assessments, and lessons. The science coach will lead all data meetings and analyze an item analysis after every benchmark assessment. The biology team which consists of the department chair, reading specialist, and any teacher that is currently teaching the course will analyze weekly common assessments to develop necessary interventions for remediation before moving on to the new concepts.

Professional Development - Observations

The administration would oversee and coordinate the professional development courses as well as the outside school visits and observations for the biology team. Teachers have the autonomy of finding and attending open district training and conferences as they see fit. The instructional assistant principal will pair veteran teachers with novice teachers to assist with building capacity in instruction and planning. The principal will plan and schedule the summer post-planning agenda and the leadership retreat.

Initiatives and Strategies

The department chair will create a rotating schedule for new teaching strategies to be introduced weekly by the science team, reading specialist, and instructional specialist during collaborative planning to add to the teacher's toolbox. Plans to tackle domains with the highest deficit will be created by teachers currently teaching the course under the direction of the science coach during collaborative planning meetings and implemented with each unit. The administration will monitor that process quarterly to determine the validity of the instruction through observations, focus walks, and common assessment scores for each unit targeting the priority standards.

Timeline

Training, professional development, and collaboration will begin in August during pre-planning and will be ongoing throughout the semester. Training on what the expectations are for teachers can take place during the summer in late July during the leadership retreat with lead teachers and the science coach. The administration will conduct quarterly observations every four and a half weeks each semester and facilitate data talks to monitor the progress of mastering priority standards. The plan can be reviewed and refined according to both school and student needs in December and May towards the end of each semester. The science coach can look at

the data from the district benchmarks in September, November, February, and April to identify the borderline students that may need additional tutorials both face to face and through one of the technology platforms before the administration of the EOC. During the third data talk approximately thirteen weeks into the semester, the team will review the data and determine if an intense tutorial is needed for the students in each of the flexible groups. At this time there will be a ramp-up curriculum geared toward the highest tested area and the option of Saturday school in the last six weeks of the fall and spring semester leading up to the test. Within the first two weeks of the second semester, the team will review the scores and domain data from the Winter EOC assessment and revise the plan accordingly. During post-planning administration along with the lead teachers, and the coach can determine the areas of success and challenges and refine the plan to be included in the upcoming school improvement plan.

Solution Implications

Positive implications for the solution are increased test scores, increased mastery of the biology concepts, student growth, and an increased accountability score for the school. The state of Georgia grades schools on content mastery, graduation, discipline, and attendance. The improved scores will count twice in the categories of content mastery and growth and achievement. The addition of the reading specialist will benefit all learners across all contents, which is a value-added plus. Research shows that students who read at a proficient level tend to perform at high levels in all subjects. The standards require students to read and comprehend literary and informational texts proficiently to determine central ideas or themes, and to analyze how and why individuals, events, and ideas develop and interact (Hall, 2016). The negative implications can be the funds and resources that will be allocated to the science department, which may reduce the amounts available to other programs and initiatives. In addition, there may

be some resistance from teachers who will be asked to devote time and effort to developing the plan and executing it with fidelity. Finally, the overall implementation will benefit the school and have the greatest impact with complete buy-in and devotion.

Evaluation Plan

The evaluation plan is to monitor the planning sessions to ensure that teachers are having meaningful conversations and work sessions around pacing, chunking, and common misconceptions. Weekly monitoring of lesson plans by the science administrator to determine if the priority standards are the focus along with differentiation of instruction to meet the needs of each student. Assessing the effectiveness of the solution will provide information on the levels of effective use of strategies and remediation practices. The science coach will review the tutorial content and refine it as needed to create a plan of support that is both targeted and prescriptive. District benchmarks will continue to be used throughout the semester to measure mastery and predict scores on the EOC assessment. Teachers will also use this data to group students and review domains to determine what and how much remediation each student will be offered. Finally, the counseling team will conduct an audit within the first two weeks of each semester to identify any schedules where a student is scheduled for more than one EOC course and make the necessary changes.

Summary

Educational interventions provide students with the support needed to acquire the skills being taught by the educational system and should address functional skills, academic, cognitive, behavioral, and social skills that directly affect the child's ability to access an education. The purpose of an intervention is to help the person struggling with support and resources to reach the desired outcome. The action plan includes recourses, funds, personnel, time, professional

development, and a monitoring plan, The plan is designed to grow students and ultimately increase high-stakes test scores. With complete buy-in from faculty, staff, and students, the intervention can produce student growth and higher test scores.

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APPENDIX A

[redacted]

December 14, 2020

[redacted]

Dear [redacted]:

As a graduate student in the School of Education at Liberty University, I am conducting research as part of the requirements for a doctoral degree. I am conducting research to better understand the reasons behind low-performing test scores on the EOC Biology test. The title of my research project is *Improving Students' Scores on the Georgia End of Course Assessment for Biology*, and the purpose of my research is to solve the problem of underperforming student test scores on the End of Course Biology assessment for high school students at an alternative school in Georgia, and to design interventions to address the problem.

I am writing to request your permission to conduct my research at [redacted]

Participants in one group (50 students) will be asked to click on the link provided and complete a survey, the second group (5 members of administration) will contact me to schedule an interview on Microsoft Teams, and the third group (10 faculty and staff members) will participate in a focus group on Microsoft Teams after coordinating times. The data will be used to design interventions to address the problem of low-performing scores. Participants will be presented with informed consent information prior to participating. Taking part in this study is completely voluntary, and participants are welcome to discontinue participation at any time.

Thank you for considering my request. If you choose to grant permission, please provide a signed statement on official letterhead indicating your approval. I look forward to hearing from you.

Sincerely,

Natasha T. Simpson
Doctor of Education Student
Liberty University

APPENDIX B

[redacted]

December 2, 2020

Natasha Simpson
Doctoral Candidate
[redacted]

Dear Ms. Simpson,

This letter serves as my informed consent to allow you to proceed with your research at [redacted] aware that your research is being conducted in partial fulfillment to satisfy the requirements of the degree of Doctor of Education (Ed.D). My permission is of course pending the approval of [redacted] Research and Evaluation Department.

I have met with you and reviewed your research proposal on the topic of: Underperforming Scores on Georgia's End of Course Biology Standardized Test at an Alternative School. I am aware that your research will involve individual interviews of administration, group interviews of teachers, and an electronic survey of students at [redacted]

Please let me know if there is anything else that I can do to assists you in your research endeavors. Please be sure to share the results and implications of your findings with me so that we may use the information to continually improve our educational environment here at [redacted]

Educationally yours,

[redacted]

[redacted]

Principal, [redacted]

APPENDIX C

[redacted]

April 20, 2021

Dear Ms. Simpson:

After careful review of your research proposal entitled "Improving Students' Scores on the End of Course Assessment for Biology", we have decided to grant you permission to conduct your study at [redacted]

We are requesting a copy of the results upon study completion.

Sincerely,

[redacted]
Associate Superintendent Accountability
Office of Accountability
[redacted]

APPENDIX D

IRB APPROVAL TO BEGIN RESEARCH

[External] IRB-FY20-21-797 - Initial: Initial - Non-Human Subjects Research

do-not-reply@cayuse.com <do-not-reply@cayuse.com>
Wed 5/26/2021 6:34 AM
To: [redacted]

[EXTERNAL EMAIL: Do not click any links or open attachments unless you know the sender and trust the content.]

LIBERTY UNIVERSITY.
INSTITUTIONAL REVIEW BOARD

May 26, 2021

[redacted]

Re: IRB Application - IRB-FY20-21-797 IMPROVING STUDENTS' SCORES ON THE GEORGIA END OF COURSE ASSESSMENT FOR BIOLOGY

Dear [redacted]

The Liberty University Institutional Review Board (IRB) has reviewed your application in accordance with the Office for Human Research Protections (OHRP) and Food and Drug Administration (FDA) regulations and finds your study does not classify as human subjects research. This means you may begin your research with the data safeguarding methods mentioned in your IRB application.

Decision: No Human Subjects Research

Explanation: Your study is not considered human subjects research for the following reason:

Your project will consist of quality improvement activities, which are not "designed to develop or contribute to generalizable knowledge" according to 45 CFR 46. 102(l).

Please note that this decision only applies to your current research application, and any modifications to your protocol must be reported to the Liberty University IRB for verification of continued non-human subjects research status. You may report these changes by completing a modification submission through your Cayuse IRB account.

Also, although you are welcome to use our recruitment and consent templates, you are not required to do so. If you choose to use our documents, please replace the word *research* with the word *project* throughout both documents.

If you have any questions about this determination or need assistance in determining whether possible modifications to your protocol would change your application's status, please email us at irb@liberty.edu.

Sincerely,

[redacted]

APPENDIX E

INFORMED CONSENT

Title of the Project: Improving Students' Scores on Georgia's End of Course Test for Biology
Principal Investigator: Natasha T. Simpson, Doctoral Student, Liberty University

Invitation to be Part of a Research Study

You are invited to participate in a research study. Participants must be an Administrator, Exceptional Ed lead teacher, biology teacher/department chair, or the science coach. Taking part in this research project is voluntary.

Please take time to read this entire form and ask questions before deciding whether to allow your student to take part in this research project.

What is the study about and why is it being done?

The purpose of this applied study is to solve the problem of underperforming student test scores on the End of Course Biology assessment, and to design interventions to address the problem.

What will happen if you take part in this study?

If you agree to be in this study, I will ask you to do the following things:

1. Interview Interviews will be virtual (TEAMS) an audio recording will be captured. The interviews should last 45 minutes and will be transcribed to identify themes.

How could you or others benefit from this study?

Participants should not expect to receive a direct benefit from taking part in this study.

Benefits include: a better understanding of the underperforming scores associated with high-stakes testing, which will allow us to formulate a solution for upcoming students.

What risks might you experience from being in this study?

The risks involved in this study are minimal, which means they are equal to the risks you would encounter in everyday life.

How will personal information be protected?

The records of this study will be kept private. You (Interview), participants (Focus Group), and the researchers are the only ones who will know the details of your study participation. If we publish reports or give talks about this research, we will only discuss group results. We will not use your name or any other personal information that would identify you.

To help protect confidentiality, we will give your study data a code. Interviews will be conducted in a location where others will not easily overhear the conversation. Interviews/focus groups will be recorded and transcribed. Confidentiality cannot be guaranteed in focus group settings. While discouraged, other members of the focus group may share what was discussed with persons outside of the group.

The data will be kept for 3 years and deleted. Data collected as part of this study may be shared for use in future research studies or with other researchers. If data collected from the participants is shared, any information that could identify them, will be removed before the data is shared.

Research records will be stored securely on a password protected computer and drive, and only the researcher will have access to the records.

Is study participation voluntary?

Participation in this study is voluntary. Your decision whether to participate will not affect your current or future relations with Liberty University or DeKalb County School District. If you decide to participate, you are free to not answer any question or withdraw at any time without affecting those relationships.

What should you do if you decide to withdraw from the study?

If you choose to withdraw from the study, please contact the researcher at the email address/phone number included in the next paragraph. Should you choose to withdraw, your data, will be destroyed immediately and will not be included in this study.

Whom do you contact if you have questions or concerns about the study?

The researcher conducting this study is Natasha T. Simpson. You may ask any questions you have now. If you have questions later, **you are encouraged** to contact her at natasha_t_simpson@dekalbschoolsga.org

Whom do you contact if you have questions about your rights as a research participant?

If you have any questions or concerns regarding this study and would like to talk to someone other than the researcher, **you are encouraged** to contact the Institutional Review Board, 1971 University Blvd., Green Hall Ste. 2845, Lynchburg, VA 24515 or email at irb@liberty.edu

Your Consent

Before agreeing to be part of the research, please be sure that you understand what the study is about. You can print a copy of the document for your records. If you have any questions about the study later, you can contact the researcher using the information provided above.

I have read and understood the above information. I have asked questions and have received answers. I consent to participate in the study.

☐ The researcher has my permission to audio-record me as part of my participation in this study.

_____ _____

Printed Subject Name Signature and Date

APPENDIX F

INFORMED CONSENT

Title of the Project: Improving Students' Scores on Georgia's End of Course Test for Biology
Principal Investigator: Natasha T. Simpson, Doctoral Student, Liberty University

Invitation to be Part of a Research Study

You are invited to participate in a research study. Participants must be an Administrator, Exceptional Ed lead teacher, biology teacher/department chair, or the science coach. Taking part in this research project is voluntary.

Please take time to read this entire form and ask questions before deciding whether to allow your student to take part in this research project.

What is the study about and why is it being done?

The purpose of this applied study is to solve the problem of underperforming student test scores on the End of Course Biology assessment, and to design interventions to address the problem.

What will happen if you take part in this study?

If you agree to be in this study, I will ask you to do the following things:

1. Focus Group The focus group session is scheduled for 90 minutes. The interview guide will consist of specific detailed questions. The focus group session will be audio-recorded and later transcribed.

How could you or others benefit from this study?

Participants should not expect to receive a direct benefit from taking part in this study.

Benefits include: a better understanding of the underperforming scores associated with high-stakes testing, which will allow us to formulate a solution for upcoming students.

What risks might you experience from being in this study?

The risks involved in this study are minimal, which means they are equal to the risks you would encounter in everyday life.

How will personal information be protected?

The records of this study will be kept private. You (Interview), participants (Focus Group), and the researchers are the only ones who will know the details of your study participation. If we publish reports or give talks about this research, we will only discuss group results. We will not use your name or any other personal information that would identify you.

To help protect confidentiality, we will give your study data a code. Interviews will be conducted in a location where others will not easily overhear the conversation. Interviews/focus groups will be recorded and transcribed. Confidentiality cannot be guaranteed in focus group settings. While

discouraged, other members of the focus group may share what was discussed with persons outside of the group.

The data will be kept for 3 years and deleted. Data collected as part of this study may be shared for use in future research studies or with other researchers. If data collected from the participants is shared, any information that could identify them, will be removed before the data is shared.

Research records will be stored securely on a password protected computer and drive, and only the researcher will have access to the records.

Is study participation voluntary?

Participation in this study is voluntary. Your decision whether to participate will not affect your current or future relations with Liberty University or DeKalb County School District. If you decide to participate, you are free to not answer any question or withdraw at any time without affecting those relationships.

What should you do if you decide to withdraw from the study?

If you choose to withdraw from the study, please contact the researcher at the email address/phone number included in the next paragraph. Should you choose to withdraw, your data, will be destroyed immediately and will not be included in this study. Focus group data will not be destroyed, but your contributions to the focus group will not be included in the study.

Whom do you contact if you have questions or concerns about the study?

The researcher conducting this study is Natasha T. Simpson. You may ask any questions you have now. If you have questions later, **you are encouraged** to contact her at natasha_t_simpson@dekalbschoolsga.org

Whom do you contact if you have questions about your rights as a research participant?

If you have any questions or concerns regarding this study and would like to talk to someone other than the researcher, **you are encouraged** to contact the Institutional Review Board, 1971 University Blvd., Green Hall Ste. 2845, Lynchburg, VA 24515 or email at irb@liberty.edu

Your Consent

Before agreeing to be part of the research, please be sure that you understand what the study is about. You can print a copy of the document for your records. If you have any questions about the study later, you can contact the researcher using the information provided above.

I have read and understood the above information. I have asked questions and have received answers. I consent to participate in the study.

☐ The researcher has my permission to audio-record me as part of my participation in this study.

_____ _____

Printed Subject Name Signature and Date

APPENDIX G

PARENTAL CONSENT AND STUDENT ASSENT

Title of the Project: Improving Students Scores on Georgia's End of Course Test for Biology
Principal Investigator: Natasha T. Simpson, Doctoral Student, Liberty University

Invitation to be Part of a Research Study

Your student is invited to participate in a research study. Participants must be a high school -age (14 and up) student who is either currently enrolled in Biology or was enrolled during the fall 2020 semester. Taking part in this research project is voluntary.

Please take time to read this entire form and ask questions before deciding whether to allow your student to take part in this research project.

What is the study about and why are we doing it?

The purpose of this applied study is to solve the problem of underperforming student test scores on the End of Course Biology assessment, and to design interventions to address the problem.

What will participants be asked to do in this study?

If you agree to allow your student to be in this study, I will ask him or her to do the following:

1. Complete a survey: You will be asked questions about your performance and achievement on standardized assessments, and your responses will be recorded using google forms. The survey is 15 questions and should take 20 minutes.

How could participants or others benefit from this study?

Participants should not expect to receive a direct benefit from taking part in this study.

Benefits include: a better understanding of the underperforming scores associated with high-stakes testing, which will allow us to formulate a solution for upcoming students.

What risks might participants experience from being in this study?

The risks involved in this study are minimal, which means they are equal to the risks you would encounter in everyday life.

How will personal information be protected?

The records of this study will be kept private. Besides you and your parents, the researchers are the only ones who will know the details of your study participation. If we publish reports or give talks about this research, we will only discuss group results. We will not use your name or any other personal information that would identify you.

To help protect confidentiality, we will give your study data a code. The data will be kept for 3 years and deleted. Data collected as part of this study may be shared for use in future research studies or with other researchers. If data collected from the participants is shared, any information that could identify them, will be removed before the data is shared.

Research records will be stored securely on a password protected computer and drive, and only the researcher will have access to the records.

How will participants be compensated for being part of the study?

Participants will be compensated for participating in this study. Participants will receive an electronic $5 fast-food gift card as a thank-you for your time and effort to take part in this study. Email addresses will be requested for compensation purposes; however, they will be pulled and separated from your responses to maintain your confidentiality.

Is study participation voluntary?

Participation in this study is voluntary. Your decision whether to allow your student to participate will not affect your current or future relations with Liberty University or DeKalb County School District. If you decide to allow your student to participate, he or she is free to not answer any question or withdraw at any without affecting those relationships.

What should be done if a participant wishes to withdraw from the study?

If you choose to withdraw your student from the study or your student chooses to withdraw from the study, please contact the researcher at the email address/phone number included in the next paragraph. Should the student decide to withdraw during or after the survey, any data collected from your student will be destroyed immediately and will not be included in this study.

Whom do you contact if you have questions or concerns about the study?

The researcher conducting this study is Natasha T. Simpson. You may ask any questions you have now. If you have questions later, **you are encouraged** to contact her at natasha_t_simpson@dekalbschoolsga.org

Whom do you contact if you have questions about rights as a research participant?

If you have any questions or concerns regarding this study and would like to talk to someone other than the researcher, **you are encouraged** to contact the Institutional Review Board, 1971 University Blvd., Green Hall Ste. 2845, Lynchburg, VA 24515 or email at irb@liberty.edu

Your Consent

Before agreeing to your student being a part of the research, please be sure that you understand what the study is about. You can print a copy of the document for your records. If you have any questions about the study later, you can contact the researcher using the information provided above.

I have read and understood the above information. I have asked questions and have received answers. I consent to allow my student to participate in the study.

_____ _____

Printed Student's Name Student's Signature Date

_____

Parent's Signature Date

APPENDIX H

INTERVIEW QUESTIONS

1. Please indicate which standardized assessments are administered to a majority of your students and have demonstrated the lowest performance level from your students in the last school year.
2. How has the school decided to improve and monitor these scores in the upcoming administration of the EOC?
3. What initiatives, if any, have been implemented?
4. How has your school or district encouraged teachers to provide time for students to prepare, or practice, for any of the standardized assessments?
5. From a leadership perspective, how useful are the test results from non-standardized assessments for decisions about educational programs or instruction?
6. How familiar are you with the intentions of the EOC?
7. What monitoring systems are in place to ensure the curriculum and pacing mirror the standards covered on the EOC?
8. What is the procedure for students opting out of participating in the EOC?
9. What professional development and monitoring are in place to ensure that teaching is to the cognitive demand of instruction needed for student success on the EOC?
10. How would you solve the problem of ninth grade students' low proficiency on the 2018-19 End of Course (EOC) Biology Assessment at the alternative school?

APPENDIX I

FOCUS GROUP QUESTIONS

1. How does high-stakes testing impact the motivational level of students?
2. What interventions are used to ensure student mastery of priority standards?
3. What strategies are used to ensure students are exposed to foundational skills when they are performing below or at grade level?
4. When students are socially promoted (Moved to the next grade without passing the standardized assessment associated with that previous grade), how are those students supported to ensure they are successful and ready for grade-level learning?
5. How does the school-wide remediation plan target and integrate science-based priority content standards into the tutorial program?
6. How often are students given the chance to remediate learning and how?
7. What trends have emerged that demonstrate students' mastery of the academic standards this semester?
8. How do you ensure that lessons and activities are grade-appropriate and aligned to the level that is assessed at the end of the course?
9. What are some implications found through the data analysis of the EOC assessments?
10. How would you solve the problem of underperforming scores on the Biology EOC assessment?

APPENDIX J

STUDENT SURVEY QUESTIONS

Demographic Questions

What is your gender? Male, Female, or Prefer Not to Answer
What is your current grade-level in school? 9th, 10th, 11th, or 12th
Specify your ethnicity. Caucasian, African American, Latino or Hispanic, Asian, Native American, Pacific Islander, Other/Unknown, or Prefer Not to Say

1. In my opinion I need to score at lease a proficient on the Georgia Milestones Assessment for the school to gain Career College Readiness Performance Index (CCRPI) points.

5	4	3	2	1
Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree

2. In the past two years, I have taken at least one End of Course test.

5	4	3	2	1
Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree

3. In my opinion there are not enough test administered throughout the school year.

5	4	3	2	1
Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree

4. In my opinion there are too many tests administered throughout the school year.

5	4	3	2	1
Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree

5. I have found benchmarks, quizzes, and unit tests useful in understanding what I have learned and what I need to learn.

5	4	3	2	1
Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree

6. In my opinion, my teacher has prepared me for the EOC.

5	4	3	2	1
Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree

7. The results of my assessments are communicated with me and/or my parents/guardians.

5	4	3	2	1
Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree

8. I prepare for tests by reviewing study material, cramming the night before, or attending tutorial sessions.

5	4	3	2	1
Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree

9. When I don't understand a concept, I ask questions or ask for help.

5	4	3	2	1
Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree

10. I have attended tutorial for science within the past two school years.

5	4	3	2	1
Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree

11. I suffer from test anxiety.

5	4	3	2	1
Always	Often	Sometimes	Rarely	Never

12. I am usually worried and think about failing while completing an assignment.

5	4	3	2	1
Always	Often	Sometimes	Rarely	Never

13. I get headaches and/or my stomach hurts and feels upset before or during a test.

5	4	3	2	1
Always	Often	Sometimes	Rarely	Never

14. I get nervous during tests and forget what I have studied.

5	4	3	2	1
Always	Often	Sometimes	Rarely	Never

15. I am often distracted during important tests and assignments.

5	4	3	2	1
Always	Often	Sometimes	Rarely	Never

APPENDIX K

Interview Transcription with Leader 1, Jordan Academy

1. Please indicate which standardized assessments are administered to a majority of your students and have demonstrated the lowest performance level from your students in the last school year?

Biology Georgia Milestone

2. How has the school decided to improve and monitor these scores in the upcoming administration of the EOC?

Administering Common Assessments, Data Talks, and Targeted Tutorials

3. What initiatives, if any, have been implemented?

None

4. How has your school or district encouraged teachers to provide time for students to prepare, or practice, for any of the standardized assessments?

Assigned practice tests using Study Island and USA Test-Prep

5. From a leadership perspective, how useful are the test results from non-standardized assessments for decisions about educational programs or instruction?

Useful because it provides insight on what resources to purchase as well as what standards teachers should focus on during targeted tutorials and extended learning time. It can also be used for remediation.

6. How familiar are you with the intentions of the EOC?

Very familiar

7. What monitoring systems are in place to ensure the curriculum and pacing mirror the standards covered on the EOC?

Collaborative Planning and Common Assessments

8. What is the procedure for students opting out of participating in the EOC?

The parent sends a written statement to the principal and the statement is forwarded to the Director Test Coordinator.

9. What professional development and monitoring are in place to ensure that teaching is to the cognitive demand of instruction needed for student success on the EOC?

None

10. How would you solve the problem of ninth grade students' low proficiency on the 2018-19 End of Course (EOC) Biology Assessment at the alternative school?

Identify the domains that the students struggle on and find alternate ways to teach those standards, ensure instruction and assessments mirror the rigor of the EOC, targeted tutorials, spiraled instruction, and possible some station teaching to reduce the teacher-student ratio.

Interview Transcription with Leader 2, Jordan Academy

1. Please indicate which standardized assessments are administered to a majority of your students and have demonstrated the lowest performance level from your students in the last school year?

The Georgia End of Course Assessment is administered to Biology students. I have not reviewed the data for the lowest performance levels.

2. How has the school decided to improve and monitor these scores in the upcoming administration of the EOC?

My school will utilize a science academic coach to support teacher and student growth to monitor and improve EOC scores.

3. What initiatives, if any, have been implemented?

The Claim-Evidence-Reasoning instructional strategy has been implemented.

4. How has your school or district encouraged teachers to provide time for students to prepare, or practice, for any of the standardized assessments?

The district encourages teacher to use the opening of classes practice power standards by providing "Daily Dose" questions to prepare for the EOC.

5. From a leadership perspective, how useful are the test results from non-standardized assessments for decisions about educational programs or instruction?

The non-standardized assessments are integral to adapting instruction to meet the needs of the students.

6. How familiar are you with the intentions of the EOC?

I am very familiar with the intentions of the EOC.

7. What monitoring systems are in place to ensure the curriculum and pacing mirror the standards covered on the EOC?

Although the district provides a paced curriculum map, I am unfamiliar if the monitoring system is in place. On the school level, the science academic coach monitors and supports pacing and standard based instruction.

8. What is the procedure for students opting out of participating in the EOC?

I am unfamiliar with the procedure to opt out of the EOC during a traditional school year.

9. What professional development and monitoring are in place to ensure that teaching is to the cognitive demand of instruction needed for student success on the EOC?

Administrative walkthroughs are conducted to ensure that instruction is meeting the cognitive demand. The district provides varies professional development to support instruction.

10. How would you solve the problem of ninth grade students' low proficiency on the 2018-19 End of Course (EOC) Biology Assessment at the alternative school?

I would focus on literacy and creating relatable lessons.

Interview Transcription with Leader 3, Jordan Academy

1. Please indicate which standardized assessments are administered to a majority of your students and have demonstrated the lowest performance level from your students in the last school year?

Georgia Milestone Assessments EOC (Subject Areas lowest performance has been in:

Math and English Language Arts

2. How has the school decided to improve and monitor these scores in the upcoming administration of the EOC?

By having the students participate in Benchmark Assessments (Such as MAP, Pre and Post Test, looking at specific Standards and Domains, reviewing SLDS Prior Years' Testing Data) throughout the School Year in order to see, diagnose, and disaggregate the student's needs, gaps and implement strategies and use resources to address those areas of needs prior to the final EOC Assessments being administered.

3. What initiatives, if any, have been implemented?

MAP review with students & teacher, Tutorials, Online Platforms work specifically geared and self-paced for student as well as teacher-guided to identify areas of need and assist the student to show growth and improve in said areas of need.

ALEKs, Tutorials, MAP, Flexible Learning Plan (FLP) individualized for student analysis and learning... and many more.

4. How has your school or district encouraged teachers to provide time for students to prepare, or practice, for any of the standardized assessments?

ELT, Online Platforms, Tutorials (Face to Face) or Online Tutorials, Content Forums, and meeting with parents to teach and empower them to assist with student learning and growth.

5. From a leadership perspective, how useful are the test results from non-standardized assessments for decisions about educational programs or instruction?

The results are very useful when you can see the exact areas of comprehension or misunderstanding which can be found when we disaggregate and breakdown areas where students need improvement. Looking at these details are how we can help students improve on any type of assessments. That information can help to drive instruction and focus teaching and learning moving forward.

6. How familiar are you with the intentions of the EOC?

Very Familiar and very well trained and versed with the intentions of the EOC

7. What monitoring systems are in place to ensure the curriculum and pacing mirror the standards covered on the EOC?

District-Wide Common Lesson Plans, Curriculum Platforms and Resources for Teachers to use, Assistant Principal regular meeting with teachers, Data Collaboration Planning Weekly, regular online meeting and training regarding Curriculum & pacing reflection of EOC Standards.

8. What is the procedure for students opting out of participating in the EOC?

Parents must opt out in writing to the school.

9. What professional development and monitoring are in place to ensure that teaching is to the cognitive demand of instruction needed for student success on the EOC?

A myriad and a plethora of professional learning and monitoring is in place throughout the school year.

10. How would you solve the problem of ninth grade students' low proficiency on the 2018-19 End of Course (EOC) Biology Assessment at the alternative school?

Training regarding curriculum and pacing reflection of EOC Standards and monitoring the results.

Interview Transcription with Leader 4, Jordan Academy

1. Please indicate which standardized assessments are administered to a majority of your students and have demonstrated the lowest performance level from your students in the last school year?

Coordinate Algebra, American Literature, Biology, and US History

2. How has the school decided to improve and monitor these scores in the upcoming administration of the EOC?

By providing tutorial services, packets, USA test prep practice, FLP program, and individual assistance to assist students.

3. What initiatives, if any, have been implemented?

Flexible Learning Plan Program, Tutorial programs, USA Test prep. and Individual assistance for students, and Study packets.

4. How has your school or district encouraged teachers to provide time for students to prepare, or practice, for any of the standardized assessments?

USA Test Prep, Georgia Milestones Practice Test, and Georgia Milestones Study Guides.

5. From a leadership perspective, how useful are the test results from non-standardized assessments for decisions about educational programs or instruction?

The data received from all test results (non-standardized and standardized) are useful in making data-driven school-based decisions as we plan, develop, and implement the Consolidated School Improvement Plan which guides school-based decisions, but not limited to.

6. How familiar are you with the intentions of the EOC?

I am very much familiar with Georgia Milestones "End of Course" (EOC) assessments.

7. What monitoring systems are in place to ensure the curriculum and pacing mirror the standards covered on the EOC?

Focus Walks to ensure the curriculum is being taught with fidelity, lesson plan reviews, constant review of Verge Platform for online learning., common planning of content teachers to share instructional strategies/methods.

8. What is the procedure for students opting out of participating in the EOC?

The student parents must write a letter to the school Principal requesting to opt out, and that letter is forwarded to the school District (DCSD) Direct of Assessment.

9. What professional development and monitoring are in place to ensure that teaching is to the cognitive demand of instruction needed for student success on the EOC?

Teachers are engaged in frequent instructional professional develop opportunities to ensure the curriculum/standards are being taught. This is done through, but limited to: Focus Walks, Lesson Plan monitoring, Common Planning Periods for all content areas, Grade Level Chair meetings.

10. How would you solve the problem of ninth grade students' low proficiency on the 2018-19 End of Course (EOC) Biology Assessment at the alternative school?

These student deficits will be addressed through the FLP program, tutorial services, individual targeted assistance of student's deficits, and constant monitoring of the students' academic progress by the content teachers.

Interview Transcription with Leader 5, Jordan Academy

1. Please indicate which standardized assessments are administered to a majority of your students and have demonstrated the lowest performance level from your students in the last school year?

GA Milestone- Language Arts and Math

2. How has the school decided to improve and monitor these scores in the upcoming administration of the EOC?

We implemented for ELA-DEAR Time and RACE/ CLOSE Reading Strategies and for Math-Dragon Power Hour.

3. What initiatives, if any, have been implemented?

We implemented for ELA-DEAR Time and RACE/ CLOSE Reading Strategies and for Math-Dragon Power Hour.

4. How has your school or district encouraged teachers to provide time for students to prepare, or practice, for any of the standardized assessments?

During the COVID-19 Pandemic, we implemented Asynchronous and Synchronous Learning and Wednesdays for Planning and Student/Parent Conference days.

5. From a leadership perspective, how useful are the test results from non-standardized assessments for decisions about educational programs or instruction?

The non-standardized assessments are highly informative in that they provide us with specific data to address teacher and student issues.

6. How familiar are you with the intentions of the EOC?

I am very informed of the EOC.

7. What monitoring systems are in place to ensure the curriculum and pacing mirror the standards covered on the EOC?

We monitor the Scope and Sequence via lesson plans and informal observations.

8. What is the procedure for students opting out of participating in the EOC?

The students' parents can opt out of participating in the EOC by writing a letter to the Building Principal for approval by a certain date.

9. What professional development and monitoring are in place to ensure that teaching is to the cognitive demand of instruction needed for student success on the EOC?

This year provided teachers with PD on Concurrent Instruction in addition to continuing to monitor their teaching practices.

10. How would you solve the problem of ninth grade students' low proficiency on the 2018-19 End of Course (EOC) Biology Assessment at the alternative school?

I would offer a Science Support course as we do for ELA and Math. Also, provide more inactive and web-based Science programs to maximize instructional time.

APPENDIX L

Focus Group Transcription, Question # 1, Jordan Academy

1. How does high-stakes testing impact the motivational level of students?

Respondent 1: There are concerns about the efficacy of high-stakes mandated testing on student motivation and learning. Students are tested as much as two times a month or 20 mandated tests a school year and students spend over 50% more time on district tests than state tests. Even though a good of number of students perform well on these mandated tests, a significant number of students that are non-English speakers, students with special needs and students that come from low socio-economic backgrounds are significantly outperformed. These leads this sub-group of students to feel like they are under achieving causing them to lose motivation to learn.

Respondent 2: Students tend to see high-stakes testing as a usual procedure in school.

Respondent 3: As a high school teacher, students tend to see the test as non-important because they have been exposed to so many high-stakes testing throughout their student career that they tend to become numbed to their education. Their motivation is very low at the high school level based on the type of students encountered in our school.

Respondent 4: High-stakes testing promotes student engagement and motivation to reach mastery level understanding of academic concepts to achieve an acceptable score on tests.

Respondent 5: High-stakes testing usually causes stress for most students especially those under the special education umbrella.

Respondent 6: I think it give them an extra sense of motivation but also presents a heightened level of anxiety.

Respondent 7: Some students tend to gain anxiety during high stakes testing decreasing their motivation.

Respondent 8: Some students are more motivated to do well, and others see it as a challenge to overcome.

Focus Group Transcription, Question # 2, Jordan Academy

2. What interventions are used to ensure student mastery of priority standards?

Respondent 1: There are a few interventions utilized throughout the semester to ensure student mastery of priority standards. We have a school-wide approach of using Flexible Learning Plan (FLP) for each student in every class. For instance, in my class I utilized Tuesdays to take a moment in the being of the class period to emphasis the specific standard we are going, currently covering, or will cover in the weeks to come. Then I collect the student work and meet with students to discuss their class progress in their learning and behavior.

Respondent 2: I use is breaking down the standard with students. Identifying the verbs and the nouns of each standard and having them list vocabulary words they are not familiar with so as a class we can discuss the meaning. This allows for students to first understand what is expected of them to learn and for them to also hold me accountable of what I'm supposed to teach them.

Respondent 3: Before every lesson, the objectives are written out on the white board and the students are required to know and understand them. These objectives are the ones stated in the curriculum. Students will be assessed based on the objectives and what they need to learn. Re-teaching is also done on a regular basis to ensure the students achieve mastery of the content. For students that are over-achievers, enrichments activities are offered to ensure that they keep learning beyond what they have mastered. Project-based learning in collaborative groups is also practiced in order that students can learn from their peers and add on to their knowledge.

Respondent 4: Some interventions that we use to ensure student mastery of priority standards include teaching students based on their learning styles and/or multiple intelligences, grouping

students who do not have a working understanding of new academic concepts with students who have a better understanding, weekly conferences intended to work with students identify their weaknesses and the strengths that will help them achieve understanding and growth. Additionally, chunking, project based learning, and re-teaching among other strategies are utilized to address misconceptions and ensure mastery.

Respondent 5: Providing an atmosphere that is conducive to learning, reteach when needed, planning lessons according to student levels and monitoring their progress, flexible grouping, and providing timely feedback.

Respondent :6 Re-teaching cohorts per standard, work differentiation, strategic student grouping

Respondent 7: EOCT Extended Learning Time and Remediation through USA Test-Prep and Edgenuity

Respondent 8: Some interventions used are tutorials and formative assessments.

Focus Group Transcription, Question # 3, Jordan Academy

3. What strategies are used to ensure students are exposed to foundational skills when they are performing below or at grade level?

Respondent 1: Pre-teach vocabulary, activate prior knowledge, reteach key standards.

Respondent 2: Building remediation skills into mini-lesson, pre-requisite skills HW

Respondent 3: Students are remediated based on those skills needed.

Respondent 4: Use open inquiry and discovery learning as methods of teaching. Discovery learning is great because students build on their past experiences and prior knowledge. This is a great way to gauge where the student is at in their foundational skills. And with this knowledge, the teacher will be able to meet the student where they are and proceed from there. Use manipulatives, graphic organizers, pictures, and symbols. Graphic organizers are a great way for

students to organize their thoughts based on their understanding. Teachers should be cautioned that instead of grading the layout of the graphic organizer, they should grade the writing contained in the graphic organizers.

Respondent 5: Biology has many vocabulary words specific to the content. As a result, students are exposed to learn basic root words and prefixes to break apart the content specific word and derived the meaning utilizing content clues as well. As the content is being taught, students are given the opportunity to break down the word and use critical thinking skills to assess their understanding of the word based on context clues.

Respondent 6: Assessing prior knowledge through pretests and oral and written discussions/responses are used to ensure students are exposed to foundational skills when they are performing below or at grade level. These strategies allow teachers to see where students are academically and create a plan to meet them where they are while ensuring that they are provided access to new content.

Respondent 7: The Flexible Learning Plan (FLP) is used to progress monitor students and assist them with those academic deficits.

Focus Group Transcription, Question # 4, Jordan Academy

4. When students are socially promoted (Moved to the next grade without passing the standardized assessment associated with that previous grade), how are those students supported to ensure they are successful and ready for grade-level learning?

Respondent 1: Unfortunately, students who are socially promoted to the next-grade level is not prepared to face new challenging material. Science is interconnected with building blocks from elementary school, middle school, and everything is tied together in high school. When students

are just passed for various reasons not associated with their grades, there is a real disservice done to both the student and to the future teacher of the student.

Respondent 2: All teachers should give their students pretests to guide their teaching. This will inform teachers of the skills students do not possess or are not proficient in so that teachers can assist students with accessing grade level skills and information. Teacher further provide tutorials, one-on-one instruction, and support packets to ensure that students are ready for grade-level learning.

Respondent 3: They are offered enrichment programs like those offered in the summer to make them ready for the next level. Students are also offered tutoring opportunities to make them grade-level ready.

Respondent 4: Those students are not necessarily supported, but the FLP process gives them some support, but they still lack some necessary prerequisites that they never gained. There should be a time-frame set aside at the beginning of the school year where previous standards can be reintroduced and reviewed.

Respondent 5: There is a program that our school implements called transition 9 which supports students who were socially promoted from 9th grade. I always build pre-requisite skills into my mini-lesson daily

Focus Group Transcription, Question # 5, Jordan Academy

5. How does the school-wide remediation plan target and integrate science-based priority content standards into the tutorial program?

Respondent 1: The school-based remediation plan states that teachers must contact parents in enough time to make them aware that their student(s) could possibly fail and present to them a plan to ensure this does not happen. It integrates science-based priority content standards into the

tutorial program in the same manner day to day teaching does. We provide support to students based on the content they are currently working on in their actual classes therefore utilizing the same priority standards.

Respondent 2: The tutorial program is associated with teachers who have some content information of science, but there needs to have a better communication between the tutorial teacher and the general science teacher. The lack of communication does not allow the student to obtain the required enrichment or review of material.

Respondent 3: Science-based priority standards are integrated into the tutorial program through the school improvement plan which allows a focus on science.

Respondent 4: The school-wide remediation plan follows the curriculum that is set out by the district. Within the student's curriculum plan for Biology, there are activities that are laid out and that align with the standards. These activities are given as enrichment products for students to enhance learning. There are also assessments such as those offered in illuminate, or through USA test prep that align with the curriculum standards and that are integrated into the tutorial program.

Respondent 5: We have a standards-based tutorial that is inclusive of all district priority standards

Respondent 6: The tutorial program primarily focuses on priority standards in all subject areas.

Respondent 7: Our CSIP includes tutorials and extended learning time.

Focus Group Transcription, Question # 6, Jordan Academy

6. How often are students given the chance to remediate learning and how?

Respondent 1: Based on formative assessments, students are given many opportunities for remediate learning. For instance, in the meeting I have with students on Tuesdays I demonstrate

where they need remediation and I give them specific content material to work on. Also, towards the end of the unit, if students are not performing well in class, I send a deficiency notice home and communicate with parents about a strategic plan to have their child do well.

Respondent 2: Students are given an opportunity to remediate learning daily. Teachers review the previous day's lesson in their opening and address any misconceptions and/or take that time to re-teach. Students are also given this same opportunity during weekly Flexible Learning Plan meetings when they meet with teachers to discuss their progress in class, and before/after-school tutorials.

Respondent 3: Remediation of learning is done after school and offered once to twice a week.

Respondent 4: Weekly through various platforms.

Respondent 5: Weekly; tutorials

Respondent 6: Students are given the opportunity to remediate learning daily through extended learning time, tutorial, and classroom formative assessments.

Respondent 7: Students are given the chance to remediate learning during the sponge and during flexible grouping.

Focus Group Transcription, Question # 7, Jordan Academy

7. What trends have emerged that demonstrate students' mastery of the academic standards this semester?

Respondent 1: This year has been a tough one to assess.

Respondent 2: It seems as though students have taken the opportunities to participate in smaller class sizes to treat classes like a personal tutorial session where they are taking the one=on-one time to ask clarifying questions about skills or concepts that build up to the current one(s). With

these smaller class sizes, it seems as though students are grasping new knowledge sooner than usual.

Respondent 3: My biology students are all virtual learning, which has not given me a true depiction.

Respondent 4: The distance learning has become a dependent variable in demonstrating students' mastery of the academic standards this semester. The challenges faced involves frequent absents from class and a lack of motivation at times for student to work on assignments.

Respondent 5: The current situation has allowed students to perform at a lower level and I can see it in their work.

Respondent 6: Students are performing better on the project-based learning activities that are assigned. Students use the language of the standard when creating and presenting their projects.

Respondent 7: The End of course milestone scores for Biology have increased slightly which implies that the strategies that have been integrated through the semester are having an impact on the mastery of the content.

Respondent 8: A decline has emerged due to a lack of differentiation because of virtual learning and the pandemic.

Respondent 9: Students tend to show understanding of certain standards over others.

Respondent 10: Personalized learning has definitely demonstrated students' mastery.

No data to identify trends at this time.

Focus Group Transcription, Question # 8, Jordan Academy

8. How do you ensure that lessons and activities are grade-appropriate and aligned to the level that is assessed at the end of the course?

Respondent 1: I use the curriculum as well as the pacing guide laid out by the district.

Respondent 2: I am constantly collaborating with my colleagues that teach the same content area to ensure that lessons and activities are appropriate.

Respondent 3: I focus on having the students master the foundational skills.

Respondent 4: I attend district-level trainings that ensure teachers are teaching the district-mandated curriculum correctly.

Respondent 5: I utilize the curriculum given to me by the district to create lessons and activities at grade-level. The curriculum guides the teacher in developing activities specific to the content and grade-level. Also, I use online resources to create engaging and meaningful activities for students, again that is related to their grade-level.

Respondent 6: I ensure that lessons and activities are grade-appropriate by simply following the GSEs and ensuring that each activity I utilize aligns with them.

Respondent 7: Unit plans are developed, and activities are incorporated that meet grade level content requirements.

Respondent 8: By using the unit plans and sticking to the standard when planning activities

Respondent 9: Through learning objectives, assessment, and instructional strategies.

Respondent 10: District curriculum, pacing and resources are used to create and align grade-appropriate lessons.

Focus Group Transcription, Question # 9, Jordan Academy

9. What are some implications found through the data analysis of the EOC assessments?

Respondent 1: Through data analysis of EOC assessments, it seems as if a good number of the students at my school are performing below grade-level. These tests are also written differently from the language students are used to engaging in which can in turn cause some confusion when they are attempting to understand and respond to questions on these assessments.

Respondent 2: When we receive our students' score on the EOC assessment, we analyze the data and see what domain need for teachers to reinforce. This process allows me to focus on the content in a different way in class and deliver it differently to students.

Respondent 3: Students need more support and need to be exposed early on to the EOC and milestone moments, so they are familiar with vocabulary.

Respondent 4: Data analysis of the Biology EOC assessments shows that students really struggle in the areas of Cells and Genetics.

Respondent 5: Students are not taking the test seriously or teachers are effectively teaching.

Respondent 6: It has been found that students perform lower on certain standards. For example, the DNA unit.

Respondent 7: Lexile levels are low and, lower performance on concepts and skills.

Focus Group Transcription, Question # 10, Jordan Academy

10. How would you solve the problem of underperforming scores on the Biology EOC assessment?

Respondent 1: After analyzing the data of the scores in the EOC assessment, I would change the teaching strategies to assist my future students. For example, if the scores are low in a particular domain in Biology, I will need to analyze the domain and draw an action plan of how to improve my teaching, assessments, rubrics, evaluations for the future semester.

Respondent 2: We need better communication with students as to what to expect and give them data from previous test results on the Biology EOC assessment so they can be well informed of what are some challenges found in Biology.

Respondent 3: Review the areas of need and focus on providing additional support for those areas.

Respondent 4: Continuous remediation throughout the course so that they are prepared for the EOCT.

Respondent 5: Adjust course sequence and offer biology in the10th grade.

Respondent 6: I believe the first step in solving the problem of underperforming scores on the Biology EOC assessment is to break the course down into parts. Biology is a lot of information and can sometimes become overwhelming.

Respondent 7: I think the course should be two semesters long instead on one semester. Allowing students to learn and master some information one semester, then building on that information in the next semester (as some math courses do) can prove useful in eliminating anxiety associate with both learning and testing in such a short span on time.

Respondent 8: I would re-teach the standards focusing more on mastering the foundational skills.

Respondent 9: Creating a program that strictly caters to Biology and student mastery of the priority standards.

Respondent 10: I would teach these students what some of the rigor words means like explain, construct, define, so as to exercise their cognitive thinking skills.

APPENDIX M

Survey Results, Question # 1, Jordan Academy

1. In my opinion I need to score at lease a proficient on the Georgia Milestones Assessment for the school to gain Career College Readiness Performance Index (CCRPI) points.

35 Agree

14 Strongly Agree

1 Neither Agree nor Disagree

Survey Results, Question # 2, Jordan Academy

2. In the past two years, I have taken at least one End of Course test.

30 Agree

16 Strongly Agree

2 Neither Agree nor Disagree

2 Disagree

Survey Results, Question # 3, Jordan Academy

3. In my opinion there are not enough test administered throughout the school year.

22 Disagree

17 Strongly Disagree

7 Neither Agree nor Disagree

3 Agree

1 Strongly Agree

Survey Results, Question # 4, Jordan Academy

4. In my opinion there are too many tests administered throughout the school year.

24 Strongly Agree

11 Neither Agree nor Disagree

10 Agree

5 Disagree

Survey Results, Question # 5, Jordan Academy

5. I have found benchmarks, quizzes, and unit tests useful in understanding what I have learned and what I need to learn.

32 Agree

9 Neither Agree nor Disagree

4 Strongly Agree

4 Disagree

1 Strongly Disagree

Survey Results, Question # 6, Jordan Academy

6. In my opinion, my teacher has prepared me for the EOC.

36 Agree

7 Strongly Agree

6 Neither Agree nor Disagree

1 Disagree

Survey Results, Question # 7, Jordan Academy

7. The results of my assessments are communicated with me and/or my parents/guardians.

27 Agree

10 Neither Agree nor Disagree

8 Disagree

3 Strongly Agree

2 Strongly Disagree

Survey Results, Question # 8, Jordan Academy

8. I prepare for tests by reviewing study material, cramming the night before, or attending tutorial sessions.

29 Agree

10 Disagree

6 Neither Agree nor Disagree

4 Strongly Agree

1 Strongly Disagree

Survey Results, Question # 9, Jordan Academy

9. When I don't understand a concept, I ask questions or ask for help.

36 Agree

5 Strongly Agree

5 Neither Agree nor Disagree

3 Disagree

1 Strongly Disagree

Survey Results, Question # 10, Jordan Academy

10. I have attended tutorial for science within the past two school years.

18 Disagree

15 Agree

7 Neither Agree nor Disagree

5 Strongly Agree

5 Strongly Disagree

Survey Results, Question # 11, Jordan Academy

11. I suffer from test anxiety.

16 Often

16 Sometimes

8 Always

6 Never

4 Rarely

Survey Results, Question # 12, Jordan Academy

12. I am usually worried and think about failing while completing an assignment.

17 Sometimes

16 Often

10 Always

5 Never

2 Rarely

Survey Results, Question # 13, Jordan Academy

13. I get headaches and/or my stomach hurts and feels upset before or during a test.

19 Sometimes

15 Never

9 Often

5 Rarely

2 Always

Survey Results, Question # 14, Jordan Academy

14. I get nervous during tests and forget what I have studied.

20 Sometimes

14 Often

7 Rarely

5 Never

4 Always

Survey Results, Question # 15, Jordan Academy

15. I am often distracted during important tests and assignments.

19 Sometimes

13 Often

7 Always

6 Rarely

5 Never